THE EFFECT OF SELECTED MACRO-ECONOMIC VARIABLES ON STOCK MARKET DEPTH AT THE NAIROBI SECURITIES EXCHANGE

BY

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DECLARATION

This research project is my original work and has not been presented for award in any other University.

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DEDICATION

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ABBREVIATIONS AND ACRONYMS

CBK	Central Bank of Kenya
CDS	Central Depository System
CPI	Consumer Price Index
EMH	Efficient Market Hypothesis
GDP	Gross Domestic Product
KNBS	Kenya National Bureau of Statistics
MPT	Modern Portfolio Theory
NASI	NSE All Share Index
NSE	Nairobi Securities Exchange
SPSS	Statistical Package for Social Sciences
USD	United States Dollar

ABSTRACT

The stock market is used to measure both the performance and economic stability of a nation. The rising stock market index is a sign of a growing economy and a declining and fluctuating stock market portrays economic instability. Both theory and empirical literatures hold that a country's growth is directly linked to the size of the economy, which consists of a number of variables, Inflation, Interest rate and GDP. This study sought to determine the effect of selected macroeconomics variables on the stock market depth of Nairobi Securities Exchange. The independent variables were interest rates as measured by average monthly lending rates, economic growth as measured by monthly GDP and inflation as measured by monthly CPI. Stock market depth was the dependent variable which the study sought to explain and it was measured by monthly value of stocks traded in the stock market. The study employed a descriptive cross-sectional design and carried out a census of all the 66 firms listed at the NSE. The study revealed that economic growth, interest rates and inflation rates in Kenya had been fluctuating during the study period (2007-2016). Regression analysis findings established that there was a strong relationship (R= 0.658) between selected macroeconomics variables and stock market depth. The result of the study also indicated that the value of R-squared is 0.418. This means that independent variables investigated in the study (Economic Growth, Interest Rates and Inflation Rate) could account for or explain only 41.8% of the dependent variable. The remaining 58.2% can be explained by other variables which were not the subject of this study. The study concludes that there is a strong relationship between the selected macroeconomic variables and stock market depth. The study also established that economic growth positively affects stock market depth while inflation rate and interest rate had a negative effect. The study recommends that the Capital market Authority and the national government of Kenya should come up with fiscal policies aimed at cushioning the stock market from high inflationary pressure. The study further established that factors such as political instability, global financial crisis and international fuel prices negatively affects economic growth and leads to increased cost of living which in turn affects the stock market depth. The study recommended that the government should put in place mechanisms aimed at enhancing political and economic stability as a way of enhancing economic growth which in turn promotes development of the stock market.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Stock markets enable both individual and corporate investors to expend their investments through availing a platform for accumulation of savings and expansion of investments. The stock markets accelerate the rate of economic growth through mobilization of savings from different stake holders and keeping them within the reach of companies for effective utilization in production activities. The financial assets are traded through the equity markets which allow firms to freely trade shares among themselves; this enables firms to meet their investment goals (Masila, 2010). Olweny and Kimani (2011) noted that the investors are encouraged by the stock market through availing additional funds which enables them to diversify their investments. This enables them to avoid risk and select venture into activities that suit their liquidity preferences best. This therefore implies that the savings rate is increased by better mobilization of savings which stimulates investments thus increasing the investment earnings earned by the investor. The state of the market liquidity enables the investors to freely switch the securities' ownership thus accruing with more capital gains.

The stock exchange depth is as a result of its performance in the economy and various parties are concerned with it including capital markets, investors, government, stock exchange among others (Yartey & Adjasi, 2007). Despite the stock markets essence, there are a variety of factors that influences the performance of stock markets and essentially how it contributes to economic growth and development. The performance of stock market reflects on institutional framework as well as political environment and is

influenced by the nature of current economic state which is indicated by variations in macroeconomic variables such as, Treasury bill rate, inflation rate, exchange rate and money supply in the economy (Wawire, Kirui & Onono, 2014). Stock market's correlation with the domestic and global stability of a country is strong and the unsound financial standings, national and global uncertainty affect stock market trading volumes in a country (Khan, Saif & Rehman, 2013).

In Kenya, the Nairobi Securities Exchange (NSE) is the only body that performs the functions of a stock market. Among many other objectives and roles, are promotion and enhancement of a culture of thrift, and/or saving by providing alternative avenues for investment and aids these savings' transfer to investment in more productive activities and quoted stocks. The current monthly trading figure of the NSE is 100 million making it a great contributor to the Kenyan economic growth. This immense growth has been possible through forming a pool for the collection of all funds that are not being used and availing them to both lenders and borrowers cheaply. The market has helped in educating the public about the need to invest in the stock market as well as boosting the confidence of investors through the requirement of listed companies to have published financial reports (NSE Annual Report, 2016).

1.1.1 Selected Macro-Economic Variables

Macroeconomic variables are those that are independent of the level of income. They are factors that are applicable to the whole economy and national and local level whose effects are felt by a large population rather than individuals. The major macro-economic variables include; gross domestic product (GDP), exchange rates, rate of inflation, rate of

interest, balance of payments, unemployment rate and the levels of income. The effects of these variables have to do with the economic structure, performance behaviors and the decision making of the economy at the broad level. Their effects are felt through the national income, output levels, consumption, unemployment, inflation, savings, investment, international trade and international finance. Macroeconomic variables act as indicators of what is currently trending in the economy (Sharma & Singh, 2011).

Devereux and Yetman (2002), defined interest rates as the price a borrower pays for using money or capital they do not own. Interest rates are normally determined by the supply and demand function of capital. In addition, interest rates in any given economy are determined by the monetary policy of the country. When there is a high demand for capital the interest rates go up. On the other hand, low demand for capital lead to lower levels of interest rates. However, the government in its monetary policy can seek to increase or reduce the interest rates with the aim of achieving set macro-economic targets. For example in times of high inflation, the government may raise the interest rate to reduce money supply.

The growth of the economy is termed as economic growth. Economy refers to the global physical subsystem composed of wealth and stock composition, and the flow between consumption and production (Mishkin & Eakins, 2009). It can also be described as the economic expansion to generate more goods and services. Abbas (2005) defines it a rise in the production and consumption of commodities. The economic growth is mainly measured through the GDP and GNP.

According to Shiblee (2009) the persistent rise in the price of commodities in a nation is referred to as inflation. When the prices of commodities increase, more money is required

to purchase the same amount of a commodity as in the previous (Saleem, Zafar & Rafique, 2013). Pressure related to inflation arises due to the following factors; high nominal wages, debt obligation manifested through expansionary fiscal deficit and the reduction in real income due to fluctuation in oil revenue (Taofik & Omosola, 2013).

1.1.2 Stock Market Depth

Richard, (1996) describes stock market depth as the expansion of the stock markets leads to more long term investments' volumes. The capability to add more companies to the bourse and increase the liquidity of firms determines the stock market depth (Applegarth, 2004). Stock market depth is therefore the ability to effectively mobilize the domestic savings for a variety of institutions and this include the ability of the stock markets to mobilize savings for the various institutions including the equities market, bond market and money market; allocate them and provide available investment sources for the investing public.

Trading volume is the best measure of stock market depth and it refers to the number of transactions undertaken for an exchange or security on a specific day. Higher interest rates are manifested through higher trading volumes thus implying higher interest levels in the current price and security of a commodity (Sabri, 2008). Khan and Rizwan (2008) argue that trading volumes is the best stock liquidity measure and it is useful to investors as informs them the shares that are easy to sell in case of a price fall. The trading volume entails two components: The first is as a result of the hedging demands of the investor while the second is as a result of the speculative demands of the investor. Their model suggests that there are two groups of investors with varying information regarding to the

traded assets' expected returns but the investors in each group are homogeneous. The hedging demands of the investors are brought about by the associations between the traded assets' expected returns and the non-traded assets' pay-offs.

According to Baker and Stein (2004), stock market depth gives a platform to the investors in the diversification of their financial assets basket and avails a chance for them to diversify finance sourcing. A risk free asset makes it possible for the investors to diversify their asset basket. The turnover ratio is used to measure the stock market depth; which implies to the value of the shares traded as a capitalization percentage, for both bond and equity and market. According to Baker and Wurgler (2004), market liquidity is measured using the turnover ratio. The low costs of transaction in the stock market are indicated by a high turnover.

1.1.3 Effect of Selected Macro-economic Variables on Stock Market Depth

Each stock market basically seeks to contribute to both industry and economic growth of a nation. The stock market is used to measure both the performance and economic stability of a nation. The rising stock market index is a sign of a growing economy and a declining and fluctuating stock market portrays economic stability (Gazi, Uddin, & Mahmudul, 2010).

Both theory and empirical literatures hold that a country's growth is directly linked to the size of the economy, which consists of a number of variables, Inflation, Interest rate and GDP. For inflation and trade volumes, the general expectation is that a rise in inflation results in a fall in prices of stock and thus discourages investors from investing in the share. An increase in interest rates results to an increase in the cost of borrowing and thus

lowers the funds available to invest in shares; this translates to a fall in trade volumes. For economic growth, a rise in GDP implies better performance in a country and this improved performance translates to more investments in stocks and thus a rise in trade volumes (Aduda, Masila & Onsongo, 2012).

According to Osamwonyi and Evbayiro-Osagie (2012) stock market plays an imperative role in the economy. The investment choices made by the investors are highly influenced by the prevalent macroeconomic variables in the economy. It therefore follows that investors need to be cognizant of the prevailing macroeconomic variables when they are making their assessments on the various investment selections they have to undertake including at the stock market.

McKinnon (1973) theory argues that macro-economic variables for instance real interest rates, exchange rates and inflation should be monitored as they influence the diverse economic fundamentals and hence economic status. For example, they posit that holding the interest rates below market equilibrium increases the investment' demand and not the real investment. However, according to market efficiency theory the prices of all variables should not be influenced by other factors apart from demand and supply (Fama, 2000). According to Fama, a market is said to be efficient market if stock prices indicate all the information regarding the market.

Zhou (1996) contradicted the perceived notion that there exist a relationship between interest rate, exchange rate, inflation and stock market depth. His study try to demonstrate that there are other fundamental factors affecting the stock market depth most importantly the efficiency of the market that result in the market self-regulating due to availability of all fundamental market information and hence no one has the upper hand nor the ability

to beat the market. The hypothesis that market depth move one-for-one with ex ante interest rates is rejected.

