

**RELATIONSHIP BETWEEN STOCK MARKET CAPITALIZATION
AND ECONOMIC GROWTH IN KENYA**

BY

JACKLINE CHEPKOECH

D61/74344/2014

**A RESEARCH PROJECT PRESENTED IN PARTIAL
FULFILMENT OF THE REQUIREMENTS OF THE AWARD OF
MASTER OF BUSINESS ADMINISTRATION, SCHOOL OF
BUSINESS, UNIVERSITY OF NAIROBI**

NOVEMBER, 2017

DECLARATION

This research project is my original work and it has not been presented to any other higher learning institution or university:

Signed Date

Jackline Chepkoech D61/74344/2014

This research is presented for examination with my approval as an approved university supervisor:

Signed Date

Dr. Cyrus Iraya,

Lecturer,

Department of Finance and Accounting,

School of Business, University of Nairobi.

DEDICATION

I dedicate this piece research study to my loving mother Ms. Peterline C. Kerich for the support, encouragement towards my academic journals.

ACKNOWLEDGEMENT

This work has gone to a fruitful culmination because of a mix of endeavors, diligent work and material help of a few people. Most importantly, I am extremely thankful to my mother and Mr. Henry Ouma (Henkel Kenya) for their understanding, guide and consolation. I express gratitude toward them for the most part to take his opportunity to mention vital objective fact and rectifications.

In a similar express my gratefulness to my lecturers Dr. Cyrus Iraya and Dr. Mirie Mwangi among others whose names may not be said here for unavoidable reason of room however have affected emphatically on us over the span of this program.

Similarly, I wish to express my significant gratefulness to the Capital Market Authority for facilitating data collection.

To God be the Glory!

TABLE OF CONTENTS

DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
LIST OF TABLES	vii
LIST OF FIGURES	viii
ABBREVIATIONS	ix
ABSTRACT	x
CHAPTER ONE: INTRODUCTION	1
1.1 Background to the Study.....	1
1.1.1 Stock Market Capitalization.....	2
1.1.2 Economic Growth.....	2
1.1.3 Relationship between Stock Market Capitalization and Economic Growth	3
1.1.4 Economic Growth in Kenya	4
1.2 Research Problem	5
1.3 Research Objective	7
1.4 Value of the Study	7
CHAPTER TWO: LITERATURE REVIEW	9
2.1 Introduction.....	9
2.2.1 Efficient Markets Hypothesis.....	9
2.2.2 Endogenous Growth Theory	10
2.2.3 Exogenous Growth Theory	11
2.3 Determinants of Economic Growth	11
2.3.1 Financial Development	12
2.3.2 Higher Education Development.....	12
2.3.3 Foreign Direct Investment.....	13
2.3.4 Financial Inclusion.....	14
2.3.5 Macroeconomic Variables.....	15
2.3.6 Market Capitalization.....	15
2.4 Empirical Review.....	16

2.5 Conceptual Framework.....	20
2.6 Summary of Literature Review.....	20
CHAPTER THREE: RESEARCH METHODOLOGY	22
3.1 Introduction.....	22
3.2 Research Design.....	22
3.4 Data Collection	22
3.5 Validity and Reliability.....	23
3.6 Data Analysis	23
3.6.1 Analytical Model.....	23
CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION	25
4.1 Introduction.....	25
4.2 Descriptive Statistics.....	25
4.5 Correlation Analysis	28
4.6 Regression Analysis and Hypotheses Testing	29
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION ..	35
5.1 Introduction.....	35
5.2 Summary of the findings.....	35
5.3 Conclusion	36
5.4 Recommendations.....	37
5.5 Limitations of the Study.....	39
5.6 Suggestions for Further Research	40
REFERENCES.....	41
APPENDIX:.....	44

LIST OF TABLES

Table 4.1: Descriptive Statistics	26
Table 4.2: Correlation results	29
Table 4.3: Regression results	29
Table 4.4: Regression statistics	31

LIST OF FIGURES

Figure 2.1: Conceptual Framework20

Figure 4.1: Economic Growth in Kenya 2005-2015..... 28

ABBREVIATIONS

FDI	:	Foreign direct investment
GDP	:	Gross Domestic Product
NSE	:	Nairobi Securities Exchange
CMA:		Capital Market Authority
KNBS:		Kenya National Bureau of Statistics
CBK:		Central Bank of Kenya

ABSTRACT

The investigation was done on firms recorded on the Nairobi Securities Trade (NSE) with the goal of discovering how monetary development was influenced by the advancements in the level of market capitalization. This was out of the way that most investigates harped such a great amount on the connection between showcase capitalization and Gross domestic product. Regression display was utilized to examine the connection between financial development, stock market capitalization increase and the control variables. The two key variables were measured by rate monetary development rate and market capitalization separately. The information utilized was gathered from the Capital Market Authority for 11 year period from 2005. The information for financial development for a similar period was got from the database Kenya National Bureau of Statistics and Central Bank of Kenya. Examination of the information uncovered that there was a 0.000356186 relationship between the two factors showing that the two co-moved. The relapse investigation found a powerless positive association with the level of development rate that is autonomous of market capitalization being 5.085%. The variable part had a variety coefficient of 0.00683283266 which is certain.

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Economic growth remains a paramount goal for governments the world over; with the aim being to advance their economies and the living standards of their respective populace. Among the avenues to achieve economic growth are stock markets (Maranga, 2013). According to efficient markets theory (Fama, 1970), stock markets play a crucial role of efficient and effective resource allocation in the economy. As such, governments, households and corporations being resource demanders often turn to these stock markets for scarce financial resources to be deployed into productive uses. In this perspective, stock markets aid countries towards economic growth. However stock markets' perceived positive role is often questioned due to their vulnerability to market failure, which is often noticeable in the volatile nature of stock markets, especially in developing and emerging countries (Omoke, 2010).

The financial system is multifaceted in structure and functioning globally (Mishkin, 2004). It also remains unsettled whether stock markets (a subset of the capital market) spur economic growth especially in the context of emerging market economies (Naik and Padhi, 2015). A few components of securities exchanges, for example, instability and nearness of theoretical financial specialists are probably going to detrimentally affect a nation's long haul improvement. The research study sought to investigate the relationship between stock market capitalization and economic growth in the context of Kenya.

1.1.1 Stock Market Capitalization

The stock market is a public market where issuing and trading of equities, bonds and other sorts of securities takes place, either through organized security exchanges or over-the-counter market. A stock trade encourages stock dealers to exchange organization stocks and different securities. Participants in stock markets include governments, corporate institutions, individuals, mortgage firms, and so on. Households are net investors in the stock markets; while firms and the government are net users (Mishkin & Eakins, 2012).

Stock market being where securities are traded, their development entail increase in volumes handled, and hence market capitalization, and their sustainability (Omoke, 2010). The improvement of the securities exchanges is imperative component of monetary segment advancement and supplements the part of the managing an account framework in financial advancement. Enhanced securities exchanges encourage in productive through value disclosure, liquidity arrangement, decrease in exchange expenses, and hazard exchange. Market capitalization can be assessed in terms of changes in the market index or volumes traded. Improved market capitalization also acts as barometer of funds flow in the economy and improved resource allocation from unproductive to productive areas.

1.1.2 Economic Growth

Economic growth is among the primary goals of monetary policy; and is an important macroeconomic objective for any country (Otieno, 2015). Mosiori (2014) characterizes

financial development as an expansion in the generation and utilization of merchandise and enterprises in an economy. A country can stimulate economic growth by implementing policies that encourage accumulation of funds for investment by firms and increase individuals' savings (Mishkin, 2004).

Monetary development is the expansion of per capita total national output (GDP) or other measure of total wage. It is frequently measured as the rate of progress in GDP. Monetary development alludes just to the amount of merchandise and enterprises created and it can be either positive or negative (Omoke, 2010). Economic growth improvement has many benefits to various stakeholders in an economy: the citizenry obtain gainful employment, improved living standards and firms easily obtain effective markets for their produce, among others.

1.1.3 Relationship between Stock Market Capitalization and Economic Growth

Stock markets administer channeling of surplus funds to investors with a shortage principally affecting economic growth. Market capitalization stems from changes in stock markets growth, backed by apt and adequate regulation and legal framework it assists drive and sustain economic growth (Mishkin, 2012). The said regulations create a conducive environment for economic growth. Endogenous growth theory supports this perspective of market capitalization and economic growth relationship.

Securities exchanges are basic in supporting more noteworthy monetary proficiency by exchanging reserves from financial specialists with surplus to those with beneficial utilize. Where the inflows of funds into the markets outweigh the outflows, market capitalization improves and the reverse holds, also. Therefore market capitalization is largely affected by activities in stock markets, which then have direct impact metrics of economic growth such as individual wealth, the performance of firms and consumers, and the cyclical performance of the economy. Low market capitalization stemming from underdeveloped stock markets lead to low states of economic development and economic growth; efficient flow of funds at low costs is hindered (Mishkin, 2004).

1.1.4 Economic Growth in Kenya

Kenya has made noteworthy auxiliary and financial changes that have added to supported monetary development over the past decade. Kenya's economic growth rose to 5.9% in 2016 and projected to increase by 6.1 % in 2017 based on infrastructure investments, decreased pressure on domestic interest rates and increase in credit uptake by the private sector (World Bank, 2016).

Kenya's GDP increased by 5.6 per cent in 2015 compared to 5.3 per cent growth in 2014; this growth was as a result of growth in some key sectors among them financial markets (KNBS, 2016). The stock market capitalization is around Kenya shillings 2.5 trillion; this figure is less than 50% of the gross national product. The stock markets are well positioned to support Kenya's long-term financial and economic growth (CMA, 2016).

1.2 Research Problem

Stock markets are predisposed to a number of vulnerabilities among them market failures and unpredictable volatility, as well as low ratio of market participants relative to general population. These forces and market metrics influence market capitalization. As a result, the traditional growth schools of thought argue that there is no relationship between business sectors capitalization and financial development because of the existence of level effect (Omoke, 2010). However according to efficient markets hypothesis (Fama, 1970) stock markets are efficient thus all securities prices reflect all available information at all times, thus optimum market capitalization level. This implies efficiency if resource allocation occurs throughout an economy; from surplus unit to deficit but productive units, this supposes a positive connotation on economic growth.

Kenya's organized stock markets commenced operation in the 1950s with the inception of the then Nairobi stock exchange; there has been growth registered in the stock markets over the years in terms of number of firms listed in the exchange as well as the variety of products and services offered. Currently, listed firms number over sixty firms (CMA, 2016). The country's annual economic growth rates have been fluctuating over the period since organized stock markets inception.