1.1.4 Nairobi Securities Exchange

The Nairobi Securities Exchange is registered and controlled by the Capital Markets Authority. The NSE was established in 1954 as a deliberate association of securities broker listed under the Societies Act (Ngugi, 2005). Ngugi (2005) also noted that trading of shares at the NSE was opened to all people to transact when Kenya became an independent country in 1963. The NSE plays important role in the Kenya economy as it facilitates the mobilization of savings, makes available a platform for the development of the economic services and increases enhanced financing source to companies (NSE, 2017).

The NSE plays important role in the Kenya economy as it facilitates the mobilization of savings, makes available a platform for the development of the economic services and increases enhanced financing source to companies (NSE, 2017). Through the NSE the government also has a platform to increase its funding for its projects through long-term borrowing by issue of bonds. It therefore allows for the trade and industry improvement of a country as a whole. The NSE however is still at the development stage as compared to the security markets in America, Europe, Asia and Australia.

Presently, the NSE comprises 66 listed companies with over USD 7 million daily trading volumes and market capitalization amounting to USD 18 billion. In addition, apart from corporate bonds and government bonds in addition to equities are traded at the NSE .An automated by of bond trading was established with KES 25 billion in Nov 2009 as part of

KenGen bond (Kestrel Capital (East Africa) Ltd, 2006; NSE, 2013). The average daily trading bond is USD 80m. Also, trading hours commence at 09:00 and end at 15:00 and deliveries are done through the CDS which was established in 2005.

1.2 Research Problem

The general economic performance of a nation is indicated by its depth of stock market. The introduction of advanced technologies and free and open economic policies has globally given the investors free market access. The great importance of the depth stock market trading is further demonstrated by its role in demonstrating the economy's health (Gupta, Chevalier & Sayekt, 2008). Stock market depth could be influenced by several economy-wide factors which may have a positive impact, negative or no effect on its performance. The study of macroeconomic variables has drawn various studies with most of them concluding that fluctuations in the stock market trading depth continue to be directly interconnected with the various macroeconomic variables (Lee, 1998). According to Fama (1970), the volume of shares traded in a stock market is perceived in terms of market efficiency. The point of stock market efficiency depends on the speed and accuracy within which macroeconomic variable information is built into the stock market trading.

The NSE is Kenya's sole securities exchange market. Changes in the country's economic times are often reflected on the performance of the NSE. In this light, studying the effects of changes in macro-economic variables at the NSE would give a broader view that reflects the entire economic health of the country. This broader outlook makes this study viable in more ways and to more stakeholders, both domestic and global. Kenya's macroeconomic variables have fluctuated in the last two decades. According to the

Kenya Economic survey (2015), the main macroeconomic indicators in 2016 remained relatively stable. The Kenya Shilling depreciated against the US dollar due to a momentous drop in income from the international tourism while the CBK lending rate continued to be reasonably stable at 8.5%. There have been tremendous changes regarding inflation in Kenya over the recent past.

Several studies have documented the effect of various macroeconomic variables such as inflation, gross domestic product, exchange rates, interest and money supply on the stock market. The majority of these studies have stock market prices and returns as a market performance index leaving a gap on the influence of macro-economic variables on the depth of the stock market as measured by trading volumes. Ilahi, Ali and Jamil (2015), in their study in Pakistan, concluded that that a weak connection was present between stock market returns and macro-economic variables. It was also noted from a study by Garcia and Liu (1999) volatility in macroeconomic variables has no impact on the performance of the stock market while Atanda and Maku (2010) found that the Nigerian stock market performance in the long run is influenced by macro-economic. Ting, Feng, Weng and Lee (2012) found that consumer price index, money supply and interest rate influence the Malaysian Lumpur composite index both in the short and long-run. A study by Mehwish (2013) established a negative link between the Pakistan real rate of interest rate and the performance of the stock market. Jahur, Quadir and Khan (2014) established macro-economic variables such as Interest Rate and CPI significantly affect the Bangladesh stock market performance.

In Kenya, Ouma and Muriu (2014) concluded that the stock market in Kenya was affected by the variations in the exchange rate, money supply, and inflation. Mwai (2013)

established that share prices were affected by various macroeconomic variables including the gross domestic product, interest rates, inflation and exchange rates. From the foregoing, it is notable that there is lack of consensus on the effect of macro-economic variables on stock market performance; Ilahi, Ali and Jamil (2015) found a weak relationship, Garcia and Liu (1999) found no effect while Maku and Atanda (2010) only found an effect in the long run. In addition, the studies conducted have concentrated on stock prices and stock returns leaving a gap on market depth as measured by trading volumes. This study seeks to answer the research question: What is the effect of selected macro-economic variables on stock market depth at the NSE?

1.3 Research objectives

This study seeks to determine the effect of selected macro-economic variables on stock market depth at the Nairobi Securities Exchange.

1.4 Value of the Study

It benefits the investors as they was better informed on the effect of macroeconomic factors on stock market depth. The findings provide background information to the investors on how to ascertain the effect that macroeconomic variables impacts on their investment. This allows them to give attention to the variables and be in a position to diversify risks while investing at the stock market. Knowledge of such provides a competitive advantage to the investors in form better information on the best investment decisions. Future investors can use this study as a foundation upon which they can gauge how the prevailing economic situation impact on their investment choices.

This study's was referred to by students, scholars and researchers who might be interested and conducting further studies in the same field. The findings of the study also benefit the researchers and scholars in identifying further research areas from the studies by recommending the related topics that need further studies and providing a review of the empirical reviews to determine the study gaps. The study significantly contributes to stock market depth.

The study also be of significance to various policy making institutions like the Capital Market Authority, the CBK and the NSE in Kenya as they may use its findings and recommendation to generate effective policies to mitigate the effects of macro-economic variables on stock market depth.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the theoretical framework applied in the study and reviews previous studies done on selected macro-economic variables and stock market depth. It contains the theoretical review, determinants of stock market depth, empirical review, conceptual framework and a literature review summary as well.

2.2 Theoretical Framework

The theoretical review provides a detailed knowledge of what has been done and forms a framework within which the research findings are to be interpreted and also to overcome the shortcomings of earlier studies. The following section describe and discuss different theories such as Efficient Market Hypothesis, Modern Portfolio Theory and the Behavioral Finance Theory.

2.2.1 Efficient Market Hypothesis Theory

Fama (1965, 1970) developed the EMH which rests on the premise that prices of stocks include all information available such as company announcements in no investment strategy utilized can result in abnormal profits. The Efficient Markets Hypothesis (EMH), presupposes that current information is immediately included in prices of shares such that no extra profits can be made using the information (Fama, 1970). EMH postulates that a market that is efficient is both internally and externally efficient; thus, the price assets at any point include all information on the asset, expected future cash flows and the uncertainty involved in investing in that security (Mgbame & Ikhatua, 2013).

The market efficiency is in three forms which are the strong form, the semi-strong form of efficiency and the weak form of efficiency market. The weak form of market efficiency has prevailing prices of securities include every past information available including a historical sequence of prices, market return, market capitalizations and information from the market (Ilaboya & Aggreh, 2013). The semi-strong form of efficiency argues that current stock prices include all the existing informational content of historical prices and the publicly available information about corporations (Malkiel, 2005). The semi-strong form of EMH covers the weak form and the available of day to day data enabled tests, which presents evidence of public information affecting prices of stocks in limited time. The strong form postulates that security prices include the available information and even private information. All the participants do not have access to critical information; hence, no one makes above average profits (Wabwire et al., 2013).

Despite the EMH forming the basis of financial markets, it has a fair share of critics. The main point of contention being that the EMH assumes that investors are rational in their dealings, they have access to all available information and that their market expectations are homogenous. These assumptions beat the point of trading after all given that trade signals existence of heterogeneous expectations. While the seller expects a dip, the buyer anticipates a rise in the stock price, and hence bears and bulls. Also, it is not practical for all market participants to have the same information; if it were so, there would be no need for communication. Likewise, behavioural economists do not agree with the notion of rational investors, it purports irrational exuberance (Shostak, 1997).

2.2.2 Modern Portfolio Theory (MPT)

Portfolio theory also known as MPT theory was presented by Markowitz (1952) "Portfolio Selection," a paper he did and which appeared in a finance journal in the 1952. The paper has become a helpful portfolio selection theory and has highly contributed to financial economics field; this resulted to sharing with Merton Miller and iam Sharpe a Nobel Prize in Economics in 1990 after a period of thirty-eight years. Preceding Markowitz's work, investors in creating their portfolios concentrated on evaluating the threats and rewards of individual securities. Advice on Typical venture was to recognize those securities having the greatest advancement chances of gain propelled by the minimum risk and building a portfolio beginning with these. Anyone interested in venturing as an investor may settle on the railroad stocks which all offered risk-reward that are of good features by following this advice and amassing a portfolio entirely. Instinctively, a wrong conclusion would be made out of this. This perception was formalized Markowitz (Markowitz, 1952).

Modern Portfolio Theory (MPT) minimizes a specified amount of holdings risk against the expected return the holdings for a certain period, or either maximizes the return rate for a given level of investment risk through considerately choosing the fractions of various assets. In doing portfolio construction, four fundamental steps are used as a guide. The steps are: Allocation in relation to assets, valuation concerning the security, optimization in relation to Portfolio and Performance measurement. According to fact, this models ascertain that return of an asset is a naturally circulated utility (also meaning further fundamentally random variable that is distributed elliptically) defining risk as the return's standard deviation and models as portfolio of a weighted assets combination

hence assets weighted combination returns is the return of a portfolio. In bringing together assets that are distinct with not necessarily positively associated results, MPT pursues to decrease the overall inconsistency of the assortment return. MPT further undertakes that markets are well-organized and investors are balanced (Daniel, Hirshleifer & Subramanyam, 1997).

The portfolio theory forms the basis of investment at the stock market. Sharpe (2006) in his book contended that Portfolio choice and asset pricing are as a result of the connections between the projected returns and the risks. Portfolio choices are the choices available to an investor when choosing their investment alternatives. Background knowledge of the macroeconomic variables and how they affect the stock trading depth forms a basis of the asset pricing.

2.2.3 Behavioral Finance Theory

Behavioural finance was popularized in the 20th century, with Kahnemann and Tversky (1974) outlining behaviours and biases that hinder human beings from acting rationally. They labelled these as representative heuristic, anchoring, and the availability bias. These cause people to hold stereotypes, make decisions founded on a whimsical starting point, and evaluate the probability of an occurrence based on similar past events. Behavioural finance holds that stock prices are affected by heuristic errors and biases, emotions, frame dependence, and social influence hence may not be the true fundamental value (Chandra, 2008).

Critics of behavioural finance are mostly supporters of EMH. Fama (1998) insisted that despite there being market anomalies that cannot be elucidated using modern financial

theories, EMH cannot be dismissed totally for behavioural finance. He further found that behavioural finance resembles a compilation of market anomalies that are explicable using market efficiency. Behavioural economics' critics contend that the observed heuristics are short-term manifestations that are corrected in the long run. They have often stated that behavioural economics limits itself to digging for failures of computation and cognition. Often people react to new information without looking at the broad picture of other underlying factors. This would cause non-proportional variations in stock prices. Alternatively, people who have developed a negative stereotype against a certain security would not dare invest in it even if positive information was put forth in regards to it. Behavioural finance recognizes that people's decisions are not solely driven by logic and rationale, but often influence by personal experiences and preferences.

2.3 Determinants of Stock Market Depth

Stock market depth has been a major concern for stock market investors, in that it directly affects the liquidity of the stocks they hold. Key factors that are believed to play a part in the overall depth in a stock market are as follows:

2.3.1 Interest Rates

Thomas (2006) argues that when the borrowing cost is put as a percentage each year, it is referred to as interest rate. This is one of the key variables in economies that play an important purpose in consumer's decision to purchase goods or services in a particular country. The significant factors involved are normally the interest adjusted for expected inflation and the real interest rate. Investment and consumption expenditures and the criteria for wealth redistribution between lenders and borrowers are influenced by real

interest rates. Higher real interest rates benefit lenders at the borrowers' expense. Lower real interest rates imply more benefits for borrowers which mean lesser earnings for the lenders.

In macroeconomics, the rates of interests are the most crucial variables and are ranked highly even in the application of finance in the real world. Most economic phenomena's are influence by the rates of interest changes which include amount of expenditure on the investments in equipment's, the amount of expenditures by the consumers, technology advancement and the wealth redistribution criteria between borrowers and lenders. Key financial assets' prices such as bonds, stocks and foreign currencies are influenced by the rates of interest (Barnor, 2014).

2.3.2 Economic Growth

GDP is the most used measurement of economic growth. A growing economy exhibits positive GDP which raises demand for loans (Osoro & Ogeto, 2014). Any rise in economic output may raise expected cash flows and, hence, trigger a rise in price of shares, with the reverse impact during recession is justified (Kirui et al., 2014). Existing empirical evidence indicate that the financial systems of advanced nations such as stock market are more efficient (Beck et al., 2003). Stock market development is also positively related to economic stability and monetary and fiscal policies. Countries with higher income have more advanced stock markets compared to countries with low income (Cull 1998).

Investors are mainly concerned with GDP reports since the overall economic health could be established through its measurement. The long run implication of healthy economic

growth is higher corporate profits and improvement of stock market performance while the short term implication is unpredictable market trends even during positive economic growth seasons (Beck et al., 2003).

2.3.3 Inflation

Higher inflation rates lead to higher prices for consumers which tend to slow business and reduce earnings for firms. Higher prices also tend to trigger a higher interest rate regime (Hendry, 2006). Fama (1998) argued that inflation would have a negative correlation with real economic activity, which in turn would have a positive association to market performance. Thus, the stock index and market depth should be negatively correlated with the anticipated price level, with short-term interest rates serving as the proxy similar to the International Fisher Effect.

2.3.4 Exchange Rates

The effect of exchange rates on stock market depth has been studied by several researchers but their findings are inconsistent. According to Nshom (2007) on a study of some companies listed at the FTSE 100 found a momentous impact of the exchange rate to stock trading volumes. Aziz and Ibrahim (2003) concluded that the association between the exchange rate and the stock trading volumes were negative at the Malaysian equity market. Therefore there exist conflicting study conclusions on the correlation between exchange rates and the stock market stock market depth as measured by trading volumes.

2.3.5 Money Supply

The economy of a country is affected by the money in supply and therefore the monetary authority has to regulate the amount in circulation through the monetary policies (Osamwonyi, 2003). Tobin (1969) found a clear relationship of movement between the monetary policy and the stock market. The study laid emphasis on the importance of stock trading volumes as a connection amongst the economic results. The study established a clear link in the economy and the stock market depth. He also demonstrated that growth in money supply led to deficits in budgets that eventually affected stock trading.

2.3.6 Company News and Performance

The securities markets are affected profoundly by rumors and news. The news can affect the sentiments and prospect of the investors and performance of corporations as people construe news differently depending on their own cognitive power. The enterprise particular factors that may influence the stock market depth include: change of management; earnings news releases, profits and future projected earnings; declaration of dividends; introduction of new products; obtaining a new large contract; accounting errors or scandals; employee layoffs; and expected takeover or merger (Alanyali, Moat & Preis, 2013).

2.4 Empirical Review

There are numerous empirical studies both locally and internationally to support the association between macro-economic variables and the stock market performance, but

these studies mainly concentrated on stock market returns and not stock market depth. The studies conducted have also produced mixed results.

2.4.1 Global Studies

Maku and Atanda (2010) conducted a critical review of the macroeconomic determinants of the Nigerian stock market performance in the long-run between the periods 1984 to 2007. The result of the Augmented Engle-Granger Co-integration test indicated that macro- economic forces mainly affected Nigeria's stock market performance in the long-run. Empirical analysis however indicates that the Nigerian Stock Exchange' all share index is highly responsive to changes inflation rate, in exchange rate, real output and money supply. The recommendations of the study were that investors needed to draw more attention to inflation, exchange rate economic growth and money supply instead of the Treasury bill rate in their long-run investment decisions.

Pal and Mittal (2011) conducted an analysis on the Indian Capital Markets and exchange rates relationship, gross domestic savings, inflation and the interest rates in the India economy which are the key macroeconomic variables. That study was conducted for a period of fourteen years commencing January 1995. The tests applied on the study were the error correction mechanism, co-integration test and the unit root test. The results of that analysis concluded that there was dependence relationship on indices of capital markets and rates of exchange, interest rates, inflation rate and gross domestic savings even though it may seem that they are not statistically significant in all the areas.

Evbayiro-Osagie and Osamwonyi (2012) studied to explore the correlation between macroeconomic variables and Nigeria capital market index. It covered the span from

1975 to 2005 and data for each year was used. The macroeconomic economic variables that were selected for the study were interest rates, GDP, the exchange rate, rate of inflation, fiscal deficit and money supply. Through the use of the Vector Error Correction Model for the data analysis, the study sought to establish the short runs as well as the long- run connection between the macro-economic variables and stock market index. The study concluded that there was an impact on the Nigerian stock market index that was as a result of the particular macroeconomic variables.

Kuwornu (2012) explored the extent to which Ghanaian stock returns were influenced by the macroeconomic variables between January 1992 and December 2008 using the Johansen multivariate co-integration procedure for the analysis. From the empirical results, it was concluded that a link exists between the crude oil price, inflation, 91-day the treasury bill rate and the exchange rate and the Ghanaian stock returns showing a long run equilibrium association. The results further explain that; the Treasury bill inflation rate and the Treasury bill influence stock returns to a large extent in the short-run. It was further noted from the study that the stock returns subsequently significantly affected by crude oil prices, inflation rate, Treasury bill rate and the exchange rate.

Addo and Sunzuoye, (2013) study using the Reserves bill and interest rate being variables, they estimated their effect on the Ghana financial market returns. Applying the valuation model in their data analysis, their study was done covering the period 1995-2011. Johansen's Vector Error Correction and Multivariate Co-integration models were applied so as to appreciate the type of relation that existed between the variables. The study findings found that both interest rate and treasury bills jointly affected the capital

market returns of the Ghanaian economy but individual influence of the designated variables were not satisfactory good predictors of stock returns.

Talla (2013), study at the Stockholm Stock Exchange, investigated the bearing of macroeconomic variables on stock prices. Using the unit root test, granger causality test, and multivariate regression model, data was analyzed to examine the impact of the variables. The study applied monthly data of between the periods 1993 and 2012. From the data analysis, the study established that currency devaluation and inflation had a negatively influenced the stock prices. The interest rate insignificantly influenced the model and it was negatively correlated with the stock prices. There was also a significant positive correlation between money supply and stock prices even though it was not significant. From the Granger causality test, no unidirectional relationship was found between the stock prices and all the selected variables. However the study found one unidirectional causal association between the stock prices and the inflation.

2.4.2 Local Studies

Ochieng and Adhiambo (2012) explored the association of the macroeconomic variables on the performance of the stock market. The study went on to determine whether macroeconomic variables changes such as; inflation rate, lending interest rate, and the 91 day Treasury bill rate could be to foresee future outcome of the stock market represented by the NSE All share index (NASI). Secondary data for the period March 2008 and March 2012 was used in the study and examined using regression analysis. As the rate of lending was established to be linked to the 91 Day Treasury bill rate, it was removed from the regression model. The conclusions of the study were that the 91 day Treasury

bill rate was negatively correlated to the NASI while inflation was positively correlated to the NASI but not strong. The study did not consider exchange rates as one of the macro-economic variables. In addition, the focus of the study was stock market performance while the current study investigates impact of macro-economic variables on stock market depth as measured by trading volumes.

Barasa (2014), study was on the stock market performance in Kenya by use of effect of macro-economic variables. The money supply, the GDP per capita and inflation rate were used as the macro-economic variables. The study followed a descriptive research design and secondary annual data from the year 2000 to 2013 was utilized. The SPSS software was used in data analysis. The study concluded the relationship that existed between the particular macro-economic variables; inflation, GDP and money supply and the performance of stock market was positive but weak. This study focused on effect of macro-economic variables on stock market performance as measured by stock returns while the current study focus on stock market depth at the NSE.

Ouma and Muriu (2014) study was interested in confirming how stock returns were influenced by the macro-economic variables between 2003 and 2013 in Kenya. Monthly data for the period was used and it was collected from secondary sources. The study applied the CAPM and APT theories to provide a framework for their study. To test for the model's validity, The OLS technique was utilized. The study aimed to examine the significance of the macro-economic variables on the stock returns. The study's outcome concluded that a significant effect exists on the Kenyan stock market returns attributed to the money supply, inflation rate and exchange rate. The exchange rate was however noted to negatively influence the stock market returns for during the study period. This

study focused on stock market returns while the current study focus on stock market depth as measured by trading volumes.

Wanjiku (2014) established the effect of selected macroeconomic variables (interest rates, inflation rate, the dollar's exchange rate versus Kenya shillings and the growth rate of the GDP) on the returns of PFK. The study had 36 data points of observations and quarterly data for the period that ranged from 2005 to 2013 was analyzed. The study established that pension funds' industry return for the period were highly subjective to the selected macro-economic variables. A negative association was found between interest rates, exchange rate and inflation whereas the GDP was positively associated to industry returns. This study focused on the pension industry while the current study address the NSE.