A number of studies have in the past been undertaken to establish the effect of the market capitalization on economic growth. Boopen, Shalini and Sawkut (2009) find that

financial development has a positive contribution on economic growth. Mahdi (2008) finds that higher education has a positive effect on the economic growth over the short and long run.

Dorko (2012) however finds there is a frail positive relativity with the level of development rate and market capitalization. Maranga (2013) there is a weak negative correlation between gross domestic product growth and stock market returns; there is a negative connection between interbank loaning financing cost and the monetary development (Otieno, 2015). Stock market indices impact significantly on economic growth (Sambu, 2014). Mosiori (2014) found that foreign direct investment and exchange rates positively affect economic growth while inflation and interest rates have an inverse relationship with economic growth.

From the empirical studies reviewed, foreign studies are in agreement that market capitalization and its related metrics have compelling effect on economic growth. However local studies post mixed results: there is a weak negative correlation between gross domestic product growth and interest rate and stock market returns (Maranga, 2013; Otieno, 2015); stock market indices impact significantly on economic growth (Sambu, 2014; Mosiori, 2014). This indicates that the relationship between market capitalization and economic growth remains unsettled, especially for an emerging economy such as Kenya's. Thus the research question: What is the relationship between market capitalization and economic growth in Kenya?

1.3 Research Objective

The objective of the study was to investigate the relationship between stock market capitalization and economic growth in Kenya.

1.4 Value of the Study

The study is of value to different stakeholders in the Kenyan economy, among them other researchers, government officials, stock markets officials and managers, legislators, financial analysts, among others. Government officials shall find the study insightful as the relationship between market capitalization and economic growth was studied. These officials mainly aim for positive economic growth; as such, they put in place policy drafts and guidelines that aim at the said target. With input from the study, such policy drafts and guidelines shall be of better quality and relevance.

Other scholars shall also find this study relevant to them; they might use the study findings as point of reference in the future and or as a basis for further research. This essentially shall also add to the breadth and quality of their research works and publications. Other researchers might also use the findings from the study to just further their knowledge base on the study parameters.

Stock markets officials and managers and Legislators could also draw input from the study while undertaking their policy drafting as well as policy amendment duties. Better policy drafts and regulatory framework shall be made thereby assuring or adding to the

quality of the legislations and policies therefrom. The study could also form a reference point while undertaking these policy related duties.

Financial analysts often undertake due diligence assignments as well as background checks on investment targets. These individuals might therefore draw invaluable insights from the study and thus build on their client advises as well as recommendations made. Also financial analysts often undertake in-house research studies; with input from the study, such researches are better enhanced.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter discusses the literature review. It covers theories and past empirical studies relevant to the study area, as well as the other determinants of economic growth.

2.2 Theoretical Review

This section presents and discusses theories relevant to the study area: efficient markets theory, endogenous growth theory and exogenous growth theory.

2.2.1 Efficient Markets Hypothesis

The efficient markets theory (Fama, 1970) establishes that securities prices in the stock market fully reflect all available information. It is based on the assumptions that information is freely available to all market participants at negligible costs and this information trickles in randomly, thus prices are rightly priced always (where mispricing exists, arbitrage activities quickly adjust the price to the right level). The market players are also assumed to be rational and seek to maximize their returns; thus, the stock markets allocate funds from surplus units to deficit units in an efficient and effective manner.

The efficient stock markets theory provides a good explanation on the role stock markets, especially market capitalization, play on promoting economic growth in a country. Since resources are efficiently allocated, wasteful use is minimized in the economy; where such

efficient allocation and use of the scarce resources occur, economic growth is positively impacted. However, some proponents argue that stock markets are prone to a number of inefficiencies in practice (information may not be freely available, investors might often behave irrationally) (Ross, Westerfield, Jordan, 2013); these inefficiencies hamper efficient allocation of resources in the economy thereby adversely affecting economic growth.

2.2.2 Endogenous Growth Theory

Endogenous development hypothesis (Romer,1986) hypothesizes that monetary development originates from factors inward to an economy and not from outside powers. Factors of production such as labour can be managed internally and improved within an economy so as to foster economic growth. The theory thus argues from a closed market economy perspective. According to endogenous growth theory, therefore, stock markets development and hence capitalization causes higher economic growth through influence on level of investment and productivity.

Stock markets will assist mobilize savings and encourage investments and thus enhanced economic growth rates (Dorko, 2012). Stock markets being part of the overall financial system assist to mobilize and bulk financial resources from the surplus supply units in the economy and such funds are then channeled efficiently and efficiently to the deficit supply units. Resources are thus efficiently channeled into most productive areas and over time such efficiency results in positive influence on economic growth, *ceteris paribus*.

2.2.3 Exogenous Growth Theory

Exogenous growth model (Solow, 1956) is a theory that explains how economic growth results over the long-run. Unlike the endogenous theory, economic growth under exogenous growth theory is assumed to stem from external factors. The theory supposes that economic growth is a function of three items: capital accumulation, population (labour), and technological improvement (productivity), and that labour and capital are subject to the law of diminishing returns.

Capital accumulation is affected in part by the savings rate. The theory thus postulates that a country with a higher national savings rate will realize faster growth relative to those with lower savings rate. Sustained capital accumulation, managing population growth to a low level, and enhancing investments through higher savings, are thus anticipated to drive economic growth (Solow, 1996).