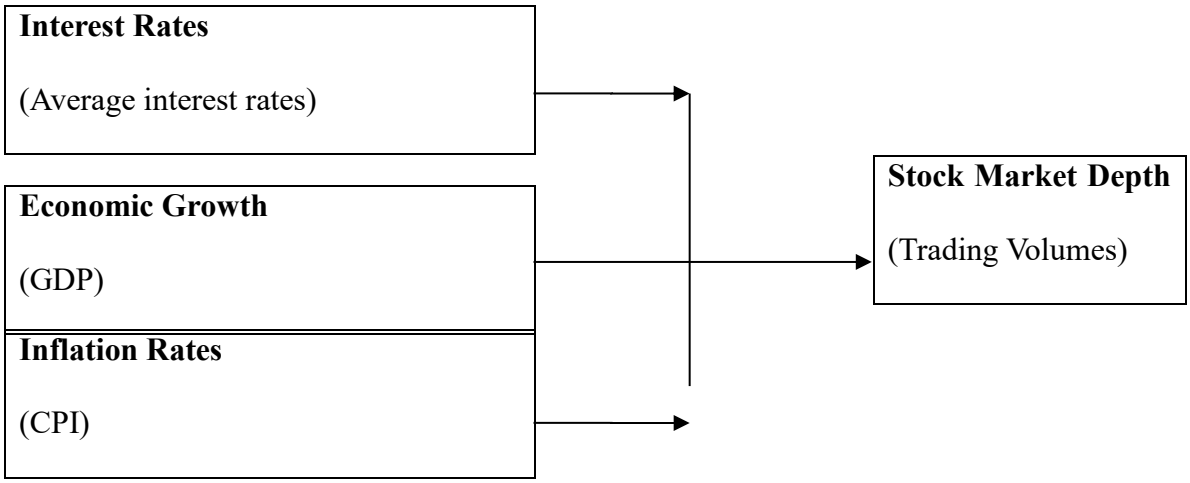
Obwogi and Laichena (2015) analyzed the impact of macroeconomic variables on the East African stock returns. The study examined the effects of interest rates, currency GDP and their effect on East African stock returns. The panel data from 2005 to 2014 of the 3 East African countries, Kenya, Tanzania and Uganda was used in the study. The findings of the study revealed that a significant association existed between the study's macro-economic variables and the East African stock returns. The East African policy makers were advised by the study to exert more efforts so as to improve the region's macroeconomic conditions thus improving stock returns. The focus of this study was stock returns in the East African countries while the current study address stock market depth at the NSE.

Mugambi and Okech (2016) explored the effect of macroeconomic variables listed banks' stock returns in the NSE. Secondary data from the CBK for the period 2000 to 2015 was employed in the study. The Unit Root test, linear regression model and the correlation analysis was used to establish the link. The study findings revealed that exchange rate, interest rate and inflation significantly influence impact the stock returns of the bank, while the GDP had no effect on the stock returns of the bank. The study recommended that the government should ensure a stable macroeconomic environment and moderate its monetary policy interventions. This study concentrated on stock returns and not market depth which is the gap the current study seeks to address.

2.5 Conceptual Framework

The conceptual framework gives a portrayal of how the factors identified are related to each other. The factors characterized here are interest rates, economic growth, inflation and stock market depth. The independent variables are interest rates as measured by average monthly lending rates, economic growth as measured by GDP and inflation as measured by monthly CPI. Stock market depth is the dependent variable which the study seeks to explain and it was measured by monthly stocks traded in the market.

Figure 2.1: The Conceptual Model



Independent variables **Dependent variable**

Source: Researcher (2017)

2.6 Summary of the Literature Review

Various theoretical frameworks seek to explain the concept of macro-economic variables and the performance of the stock market. Three theories have been discussed in this theoretical review. The theories are namely: efficient market hypothesis, modern portfolio theory and behavioral finance theory. Some of the key determinants of stock trading volumes have also been discussed in this section. Several empirical studies have been conducted both internationally and locally on stock market performance and macro-economic variables. The findings of these studies have also been discussed in this chapter.

From the empirical review, it is notable that there is lack of consensus on the effect of macro-economic variables on stock market performance; Ilahi, Ali and Jamil (2015) found a weak relationship, Garcia and Liu (1999) found no effect while Maku and Atanda (2010) only found an effect in the long run. In addition, the studies conducted have concentrated on stock prices and stock returns leaving a gap on market depth as measured by trading volumes.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes methods of research to be applied to objectively establish the impact of interest rates, economic growth and inflation rates on stock market depth. The order of the research methodology is as follows, the research design of the study, methods and instruments of data collection, and finally data analysis.

3.2 Research Design

Research design is defined as a blue print of those procedures, which are adopted by a researcher for testing the relationship between dependent variables and independent variables (Khan, 2008). Descriptive cross sectional design was adopted for the study. A descriptive study involves a description of all the elements of the population. It allows estimates of a part of a population that has these attributes. Identifying relationships among various variables is possible, to establish whether the variables are independent or dependent. Cross-sectional study methods are done once and they represent summary at a given timeframe (Cooper & Schindler, 2008).

3.3 Population

The population of the study comprised of all the firms listed at the NSE from 1st January 2007 to 31st December 2016. Since the target population is finite, the researcher used

census technique which involves studying the whole target population.

3.4 Data Collection

Data was exclusively collected from a secondary source. It is always a regulatory requirement for firms listed at the NSE to report their values annually to the Capital Markets Authority. Monthly data for ten years (January 2007 to December 2016) was collected and analyzed. Data for the independent variables; average interest rates was obtained from the CBK while data on inflation and economic growth was collected from the KNBS. Data for the independent variable; stock market depth referenced by the number of traded shares in a month was obtained from NSE.

3.5 Diagnostic Tests

Linearity show that two variables X and Y are related by a mathematical equation Y=bX where c is a constant number. The linearity test was obtained through the scatterplot testing or F-statistic in ANOVA. Stationarity test is a process where the statistical properties such as mean, variance and autocorrelation structure do not change with time. Stationarity was obtained from the run sequence plot. Normality is a test for the assumption that the residual of the response variable are normally distributed around the mean. This was determined by Shapiro-walk test or Kolmogorov-Smirnov test. Autocorrelation is the measurement of the similarity between a certain time series and a lagged value of the same time series over successive time intervals. It was tested using Durbin-Watson statistic (Khan, 2008).

Multicollinearity is said to occur when there is a nearly exact or exact linear relation among two or more of the independent variables. This was tested by the determinant of the correlation matrices, which varies from zero to one. Orthogonal independent variable

is an indication that the determinant is one while it is zero if there is a complete linear dependence between them and as it approaches to zero then the multicollinearity becomes more intense. Variance Inflation Factors (VIF) and tolerance levels also were carried out to show the degree of multicollinearity (Burns & Burns, 2008).

3.6 Data Analysis

The data was sorted, classified, coded and then tabulated for easy analysis. Collected data was analyzed using both inferential and descriptive statistics. The SPSS version 21 computer software was used in the analysis since it's more user-friendly. The data was inputted into the SPSS and examined using descriptive, regression and correlation analyses. In descriptive statistics, the study used mean, standard deviation and scatter plot. In inferential statistics, the study adopted the multivariate regression analysis to determine the association between the dependent variable (trading volumes) and independent variables: Inflation Rates, Exchange Rates and Interest Rates.

3.6.1 Analytical Model

The three determinants in the model are; inflation rates, exchange rates and interest rates. The study used USD since it is the major currency in trade globally. The USD is highly favored due to its stability against other world currencies. To determine the relative significance of each of the explanatory variables with respect to stock market depth at the NSE, a multivariate regression model was applied.

The study employed the following multivariate regression model;

$$\mathbf{Y = ß_0 + ß_1X_1 + ß_2X_2 + ß_3X_3 + ε}$$

Where:

Y was natural logarithm of trading volumes as measured by monthly value of stock traded in the stock market

$ß_0$ was the regression constant (parameter of the function)

$ß_1$, $ß_2$and$ß_3$ are the coefficients of independent variables,

X_1 was the average monthly interest rates as measured by bank rates

X_2 was the monthly economic growth as measured by GDP

X_3 was the average monthly inflation rates as measured by CPI

ε was the error term

3.6.2 Tests of Significance

To test the statistical significance the F- test and the t – test were used at 95% confidence level. The F statistic was utilized to establish a statistical significance of regression equation while the t statistic was used to test statistical significance of study coefficients.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND INTERPRETATION

4.1 Introduction

This chapter presents the analysis, findings and interpretation of the secondary data collected from Kenya National Bureau of Statistics and Central Bank of Kenya. The study sought to determine the effect of selected macro-economic variables on stock market depth at the Nairobi Securities Exchange. The selected macro-economic variables were GDP growth rate, inflation rate and interest rates. Regression analysis was used to test the correlation between the variables under study in relation to the objectives of the study. Analysis of variance (ANOVA) was used to test the goodness of fit of the analytical model. The findings were presented in tables and figures.

4.2 Diagnostic Tests

The researcher carried out diagnostic tests on the collected data. The null hypothesis for the test was that the secondary data was not normal. If the p-value recorded was more than 0.05, the researcher would reject it. The results of the test are as shown in Table 4.3.

Table 4.2: Normality Test

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
Stock Market depth	Statistic	df	Sig.	Statistic	df	Sig.
Interest Rates	.161	120	.300	.869	120	.853
Economic Growth	.173	120	.300	.918	120	.822
Inflation Rates	.178	120	.300	.881	120	.723

a. Lilliefors Significance Correction

Source: Research Findings (2017)

Both Kolmogorov-Smirnova and Shapiro-Wilk tests recorded o-values greater than 0.05 which implies that the research data was normally distributed and therefore the null hypothesis was rejected. The data was therefore appropriate for use to conduct parametric tests such as Pearson's correlation, regression analysis and analysis of variance.

4.3. Descriptive Analysis

This chapter discusses the trend of the Nairobi Stock volume, GDP growth rate, inflation rate and interest rates covering the period from 2006 to 2016.

Table 4.3: Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation
Stock Market Depth	9.22	11.89	10.37	0.725
Interest Rates	1.60	21.65	8.23	3.540
Economic Growth	5.30	5.54	5.42	0.075
Inflation Rates	2.00	19.72	8.29	4.591

Source: Research Findings (2017)

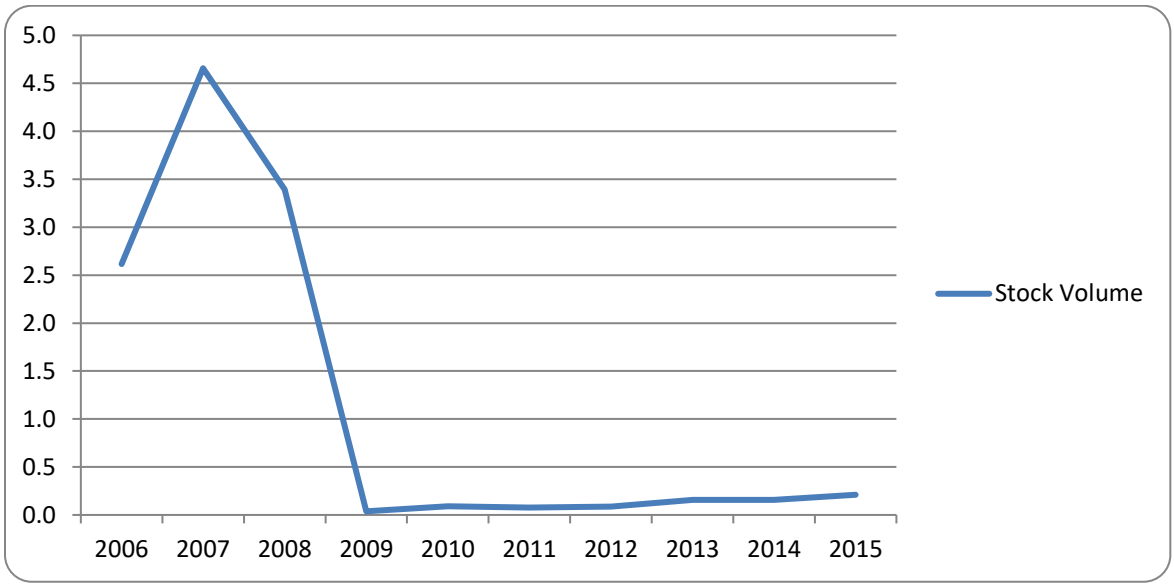
The study found out that Stock Turnover recorded an average of 10.37 over the study period. Over the same period, Interest Rates recorded an average of 8.23 while Economic Growth recorded an average of 5.42. Further, Inflation Rates recorded an average of 8.29. The standard deviation indicated that stock turnover, interest rates, economic growth and

inflation rates varied over the study period. The greatest variation was recorded by inflation rates (4.591) followed by interest rates (3.540).

4.3.1 Stock Market Depth

The Kenya stock market recorded high turnover volumes of Kshs. 2.6 billion Kshs. 4.6 billion and Kshs. 3.392 in 2007-2009. Following the political tension of 2007-2008, the stock market depth dipped to a low of Kshs. 38.2 billion. The trend is as shown in Figure 4.3.1.

Figure 4.3.1: Stock Market Depth



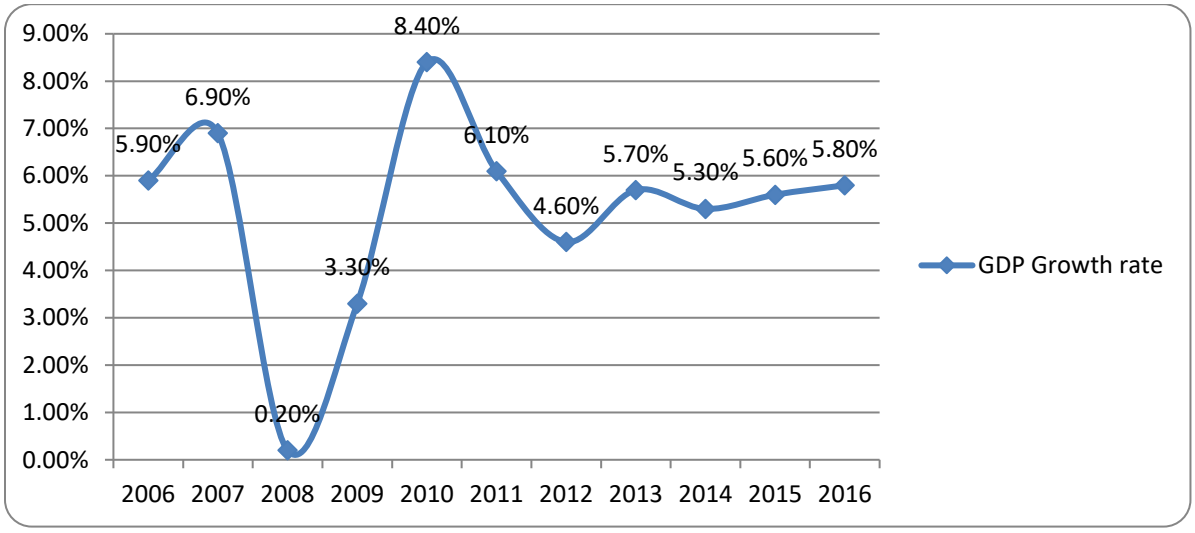
Source: Kenya National Bureau of Statistics (2017).

4.3.2 GDP Growth Rate

Kenya's economic growth as measured using GDP has had fluctuations over the study period (2007-2016). The sudden deep in Kenyas GDP growth rated from 6.90% in 2007 to 0.25 in 2008 can be attributed to the post-election violence of 2007-2008 which stalled

economic activities all over the country. The low growth rate of 2009 can be attributed to "the carry-over effects of Kenya's 2008 post-election violence following the disputed election results". This was also coupled to the global economic slow-down that peaked in the year 2008 that destabilized the Kenyan Shilling strength. The continued improvement in GDP growth rate after 2009 is partly due to the fiscal stimulus package that was injected into the economy by the government following the global financial crisis and the political stability brought about by formation of the coalition government and the promulgation of the new constitution in 2010. The dismal growth rate of 2012 is due to the anticipated general elections of 2013. The trend of GDP growth rate is as shown in Figure 4.3.2.

Figure 4.3.2: GDP Growth Rate



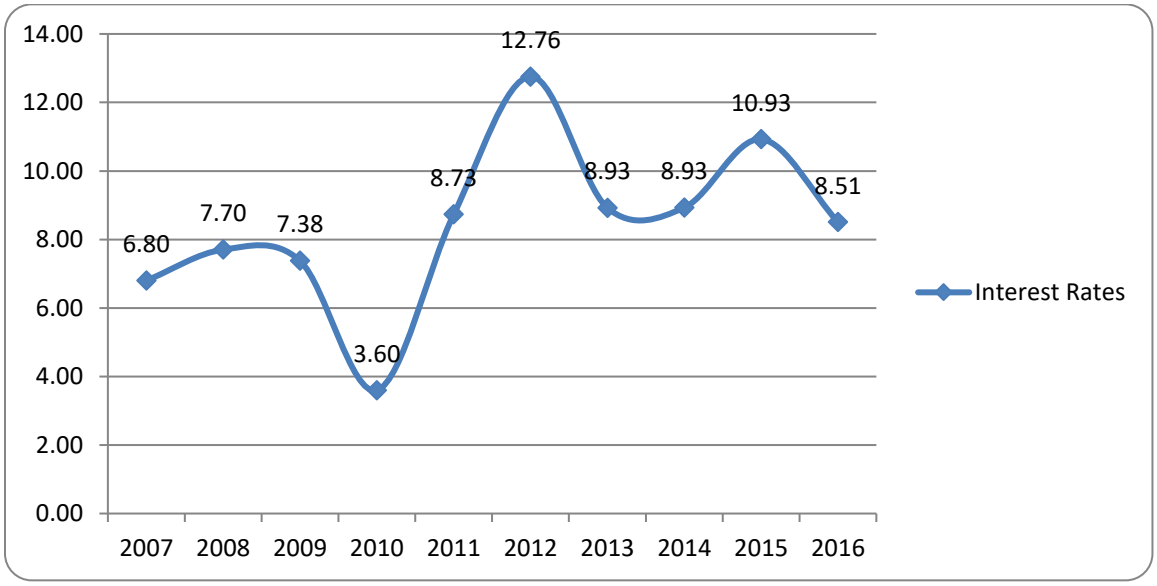
Source: Kenya National Bureau of Statistics (2017).

4.3.3 Interest Rates

Kenya's interest rates registered high fluctuations over the study period (2007-2016). The rates ranged between a low of 3.60% in the year 2010 and a high of 12.76% in the year

2012. Low interest rates are meant to encourage more borrowings due to conducive business environment while high rates are meant to discourage borrowings. For instance, the high interest rate of 2012 can be interpreted as a risk management strategy against the fear of loss as a result of violent general elections. The high rates were meant to discourage high borrowings due to the anticipated general elections of 2013. The 2012 and 2014 decline in interest rates can be attributed to the 2013 peaceful post-election period which encouraged investors to take loans. The trend during the study period is as shown in Figure 4.3.3.

Figure 4.3.3: Interest Rates



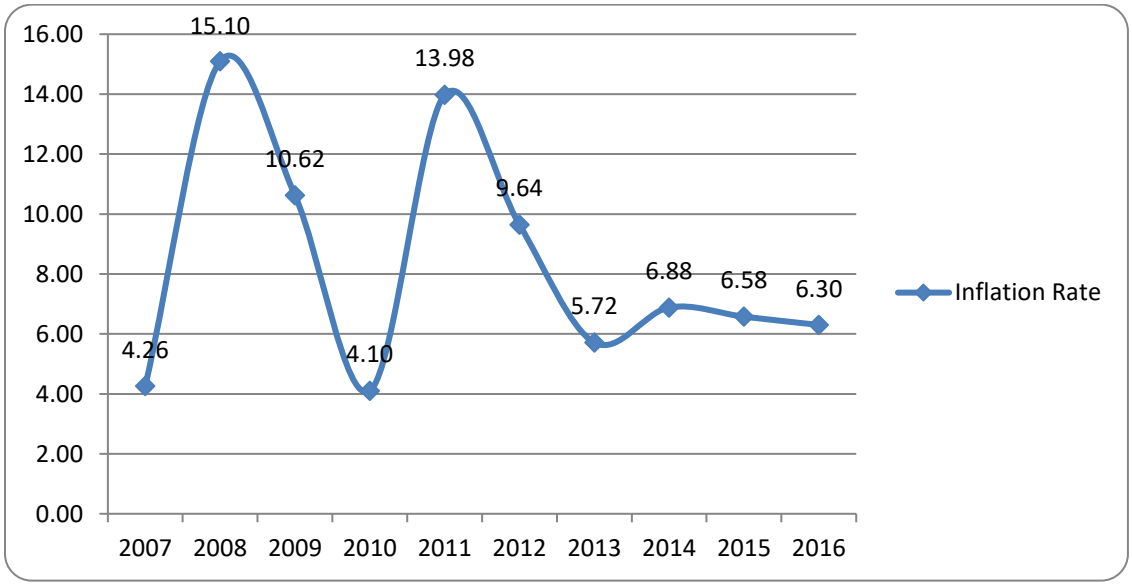
Source: Central Bank of Kenya (2017).