2.3 Determinants of Economic Growth

Market capitalization affects country's economic growth. However there exist other factors that influence economic growth of a country. These other factors (financial development, higher education development, financial inclusion, foreign direct investment, among others) are presented and discussed below:

2.3.1 Financial Development

Financial development is broader than stock markets development and affects economic growth. Financial development comprises improvement of the banking sector, stock markets, and other financial intermediaries (Andrianaivo & Yartey, 2010). Stock markets are a subset of financial development. A domain of a solid lawful framework, accounting standards and adequate government direction, among others, bolsters money related improvement in a nation and decidedly helps monetary development (Mishkin & Eakins, 2004).

According to Sehrawat and Giri (2015) there are three schools of thought on the relationship between economic growth and financial development. To begin with, money related improvement is a precondition for monetary development; this contention bolsters the supply driving idea. Second, genuine monetary development leads budgetary improvement (that is the request following point of view). The third conclusion keeps up that there exists bidirectional interconnection between monetary development and financial development.

2.3.2 Higher Education Development

Higher education also plays a consequential role in economic growth of a country. It affects and shapes the quantity and quality of skilled personnel supplied into the society over time. It also drives and directly supports economic growth through innovation, research and development activities, providing knowledge diffusion to the populace, and

providing a resource to manage the production factors in an economy (Khorasgani, 2008).

Cumulative investment in education assists to stimulate domestic demand and spur economic growth (Hongyi & Huang, 2010). Higher education development provides a basis and or a platform to boost economic growth and development. An education populace assist improve efficient and effective allocation of productive resources in the economy to areas of most need. Thereby overtime innovation, efficiency, and other benefits pool towards economic growth and development.

2.3.3 Foreign Direct Investment

Foreign direct investment (FDI) represents funds flow from international markets into local economy in form of foreign currency. This flow is accompanied by knowledge transfers, as well as improved balance of trade; the trickle effect is on economic growth. The connection between FDI and economic development is however complex. FDI assists create employment; improve productivity, competitiveness, and technology transfer, at the country level. Enhanced FDI drives exports, enhances access to global markets and foreign currencies. FDI also promotes the competitiveness of local economy. Thereby facilitating economic growth, directly and or indirectly (Denisia, 2010).

Mosiori (2014) asserts that foreign direct investments drive investments which then drives production and consumption of goods and services in given country; FDI assists

build up physical assets, widen employment opportunities, develop productive capability, and enhance local skills through transfer of technology. FDI provides the wherewithal to foster these aspects of the economy; thus supporting creates an environment conducive for economic growth.

2.3.4 Financial Inclusion

Financial inclusion encompasses various dimensions such as availability and penetration of banking services, as well as usage of the same. Financial inclusion plays a significant role in developing a strong and an efficient financial structure, which then aids the growth of an economy. There is a positive relativity between economic growth and the various aspects of financial inclusion such as banking penetration and outreach (Sharma, 2016).

Financial inclusion could be achieved in terms of wider reach of the overall populace through provision of more relevant products and services that attract more players into the financial system (Sharma, 2016). Financial inclusion however is impacted by a number of key variables such as level of financial literacy in the economy, availability of technological knowhow and appropriate infrastructural developments. Once a considerable of financial inclusion is realized, economic growth is positively aided.

2.3.5 Macroeconomic Variables

Macroeconomic variables shape the national economic environment of a nation; they define and influence the volatility and turbulence of the said environment. Macroeconomic variables such as exchange rates, have significant impact on economic growth (Naik & Padhi, 2015). Otieno (2015) asserts that macroeconomic variables, especially interest rates, are one of the most key drivers of economy growth; they influence financial markets. A stable macroeconomic environment is essential for economic growth.

A country's exchange rate management influences its economic growth; currency undervaluation assists spur economic growth, while an overvaluation might result in adverse balance of payment, and inhibit economic growth. High inflation rates always lead to macroeconomic volatility which then reduces economic growth in a country as households tighten their consumption and find it hard to make savings and investments (Naik & Padhi, 2015).

2.3.6 Market Capitalization

Market capitalization is the aggregate individual firms' market value. It is based on the number of shares issued as well as the daily market prices. Market capitalization amount could be used as a barometer of economic performance in the country. Investors in the stock markets are premised to make investment out of savings derived from incomes. More investments shall be made where incomes allow for savings by individuals and households (Mishkin & Eakins, 2012).

Higher incomes therefore imply higher economic growth; higher growth also might imply higher incomes. Market capitalization is also a factor of foreign direct investors' actions in the markets; net positive inflows from these investors serves to drive prices up, hence higher market capitalization. Foreign direct investments also affects balance of payments; positive net funds inflow has a positive impact on the balance of payments and in effect economic growth (Denisia, 2010).

2.4 Empirical Review

Under this section relevant past studies that have been undertaken on the study area are reviewed. The section begins with foreign studies review, and then ends with a review of local studies.

Boopen, Shalini and Sawkut (2009) undertook a research study to investigate whether there is a relationship between financial development and economic growth in island economies in the world using a descriptive research design. The population comprised all island economies and a sample of 20 countries used data obtained covered 1980 to 2002. The study obtained secondary data which was analyzed using regression analysis. The study found that financial development has a positive contribution on the economic growth of the islands.