4.3.4 Inflation Rate

There were significant variations in Kenya's inflation rates over the study period (2007 – 2016). High inflation rate invocates high cost of living while low inflation rates are indicators of low cost of living. The inflation rate ranged between a high inflationary

pressure of 16.23% in the year 2011 and a low inflationary pressure of 3.97% in the year 2010. In 2008, there was a sudden increase in inflationary pressure from 4.27 to the highest of 16.23. The 2008 phenomenon can be attributed to the post-election violence early that year, the global financial crisis, high fuel prices and drought. Low inflation rates after 2008 resulted from "change in the methodology of estimating the consumer Price Index and improved weather conditions, low prices of world crude oil and stringent monetary policy". The high inflationary pressure 13.98% in 2011 can be attributed to the effect of high global fuel prices following the Arab uprisings 2011. The trend of Kenya's inflation rate during the study period is as shown in Figure 4.3.4.

Figure 4.3.4: Inflation Rate



Source: Kenya National Bureau of Statistics (2017).

4.4 Correlation Analysis

The researcher carried out Pearson product-moment correlation analysis to test whether the study variables were correlated. A p-value of 0.05 or less was used to indicate significant correlations. The results of the study are as shown in Table 4.4.

Table 4.4: Correlation Analysis

		Stock Market Depth	Interest Rates	Economic Growth	Inflation Rates
Stock Market Depth	Pearson Correlation	1			
	Sig. (2-tailed)				
Interest Rates	Pearson Correlation	-.197*	1		
	Sig. (2-tailed)	.031			
Economic Growth	Pearson Correlation	.605**	.380**	1	
	Sig. (2-tailed)	.000	.216		
Inflation Rates	Pearson Correlation	-.128	.451**	-.113	1
	Sig. (2-tailed)	.016	.124	.219	
*. Correlation is significant at the 0.05 level (2-tailed).					
**. Correlation is significant at the 0.01 level (2-tailed).					

Source: Research Findings (2017).

The study found out that there was a positive and statistically significant correlation (r = .605, p = .000) between economic growth of Kenya and the stock market depth. The study also found out that there was a negative and significant correlation between interest rates, inflation rates and stock market depth as evidenced by (r = .197, p = .031) and (r =

.128, p = .016) respectively. However, the study never recorded any significant correlation among the independent variables (interest rates, economic growth and inflation rates). This implies that there was not multi-collinearity among the independent variables and therefore they can be used as determinants of stock market depth in regression analysis.

4.5 Regression Analysis

In order to determine the effect of selected macro-economic variables (Economic Growth, Interest Rates, and Inflation Rate)on stock market depth at the Nairobi Securities Exchange. Economic Growth, Interest Rate and Inflation Rate for the years 2007-2016 were the selected macroeconomic variables while the stock market depth was measured using the stock market depth.

4.5.1 Model Summary

Table 4.5.1: Model Summary

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.658[a]	.433	.418	.55269	2.286
a. Predictors: (Constant), Inflation Rates, Economic Growth, Interest Rates					

Source: Research Findings (2017).

The study sought to determine the effect of selected macro-economic variables on stock market depth at the Nairobi Securities Exchange. The results of the study indicated that

there was an overall strong and positive relationship (R= 0.658) between the selected macroeconomic variables and the stock market depth. The result of the study further indicates that the value of the adjusted R-squared was 0.418. This implies that the selected macroeconomic variables (Economic Growth, Interest Rates, and Inflation Rate) can account for 41.8% of the changes in the stock market depth. A durbin-watson statistic of 2.286 indicated that the variable residuals were not serially correlated since the value was more than 1.5.

4.5.2 Analysis of Variance

The study sought to verify goodness of fit of the regression model through the Analysis of Variance (ANOVA) statistics. The results of the study are as shown in Table 4.5.2.

Table 4.5.2 Analysis of Variance (ANOVA)

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.062	3	9.021	29.531	.000[b]
	Residual	35.434	116	.305		
	Total	62.497	119			
a. Dependent Variable: Stock market depth						
b. Predictors: (Constant), Inflation Rates, Economic Growth, Interest Rates						

Source: Research Findings (2017)

From the above ANOVA statistics, the study established that the regression model had a significance level of 0.0% which is an indication that the model was ideal for predicting

the effect of selected macro-economic variables and stock market depth since the value of significance (p-value) was less than 5%. This implies that the model is fit for the data.

4.5.2 Coefficients of Determination

Coefficients of determination were used as indicators of the direction of the relationship between selected macro-economic variables and stock market depth. The p-value under sig. column was used as an indicator of the significance of the relationship between the dependent and the independent variables. At 95% confidence level, a p-value of less than 0.05 was interpreted as a measure of statistical significance. As such, a p-value above 0.05 indicates a statistically insignificant relationship between the dependent and the independent variables. The results are as shown in table 4.5.2.

Table 4.5.2: Coefficients of Determination

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	47.936	4.156		11.535	.000
	Interest Rates	-.044	.018	-.215	-2.397	.018
	Economic Growth	6.929	.774	.721	8.958	.000
	Inflation Rates	-.048	.013	-.306	-3.667	.000
a. Dependent Variable: Stock Turnover						

Source: Research Findings (2017).

From the above results, it is evident that only economic growth produced positive and statistically significant values for this study (high t-values (8.958), $p < 0.000$). Interest

rates and inflation rate produced negative but statistically significant values for this study as evidenced by (t= -2.397, p= 0.018) and (t= -3.667, p= 0.000) respectively.

The following regression equation was estimated:

$Y = 47.936 - 0.044X_1 + 6.929X_2 - 0.048X_3$

Where,

Y = Stock market depth

X_1= Interest Rate

X_2 = Economic Growth

X_3 = Inflation Rate

On the estimated regression model above, the constant = 47.936 shows that if selected macroeconomic variables (Economic Growth, Interest Rates and Inflation Rate) were rated zero, the stock market depth would be 47.936. A unit increase in Economic Growth would lead to increase in stock market depth by 6.929. A unit increase in Interest Rates and Inflation Rate would lead to decrease in stock market depth by -0.044 and -0.048.

4.6 Discussion of Research Findings

The study sought to determine the effect of selected macroeconomics variables on the stock market depth of the NSE. The study used secondary data covering the period from 2007 to 2016 for analysis. The collected data was edited and cleaned for completeness. Regression analysis was used to test the relationship between the variables under study in relation to the objective of the study. Anova analysis was used to confirm the findings of regression.

The study established that there is a strong relationship between selected macroeconomics variables and stock market depth. Economic produced positive and statistically significant values. This implies that the higher the economic growth gets, the more the turnover of the stock market. The study further established that Interest Rates and Inflation Rate had a negative effect on the stock market depth. This implies that the higher the interest rates and the inflation rates the less the turnover of the stock market.

According to literature review, there is notable lack of consensus on the effect of macro-economic variables on stock market performance; Ilahi, Ali and Jamil (2015) found a weak relationship, Garcia and Liu (1999) found no effect while Maku and Atanda (2010) only found an effect in the long run. Evbayiro-Osagie and Osamwonyi (2012) studied to explore the correlation between macroeconomic variables and Nigeria capital market index and concluded that there was an impact on the Nigerian stock market index that was as a result of the particular macroeconomic variables. Ochieng and Adhiambo (2012) explored the association of the macroeconomic variables (inflation rate, lending interest rate, and the 91 day Treasury bill rate) on the performance of the stock market. The conclusions of the study found out that the 91 day Treasury bill rate was negatively correlated to the NASI while inflation was positively correlated to the NASI but not strong.

Barasa (2014) studied the effect macro-economic variables such as GDP per capita and inflation rate on the stock market performance in Kenya and concluded the relationship that existed between the particular macro-economic variables; inflation, GDP and money supply and the performance of stock market was positive but weak. Ouma and Muriu (2014) study was interested in confirming how stock returns were influenced by the

macro-economic variables between 2003 and 2013 in Kenya. The study's outcome concluded that a significant effect exists on the Kenyan stock market returns attributed to the money supply, inflation rate and exchange rate.

Wanjiku (2014) established the effect of selected macroeconomic variables (interest rates, inflation rate, the dollar's exchange rate versus Kenya shillings and the growth rate of the GDP) on the returns of PFK. A negative association was found between interest rates, exchange rate and inflation whereas the GDP was positively associated to industry returns. Obwogi and Laichena (2015) analyzed the impact of macroeconomic variables on the East African stock returns. The study examined the effects of interest rates, currency GDP and their effect on East African stock returns. The findings of the study revealed that a significant association existed between the study's macro-economic variables and the East African stock returns.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary of the study, discussions and conclusions. The researchers then present the major limitations of the study and the recommendations for both the research and for the policy and practice.

5.2 Summary of Findings

The study sought to determine the effect of selected macro-economic variables on stock market depth at the Nairobi Securities Exchange. The selected macro-economic variables were GDP growth rate, inflation rate and interest rates. Regression analysis was used to test the correlation between the variables under study in relation to the objectives of the study. Analysis of variance (ANOVA) was used to test the goodness of fit of the analytical model. The findings were presented in tables and figures.

The researcher carried out diagnostic tests on the collected data with a null hypothesis that the secondary data was not normal. Both Kolmogorov-Smirnova and Shapiro-Wilk tests recorded p-values greater than 0.05 which implied that the research data was normally distributed and therefore the null hypothesis was rejected. The data was therefore considered appropriate and was used to conduct parametric tests such as Pearson's correlation, regression analysis and analysis of variance. The study revealed that economic growth, interest rates and inflation rates in Kenya had been fluctuating during the study period (2007-2016). The changes in macroeconomic variables were

largely attributed to political instability, global financial crisis and international prices of fuel.

The researcher carried out Pearson product-moment correlation analysis to test whether the study variables were correlated. The study found out that there was a positive and statistically significant correlation between economic growth of Kenya and the stock market depth. The study also found out that there was a negative and significant correlation between interest rates, inflation rates and stock market depth. However, the study never recorded any significant correlation among the independent variables (interest rates, economic growth and inflation rates). This implies that there was not multi-collinearity among the independent variables and therefore they can be used as determinants of stock market depth in regression analysis.

Regression analysis findings established that there was a strong relationship (R= 0.658) between selected macroeconomics variables and stock market depth. The result of the study also indicated that the value of R-squared is 0.418. This means that independent variables investigated in the study (Economic, Interest Rates and Inflation Rate) could account for or explain only 41.8% of the dependent variable. The remaining 58.2% can be explained by other variables which were not the subject of this study.

According to literature review, there is notable lack of consensus on the effect of macro-economic variables on stock market performance; Ilahi, Ali and Jamil (2015) found a weak relationship, Garcia and Liu (1999) found no effect while Maku and Atanda (2010) only found an effect in the long run. Evbayiro-Osagie and Osamwonyi (2012) studied to explore the correlation between macroeconomic variables and Nigeria capital market

index and concluded that there was an impact on the Nigerian stock market index that was as a result of the particular macroeconomic variables. Ochieng and Adhiambo (2012) explored the association of the macroeconomic variables (inflation rate, lending interest rate, and the 91 day Treasury bill rate) on the performance of the stock market. The conclusions of the study found out that the 91 day Treasury bill rate was negatively correlated to the NASI while inflation was positively correlated to the NASI but not strong.

5.3 Conclusion

The research sought to determine the effect of selected macroeconomic variables (Inflation Rate, Economic Growth, Interest Rates) on the stock market depth. The study concludes that there is a strong relationship between the selected macroeconomic variables stock market depth. The study also established that economic growth positively affects stock market depth while inflation rate and interest rate had a negative effect.

The researcher carried out Pearson product-moment correlation analysis to test whether the study variables were correlated. The study found out that there was a positive and statistically significant correlation between economic growth of Kenya and the stock market depth. The study also found out that there was a negative and significant correlation between interest rates, inflation rates and stock market depth. However, the study never recorded any significant correlation among the independent variables (interest rates, economic growth and inflation rates). This implies that there was not multi-collinearity among the independent variables and therefore they can be used as determinants of stock market depth in regression analysis.

The study also concluded that, there is notable lack of consensus on the effect of macro-economic variables on stock market performance; Ilahi, Ali and Jamil (2015) found a weak relationship, Garcia and Liu (1999) found no effect while Maku and Atanda (2010) only found an effect in the long run. Evbayiro-Osagie and Osamwonyi (2012) studied to explore the correlation between macroeconomic variables and Nigeria capital market index and concluded that there was an impact on the Nigerian stock market index that was as a result of the particular macroeconomic variables. Ochieng and Adhiambo (2012) explored the association of the macroeconomic variables (inflation rate, lending interest rate, and the 91 day Treasury bill rate) on the performance of the stock market. The conclusions of the study found out that the 91 day Treasury bill rate was negatively correlated to the NASI while inflation was positively correlated to the NASI but not strong.

5.4 Policy Recommendations

The study found out that inflation rate has a negative effect on stock market depth. This implies that high cost of living leads to a shallow stock market depth indicating poor performance of the stock market and losses among the stock investors. The study recommends that the Capital market Authority and the national government of Kenya should come up with fiscal policies aimed at cushioning the stock market from high inflationary pressure. Low inflationary pressure means low cost of living and this allows stock market investors to have surplus capital that they can invest.

The study also established that interest rates have a negative effect on stock market depth at the Nairobi Securities Exchange. This is due to the fact that high interest rate increases

the cost of borrowing money that is used to do stock investment. High cost of borrowing discourages investors from borrowing and this reduces their ability to invest in stock which in consequence leads to lo stock market depth. The study recommends that central bank of Kenya should come up with regulations aimed at regulating the cost of borrowing by monitoring the interest rates set by the central bank itself and also the lending interest rates of individual banks.

The study further established that factors such as political instability, global financial crisis and international fuel prices negatively affects economic growth and leads to increased cost of living which in turn affects the stock market depth. The study recommended that the government should put in place mechanisms aimed at enhancing political and economic stability as a way of enhancing economic growth which in turn promotes development of the stock market.

5.5 Limitations of the Study

The study mainly depended on the data provided by the Kenya National Bureau of Statistics and Central Bank of Kenya. This means that the accuracy of the data obtained depended on the information provided. The researcher didn't have any control over this accuracy. This is usually a general problem when dealing with secondary data. In order to handle this challenge, the researcher had to counter check the data from both Kenya National Bureau of Statistics and Central Bank of Kenya for any differences.

The researcher found it difficult to obtain the secondary data because the contact people at the Kenya National Bureau of Statistics and Central Bank had busy working schedules which derailed the completion of the data collection process. The researcher makes extra

effort in reminding respondent on the urgency of the data in order to meet academic deadlines. Further, not all data was readily available from the Kenya National Bureau of Statistics and Central Bank website. Some of the data had to be sourced from the World Bank website.

Lastly, the researcher faced financial and time constraint. The researchers also faced the challenge of inadequate money to fund the project. A lot of expenses were incurred while typesetting the document, print the available data, photocopying, accessing the internet as well as printing the final copies of the research project. Further, the study was limited in terms of time. The study was done under tight academic deadlines which strained the researcher as she put in extra effort to finish on time. The researchers handled the money and time constraint by managing well the little money and time available.

5.6 Suggestions for Future Studies

This study sought to establish the effect of selected macroeconomic variables on the stock market depth of Nairobi Securities Exchange. The selected macroeconomic variables were interest rates, economic growth and inflation rates. Interest rates, economic growth and inflation rates could only account for 41.8% of the total variance in NSE's stock market depth. This implies that there are other key macro-economic variables that impact the stock market depth. In future, researchers should seek to know the other determinants of stock market depth as this will enable them to make more adequate conclusions in regard to the effect of macroeconomic variables on the stock market depth of Nairobi Securities Exchange.

To further enrich existing literature as well as help the government to make decisions aimed at promoting stock market growth, others researches on the impact of selected macroeconomic variables on stock market growth should be conducted. This is informed by the fact that changes in macroeconomic variables can largely attributed to political instability, global financial crisis and international prices of fuel. The government should create a stable political environment for business to thrive and consequently cushion them from the vagaries of global financial crisis and changes in international prices of crude fuel per barrel.

Further, this study only considered a ten year period. This period mentioned was between January 2007 to December 2016. This period was fairly short to determine the actual impact of selected macroeconomic variables on the stock market depth of Nairobi Securities Exchange. This study therefore recommends that a future study should consider a longer period of time, preferably 15-20 years. This longer duration may yield different results and help the researcher to make more adequate conclusions in regard to the effect of selected macroeconomic variables on the stock market depth of Nairobi Securities Exchange.

REFERENCES

Abbas, A. (2007). *Public Domestic Debt and Economic Growth in Low Income Countries.* Mimeo, Department of Economics, Oxford University.

Aduda, J., Masila, J. M. & Onsongo, E. Y. (2012). The Determinants of Stock Market Development: The Case for the Nairobi Stock Exchange. *International Journal of Humanities and Social Science, 2* (9), 214-230

Applegarth, P. (2004). Financial sector development in Sub Saharan Africa. *Center for strategic & International studies*, 5(2), 16-22.

Ariss, R. T. (2012). *Understanding Inflation and Revising National Price Data*. Lebanese Economic Association, Beirut- Lebanon.

Baker, M., & Stein, J. C. (2004).Market liquidity as a sentiment indicator. *Journal of Financial Markets, 7*(3), 271-299

Baker, M. & Wurgler, J. (2004). The equity share in new issues and aggregate stock returns, *Journal of Finance, 55*, 2219-2257

Barasa, J. W. (2014). *Macro-economic determinants of stock market performance in Kenya: case of Nairobi securities exchange* (Doctoral dissertation, University of Nairobi).

Barnor, C. (2014). *The Effect of Macroeconomic Variables on Stock Market Returns in Ghana (2000-2013).* Unpublished Dissertation. Walden University. Available at http://scholarworks.waldenu.edu/dissertations

Chalmers, J. M. R., & Kadlec G. B (1998). An empirical examination of the amortized spread, *Journal of Financial Economics, 48,* 159-188.

Chandra, R. (2008). *Investment Analysis 3/E*. New York, NY: Tata McGraw-Hill Education.

Cooper, R., & Schindler, S. (2008). *Business research methods.* New York: Mc Grawhill

Daniel, K., Hirshleifer, D. & Subrahmanyam, A. (1997). A theory of overconfidence, self-attribution, and security market conditions of risk.' *Journal of Finance* 19:425-442

Devereux, M. B., & J. Yetman (2002). *Price setting and exchange rate passthrough: Theory and evidence.* In the book Price Adjustment and Monetary Policy, pp. 347-371, a compendium published following the eponymous conference held at the Bank of Canada, November 2002. Ottawa: Bank of Canada.

Fama, E. F. (1965). Behaviour of Stock-Market Prices. *Journal of Business*, 38(1), 34-105.

Fama, E. F. (1970). Efficient Capital Markets: A review of theory and empirical work. *Journal of Finance, 25,* 383-417

Fama, E. F. (1998). Stock returns, real activity, inflation, and money. *The American Economic Review, 71(*4), 545-565.

Fama, E. F. (2000). *Short-Term Interest Rates as Predictors of Inflation; The Debt Market.* Cheltenham: Elgar.

Garcia, V. F., and Liu, L. (1999). Macroeconomic determinants of stock. *Journal of Applied Economics, 2*(1), 29-59.

Gazi, S., Uddin, W. & Mahmudul, A. (2009). Relationship between Interest Rate and Stock Price: Empirical Evidence from Developed and Developing Countries, *International Journal of Business and Management*, 4(3),43-51

Gupta, J. P., Chevalier, A., & Sayekt, F. (2008). *The Causality Between Interest Rate, Exchange Rate and Stock Price in Emerging Markets: The Case of the Jakarta Stock Exchange*. Independent Researchers.

Hendry, D. F. (2006). *Modeling UK Inflation*, 1875-1991. Economics Department, Oxford, UK, 27(2), 63-72.

Howells, P. & Bain, K. (2007). *Financial Markets and Institutions* (5th ed.). Longman Imprint.

Ilahi, I., Ali, M., & Jamil, R. A. (2017). *Impact of Macroeconomic Variables on Stock Market Returns: A Case of Karachi Stock Exchange*. Available at SSRN 2583401.

Jahur, M. S., Quadir, S. M., & Khan, M. A. (2014). Determinants of stock market performance in Bangladesh. *Indonesian Management and Accounting Research*, 13(1), 16-28.