Mahdi (2008) also in study to establish the role higher education plays in economic growth in Iran used a descriptive research design. Secondary data was sourced from Statistic Center of Iran and the Central Bank of Iran covering the period 1959-2005 and analysis done using an autoregressive distributed lag model. The research study found that higher education has a positive effect on the economic growth of Iran over the short and long run.

Naik and Padhi (2015) in a study examined the impact of stock market development on the economic growth using a descriptive research study. The 27 emerging economies were sampled and secondary data obtained covering 1995 to 2012. Data obtained were analyzed using regression analysis and heterogeneous panel causality test. The research study found that stock market development significantly contributes to economic growth. The researchers also observe that macroeconomic variables such as exchange rates have significant impact on economic growth.

Sehrawat and Giri (2015) in a study to examine the relationship between financial development and economic growth in India used descriptive research. The study relied on secondary annual data of the country covering period 1982 to 2012. Data were analyzed using autoregressive distributed lag method and found that there exists a long-run relationship in financial development and economic growth for India and that the Indian financial sector has the potential for economic growth through credit transmission.

Masoud and Hardaker (2012) undertook a research study to investigate the relationship between financial development and economic growth for emerging markets. The study used a descriptive research design and secondary data covering 1995 to 2006. Population target as all countries in the emerging markets and sampled only those with stock exchanges. Data analysis was by regression analysis. The examination found that securities exchange improvement significantly affects financial development and that there is a steady, long haul balance connection between the advancement of money markets and the development of the economy.

Dorko (2012) undertook a study with the objective to find out how economic growth is affected by the developments in the level of market capitalization at the Nairobi Securities Exchange. The descriptive research design based study used a population comprising all listed firms and a sample of only consistently listed firms studied. The study also used secondary data obtained from the NSE and United Nations covering 2000 to 2011. Regression analysis was undertaken and established that there is a weak positive relationship of the stock market capitalization on level of economic growth rate.

Maranga (2013) also undertook a study to establish the relationship between the economic growth and the stock market returns using a causal research design. The researcher focused on the Nairobi Securities Exchange 20 share index and gross domestic product and covered 1982 to 2012 study period. Secondary data was collected and analysed using descriptive statistics, correlation and regression analyses. The study shows

that there is a weak negative correlation between gross domestic product growth and stock market returns.

Mosiori (2014) in a study sought to determine the relationship between foreign direct investment and economic growth in Kenya. A descriptive survey research design was used as well as secondary data obtained from the Central Bank of Kenya and World Bank covering period 1994-2014. Using regression analysis the study established that foreign direct investment and an exchange rate positively affect economic growth while inflation and interest rates have an inverse relationship with economic growth and recommends the government to push reform agenda so as to attract more foreign direct investment in the Kenyan economy.

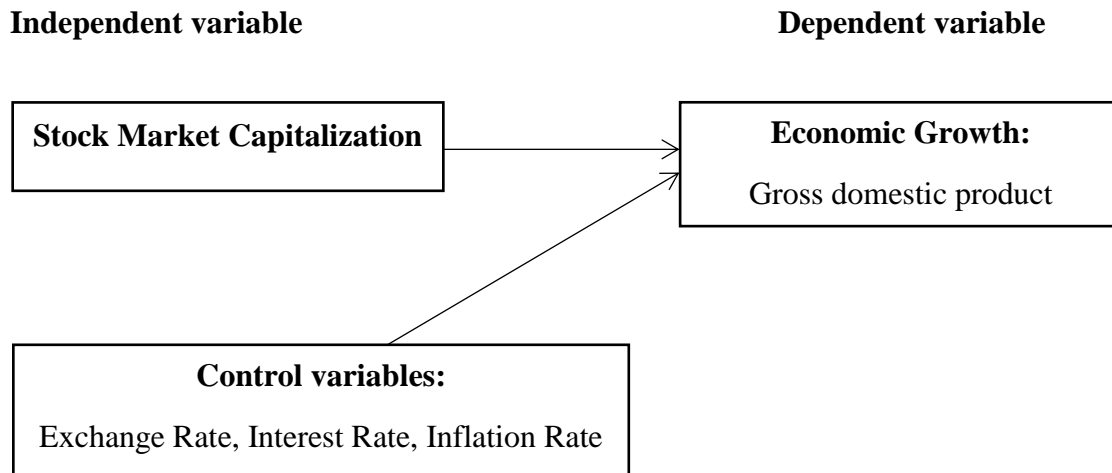
Otieno (2015) investigated the effects of interest rate on the general economic growth in Kenya using a causal research design and secondary data obtained from the publications of Kenya national bureau of statistics and the Central bank of Kenya for a 15 year period covering 2000 to 2014. Data obtained were then analyzed using regression analysis; the study established that there is a negative relationship between interbank lending interest rate and the economic growth and recommends that the government ought to put policies in place to control interest rates movements.

Sambu (2014) undertook a study to examine the relationship between Kenyan stock markets development and economic growth over the period 1990 to 2011. The study used secondary data and analysis done using regression analysis and tests of significance via

the R tests and F-statistics. The research study findings indicate that stock market indices impact significantly on economic growth.

2.5 Conceptual Framework

Figure 2.1: Conceptual Framework



Source: (Author, 2017)

2.6 Summary of Literature Review

Under this chapter the relevant literature related to the study area has been reviewed. The chapter begins with a section on theoretical review, other determinants of economic growth are also discussed, and the last section covers relevant empirical studies review.

From the empirical studies reviewed, the relationship between market capitalization and economic growth remains unsettled. Foreign studies are in agreement that market

capitalization and its related metrics have a positive significant effect on Economic growth, (Masoud & Hardaker, 2012; Boopen, Shalini & Sawkut, 2009; Mahdi, 2008). However local studies post mixed results: there is a weak negative correlation between gross domestic product growth and interest rate and stock market returns (Maranga, 2013; Otieno, 2015); stock market indices impact significantly on economic growth (Sambu, 2014; Mosiori, 2014).

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter explains the research methodology that the research study followed. It explains the research design, data collection, and the data analysis.

3.2 Research Design

A research design is the theoretical structure within which a research study is undertaken; it guides the collection as well as measurement and analysis of data (Kothari, 2004). The study adopted a case study research design. The major aim of descriptive research is to describe characteristics of the study targets as they are (Zikmund et al., 2010). Musebe (2015) used a descriptive survey design while undertaking a similar research study. The study sought to identify and describe the relationship between market capitalization and economic growth in Kenya.

3.4 Data Collection

The study primarily relied on secondary data on market capitalization and economic growth over the period 2005 to 2015 quarterly. Dorko (2012) while undertaking a similar research study also used secondary data. The data was sourced from publications by the Kenya National Bureau of Statistics as well as stock markets statistics by the Stock markets Authority.

3.5 Validity and Reliability

This section explains the validity and reliability of the data collection instrument. A sound data collection instrument must meet the checks of validity and reliability. Validity shows the extent to which an instrument measures what it is expected to measure. One dimension of validity is content validity (extent to which a measuring instrument provides adequate handling of study target). A measuring instrument is reliable if it delivers steady outcomes. Reliability aids validity, (Kothari, 2004).

Only one data collection instrument was used to collect the data require; this assisted on the reliability aspect as this way, data was collected uniformly thus consistent administration. On content validity, the study sought to investigate the impact of stock markets on economic growth; therefore, the data collection instrument sought to adequately obtain data related to the study parameters alone.

3.6 Data Analysis

The collected data was tabulated, checked for errors and edited appropriately where necessary. Descriptive statistics such as the mean, standard deviation were calculated to summarize the obtained data. Regression analysis and tests of significance were then undertaken to establish the relationship between market capitalization and economic growth in Kenya. The specific model is as below:

3.6.1 Analytical Model

$$Ye = \beta_0 + \beta_1Mc + \beta_2Ir + \beta_3Int + \beta_4Exch + \epsilon$$

Where: **Ye** = economic growth as measured by percentage change in periodic gross

domestic product levels.

β_0 = the intercept, that is, the amount of economic growth at zero market

capitalization.

β_i = the beta coefficients for the respective independent and control variables, that

is, the change in economic growth following a unit change in the said variables.

Mc = Market Capitalization as measured by the periodic formal stock market

Capitalization change; market capitalization being the sum of

Individual firm issued shares multiplied by closing price.

Ir = Inflation Rate, measured by the consumer price index

Int = Interest rate, measured by the average periodic lending interest rate

Exch = Exchange rate, measured by the average periodic exchange rate against

the

US dollar.

ϵ = the error term

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This section clarifies the examination of the data used for this examination. The segment is dealt with to such a degree, to the point that the underlying portion gives the presentation of the data to the extent the case of the examination, data aggregation, the reasonable estimations of the data used, and the backslide examination. The examination found the association between money related advancement and market capitalization no doubt yet feeble.

4.2 Descriptive Statistics

The estimations of each of the organizations' accounted for showcase capitalization in a particular quarter were added to locate the aggregate capitalization in that quarter. This gave 44 sets of examination of the needy factors to be regressed with the adjustment in Gross domestic product rates. The graphic measurements of the arrangements of information were ascertained and are abridged in the table underneath. There were forty four perceptions for every factor mentioning up forty finish objective facts for the regression analysis.

Table 4.1 Descriptive Statistics Summary

	<i>Ye</i>	<i>MC</i>	<i>Ir</i>	<i>Int</i>	<i>Ex</i>
Mean	5.054545455	1173.824682	8.457321986	9.392045455	80.67490909
Standard Error	0.262880743	89.56636964	0.688985144	0.42113164	1.499930552
Median	5.2	977.692	7.014534786	8.75	80.74
Mode	6.1	#N/A	#N/A	8.5	#N/A
Standard Deviation	1.743753576	594.1160838	4.570210415	2.793471275	9.949413704
Sample Variance	3.040676533	352973.9211	20.88682324	7.803481765	98.99083306
Kurtosis	-0.151214455	-0.556127128	-0.39713596	4.404543604	-0.120342548
Skewness	-0.29499703	0.787463151	0.887631498	1.961207909	0.324987777
Range	7	2117.905	16.47345175	12	41.972
Minimum	1.4	326.924	2.713585404	6	63.303
Maximum	8.4	2444.829	19.18703715	18	105.275
Sum	222.4	51648.286	372.1221674	413.25	3549.696
Count	44	44	44	44	44
Confidence Level(95.0%)	0.530149543	180.627799	1.389470965	0.849292893	3.024898243

The highest value of market capitalization increase was achieved in 2015 Q2, when the reported total market value of the firms whose data were available was 2444.829. The mean of the market capitalization was 1173.824682 with a standard deviation of 594.1160838. The distribution had a kurtosis of -0.556127127779688 which shows it was a platykurtic distribution. The skewness was 0.787463150916588 showing the distribution was symmetric.