Kahneman, A. & Tversky, D. (1974). Judgment under Uncertainty: *Heuristics and Biases Science*, 185(4157).

Khan, J. A. (2008). *Research Methodology*. New Delhi. APH Publishing Corporation

Khan, S.and Rizwan, F., (2008). Trading volume and stock returns: evidence from Pakistan's stock market: *International Review of Business Research Pipersville*. 4, 151-162.

Khan, M., Saif, N. And Rehman, S. (2013). Stock market reaction to political events (Evidence from Pakistan). *Journal of Economics and Sustainable Development, 2*(1), 165-174

Kimani, D. K. & Mutuku, C. M. (2013). Inflation Dynamics on the Overall Stock Market Performance: The Case of Nairobi Securities Exchange in Kenya. *Economics and Finance Review, 2* (11), 01 – 11

Kirui, E., Wawire, N. H. W. & Onono, P. O. (2014). Macroeconomic Variables, Volatility and Stock Market Returns: A Case of Nairobi Securities Exchange, Kenya. *International Journal of Economics and Finance*, 6 (8), 214-228

Koski, J. L, & Michaely R. (2000). Prices, liquidity, and the information content of trades, *Review of Financial Studies, 13*, 659-696.

Kuwornu, J. K. M. (2012). Effect of Macroeconomic Variables on the Ghanaian Stock Market Returns: A Co-integration Analysis. *Agris on-line Papers in Economics and Informatics, 4* (2), 1-12

Lee, R. (1998). W*hat Is An Exchange? The Automation, Management, and Regulation of Financial Markets*. New York: Oxford University Press Inc

Lothian, J. & Taylor, M. (1997). Real Exchange Rate behavior, *Journal of international money and finance, 116* (6) 945-954

Maku, O. A., & Atanda, A. A. (2010). Determinants of stock market performance in Nigeria: long-run analysis. *Journal of Management and Organizational Behavior, 1*(3), 5-16.

Malkiel, B. G. (2005). Efficient capital markets: A review of theory and empirical work. *The journal of Finance*, 25(2), 383-417

Markowitz, H.M. (1952): *Portfolio Selection*. New York: John Wiley and Sons.

Masila, J., (2010). *Determinants of stock market development: The case for Nairobi securities exchange.* Unpublished MBA thesis. Nairobi: University of Nairobi.

McKinnon, R. I. (1973). *Money and capital economic development*, Brookings Institution (Washington, D.C.)

Mehwish, Z. (2013). Determinants of Stock Market Performance in Pakistan. *Interdisciplinary Journal of Contemporary Research in Business, 4*(5), 1017-18

Mishkin, F.S. & Eakins S. (2009). *Financial Markets and Institutions* (6th ed.). Pearson Prentice Hall.

Mugambi, M. & Okech, T. C. (2016). Effect of Macroeconomic Variables on Stock Returns of Listed Commercial Banks in Kenya. *International Journal of Economics, Commerce and Management*, 4 (6), 390-418

Mwai, A. M. (2013). *The Relationship between Macroeconomic Variables and Share Prices of Companies Listed at the Nairobi Securities Exchange*. Unpublished MBA Project. University of Nairobi

Ngugi, W. R. (2005). *Development of the Nairobi Stock Exchange: A Historical Perspective, KIPPRA Discussion Paper No. 27*. Nairobi: Kenya Institute for Public Policy.

NSE (2017) website https://www.nse.co.ke/media-center/press-release.html retrieved July 11, 2017

Ochieng, D. E., & Adhiambo, E. O. (2012). The relationship between macro economic variables and stock market performance in Kenya. *DBA Africa management review*, 3(1), 38-49.

Osamwonyi, I. O. (2003). Forecasting as a Tool for Securities Analysis, A Paper Presented at a Three-day Workshop on Introduction to Securities Analysis. *Organized by Securities and Exchange Commission, Lagos, August 17th*.

Osamwonyi, I. O., & Evbayiro-Osagie, E. I. (2012). The relationship between macroeconomic variables and stock market index in Nigeria. *Journal of Economics, 3*(1), 55-63.

Osoro, C. & Ogeto, W. (2014). Macro Economic Fluctuations Effects on the Financial Performance of Listed Manufacturing Firms in Kenya. *The International Journal of Social Sciences, 20* (1), 26-40

Ouma, W. N., & Muriu, P. (2014). The impact of macroeconomic variables on stock market returns in Kenya. *International Journal of Business and Commerce*, 3(11), 1-31.

Osamwonyi, I. O., & Evbayiro-Osagie, E. I. (2012). The relationship between macroeconomic variables and stock market index in Nigeria. *Journal of Economics, 3*(1), 55-63.

Pal, K. & Mittal, R. (2011). Impact of Macroeconomic Indicators on Indian Capital Markets. *Journal of Risk Finance*, 12 (2): 84-97

Richards (1996).Volatility and predictability in National Stock Markets: How do emerging and mature markets differ? *European Economic Review*, 37 (2/3), 632-640.

Sabri, N. R. (2008). *Financial Markets and Institutions in the Arab Economy*. Nova Science Publishers, NY.

Saleem, F. Zafar, L. & Rafique, B. (2013). Long Run Relationship between Inflation and Stock Return: Evidence from Pakistan. *Social Sciences and Humanities, 4* (2), 407 – 415

Sharpe, W.F. (2006). *Capital asset prices: A theory of market equilibrium*. Oxford University Press: London.

Shiblee, L. (2009). *The Impact of Inflation, GDP, Unemployment, and Money Supply on Stock Prices.* Arab Bank – Syria

Songole, R. K. (2012). *The Relationship between Selected Macroeconomic Variables and Stock Return at the Nairobi Securities Exchange*. Nairobi: University of Nairobi.

Talla, J. T. (2013). *Impact of Macroeconomic Variables on the Stock M arket Prices of the Stockholm Stock Exchange (OMXS30).* Jonkoping International Business School.

Taofik, M. I. & Omosola, M. A. (2013). The Relationship between Stock Return and Inflation in Nigeria. *European Scientific Journal, 9* (4), 146 – 157

Thomas, D. B. (2006). *Money, Banking and Financial Markets*. Thomson- South.

Ting, H. L., Feng, S. C., Weng, T. W., & Lee, W. K. (2012). *Macroeconomic Determinants of the stock Market Return: The Case in Malaysia*. Kuala Lumpur: Universiti Tunku Abdul Rahman

Tobin, J. (1969). Liquidity preference as behavior towards risk, *The Review of Economic Studies*, 25, 65-86.

Wanjiku, E. (2014). *The effect of macroeconomic variables on portfolio returns of the pension industry in Kenya* (Doctoral dissertation, University of Nairobi)

Wawire, H., Kirui, E, & Onono, P. (2014). Macroeconomic Variables, Volatility and Stock Market Returns: A Case of Nairobi Securities Exchange, Kenya. *International Journal of Economics and Finance, 6* (8), 214-228

Yartey, C. A., and Adjasi, C. K. (2007). *Stock Market Development in Sub-Saharan Africa: Critical Issues and Challenges*. IMF Working Paper No. 07/209. IMF.

Zhou, C. (1996). Stock Market Fluctuations and the Term Structure. Board of Governors of the Federal Reserve System, *Finance and Economics Discussion Series*, 96(03), 12-17

APPENDICES

Appendix I: Firms Listed in the Nairobi Securities Exchange

Company's Name	Sector	Symbol
A Baumann & Co	Financials	BAUM
ARM Cement	Industrials	ARM
Atlas African Industries (GEMS)	Industrials	AAI
B O C Kenya	Basic Materials	BOC
Bamburi Cement	Industrials	BAMB
Barclays Bank of Kenya	Financials	BBK
BAT Kenya	Consumer Goods	BATK
British-American Investments Co(Kenya)	Financials	BRIT
Car & General (K)	Consumer Services	CG
Carbacid Investments	Basic Materials	CARB
Centum Investment Co	Financials	ICDC
CFC Stanbic Kenya	Financials	CFC
CIC Insurance Group	Financials	CIC
Co-operative Bank of Kenya	Financials	COOP
Crown Paints Kenya	Basic Materials	BERG
Deacons East Africa	Consumer Services	DCON
Diamond Trust Bank Kenya	Financials	DTK
Eaagads	Consumer Goods	EGAD

East African Breweries	Consumer Goods	EABL
East African Cables	Industrials	CABL
East African Portland Cement	Industrials	EAPC
Equity Group	Financials	EQTY
Eveready East Africa	Consumer Goods	EVRD
Flame Tree Group Holdings (GEMS)	Basic Materials	FTGH
Home Afrika (GEMS)	Financials	HAFR
Housing Finance Co Kenya	Financials	HFCK
I&M Holdings	Financials	IM
Jubilee Holdings	Financials	JUB
Kakuzi	Consumer Goods	KUKZ
Kapchorua Tea Company	Consumer Goods	KAPC
KCB Group	Financials	KCB
KenGen Company	Utilities	KEGN
KenolKobil	Oil & Gas	KENO
Kenya Airways	Consumer Services	KQ
Kenya Orchards	Consumer Goods	ORCH
Kenya Power & Lighting Co	Utilities	KPLC
Kenya Re	Financials	KNRE
Kurwitu Ventures (GEMS)	Financials	KURV

Liberty Kenya Holdings	Financials	CFCI
Limuru Tea Co	Consumer Goods	LIMT
Longhorn Publishers	Consumer Services	LKL
Marshalls East Africa	Consumer Services	MASH
Mumias Sugar Co	Consumer Goods	MSC
Nairobi Business Ventures	Consumer Services	NBV
Nairobi Securities Exchange	Financials	NSE
Nation Media Group	Consumer Services	NMG
National Bank of Kenya	Financials	NBK
NIC Bank	Financials	NICB
Olympia Capital Holdings	Industrials	OCH
Safaricom	Telecommunications	SCOM
Sameer Africa	Consumer Goods	FIRE
Sanlam Kenya	Financials	PAFR
Sasini	Consumer Goods	SASN
Scangroup	Consumer Services	SCAN
Standard Chartered Bank Kenya	Financials	SCBK
Standard Group	Consumer Services	SGL
Stanlib Fahari I-REIT	Financials	FAHR
Total Kenya	Oil & Gas	TOTL

TPS Eastern Africa	Consumer Services	TPSE
Trans-Century	Industrials	TCL
Uchumi Supermarkets	Consumer Services	UCHM
Umeme	Utilities	UMME
Unga Group	Consumer Goods	UNGA
iamson Tea Kenya	Consumer Goods	WTK

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