The highest value of inflation rates was achieved in 2008 when the reported total market value of the firms whose data were available was 19.18703715. The mean inflation rate was 8.457321986 with a standard deviation of 4.570210415. The distribution had a

kurtosis of -0.39713596 which shows it was a platykurtic distribution. The skewness was 0.887631498 showing the distribution was moderately skewed.

The highest value of interest rate was achieved in 2012 at 18%. The mean of the interest rate was 9.392045455 with a standard deviation of 2.793471275. The distribution had a kurtosis of 4.404543604 which shows it was a leptokurtic distribution. The distribution was highly skewed at 1.961207909.

The highest exchange rate realized was 105.275 in Q3 2015. The average exchange rate was 80.67490909 with a standard deviation of 9.949413704. The distribution had a kurtosis of -0.120342548 which shows it was a platykurtic distribution. The skewness was 0.324987777 showing the distribution was symmetric.

The highest level of GDP growth was 8.4 achieved in 4th quarter 2005. The arithmetic average growth rate was 5.0545454558 with a standard deviation of 1.743753576 The kurtosis of the GDPs was -0.151214455 indicating a platykurtic distribution. The skewness was -0.29499703 which indicated negative skewness.

The financial development rate has additionally been on the upward pattern as appeared by the graph underneath. The most minimal development rate was 1.4 in Q1 2010. The most elevated rate was 8.4 in Q4 2005. It is critical that financial development rate hit nearby essentials between Q1 2008 and Q1 2010.

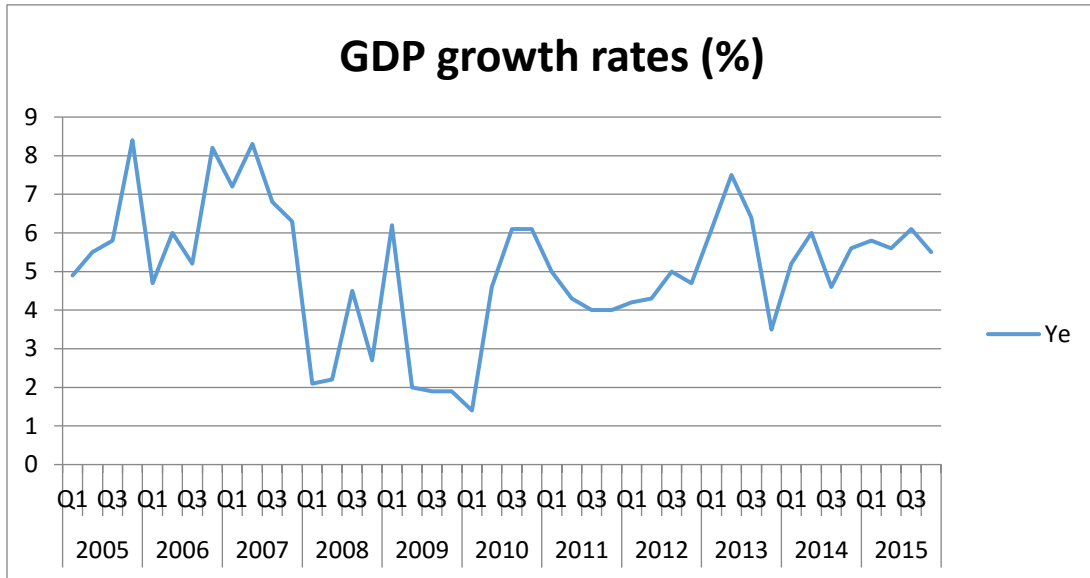


Figure 4.1 Economic Growth in Kenya 2005-2015

4.5 Correlation Analysis

The correlation analysis below shows the economic growth (GDP) a weak positive linear relationship with stock market capitalization, interest rates and foreign exchange, whereas it has a moderate negative relationship with inflation rates.

Table 4.2 Correlation Results

	<i>Ye</i>	<i>MC</i>	<i>Ir</i>	<i>Int</i>	<i>Ex</i>
<i>Ye</i>	1				
<i>MC</i>	0.068328366	1			
<i>Ir</i>	-0.49628075	0.252952342	1		
<i>Int</i>	0.020196268	0.079547859	0.345723034	1	
<i>Ex</i>	0.00982914	0.696435209*	0.008601594	0.109711462	1

Significant at 0.05

4.6 Regression Analysis and Hypotheses Testing

The regression was done with the GDP development rates as the needy variable and the stock market capitalization change, inflation rates, interest rates and exchange rates against US dollar as the autonomous variable. The table underneath which is additionally in the index gives an outline of the consequences of the regression. The steady term speaking to the GDP development rate that is free of the market capitalization was 5.085194149.

Table 4.3 Regression Results

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	5.085194149	2.319668067	2.192207678	0.034398359	0.393222611	9.777166
<i>MC</i>	-0.000356186	0.000608624	-0.585232027	0.561762853	-0.001587245	0.000875
<i>Ir</i>	-0.228515786	0.057434704	-3.978705753	0.000291845	-0.34468844	-0.11234
<i>Int</i>	0.131425053	0.090769144	1.447904516	0.155635694	-0.05217287	0.315023
<i>Ex</i>	0.013458128	0.03553126	0.378768658	0.706913916	-0.05841063	0.085327

The constant term is 5.085194149 with standard error of 2.319668067.

The T-statistic was 2.192207678 (p = 0.034398359). The stock market capitalization coefficient of the regression was -0.000356186 with a standard error of 0.000608624. The T value was -0.585232027 (p= 0.561762853) which was insignificant as the p-value was greater than 0.05. The inflation rates coefficient of the regression was -0.22851515786 with a standard error of 0.057434704. The T value was -3.97870553 (p= 0.000291845) which was significant as the p-value was less than 0.05.

The interest rates coefficient of the regression was 0.131425053 with a standard error of 0.090769144. The T value was 1.447904516 (p= 0.155635694) which was insignificant as the p-value was greater than 0.05.

The exchange rate capitalization coefficient of the regression was 0.013458128 with a standard error of 0.013458128. The T value was 0.378768658 (p= 0.706913916) which was also insignificant as the p-value was greater than 0.05.

The model was then found to be:

$$Ye = 5.085194149 + 0.228515786Ir + e$$

The table below presents the statistics of the regression. The was 29.5425013% which is an indication that though having an impact the variation in market capitalization did not explain the full variation in the GDP growth rates-it only explained 29.5425013 %. The adjusted R square gave a value of 22.3160911 %.

Table 4.4 Regression Statistics

Multiple R	0.54353014
R Square	0.295425013
Adjusted R Square	0.223160911
Standard Error	1.53691782
Observations	44

4.7 Discussion of Research Findings

A significant part of the accessible investigations to the impact of the stock trade to the monetary improvement of any country appear to be nation particular; particular as in the advantages acknowledged from the stock trade is fundamentally needy upon its part and the criticalness of the recognized part in the economy. The inquiries about appear to show three situations: that of the created countries made up of the Northern America, Europe and the Far East, the recently industrializing states, and the Less Developed nations. The created nations have refined securities showcases that are profound, wide and exceptionally proficient in the innovative and the market sense. In any case, these business sectors contribute less to the economy as appeared by feeble relapse comes about. The circumstance is like the ineffectively created nations, however with an alternate clarification as a few nations have shallow, limited and wasteful securities markets.

Despite what might be expected, the recently industrializing nations have demonstrated a solid connection between the share trading system and monetary advancement. There are

looks into that show solid relationships and unequivocally critical relapse comes about. This meant the securities exchanges are noteworthy drivers in such economies.

The target of this examination is to decide the connection between stock market improvement and financial development in Kenya. The stock market advancement idea was operationalized by the aggregate stock market capitalization on quarterly basis recorded. The rate of financial development was caught by the rate of progress in GDP. It was in this manner accepted that improvement of the stock market is appropriately caught by increment in the estimation of market capitalization.

In this exploration the relationship between stock market capitalization and GDP development rate was observed to be 0.000356186 which is not exceptionally solid. This is inferable from the reality the GDP of a nation is an aftereffect of many factor in a nation and not simply showcase capitalization. Further, the market capitalization itself is a consequence of many elements including the inflation rates, exchange rates, interest rates and others. The capitalization detailed depends on stock costs at the time records are being readied. Nonetheless, the discoveries demonstrate that there is a co- development between stock market advancement and monetary development as measured by rate change in GDP.

In the regression, the consistent term was 5.085194148625 %. This alludes to that level of monetary development that is achievable in spite of the level of capitalization of the

stock, conceivably, may shift because of some different elements not some portion of the relapse demonstrate utilized for investigation. This esteem had a T-measurement of 2.192207678 of financial development that is autonomous of the market capitalization variable. It is the ($p = 0.034398359$) demonstrating that the esteem is measurably critical.

The coefficient term of the regression was -0.000356186 with a T-estimation of -0.585232027($p=0.561762853$). This esteem indicated the amount of monetary development rate is straightforwardly influenced by the expansion in the estimation of market capitalization. The criticalness of this term is that it shows that market capitalization is a noteworthy supporter of the advancement of the country through financial development. On account of this examination, the commitment is sure. Stock market is in this manner a supporter of the advancement of the Kenyan economy.

This examination was finished remembering that there were varieties in how monetary development identifies with advertise capitalization among various nations of the world. Among the rich countries, the relationship was frail demonstrating the reduced significance of the securities exchanges in spite of their advanced nature. The less created nations indicated comparable outcomes, yet with various conceivable clarifications regarding why that was so. This uncertainty emerges because of a bunch of reasons including poor record keeping and market wastefulness among different components. The other classification of nations indicated positive connections between showcase capitalization and financial development. This was because of the expanded significance of money markets as a road of monetary development and improvement.

This examination has legitimately demonstrated the idea of the connection between the improvement of the capital market and the level of financial development rate in Kenya throughout the previous ten years. The outcome is that there is a powerful positive connection between Market capitalization and financial improvement in Kenya. The finding of this examination is in compatibility with Omoke (2010), Dorko (2011) and Ndung'u (2011) who found a powerful connection amongst GDP and Market Capitalization in Kenya.

As indicated by the information that was gathered, there were two fundamental wellsprings of increment in the market capitalization: one, the expansion in the quantity of exchanged stocks in type of new issues and in type of new postings and two, the increment in the costs of the exceptional stocks. These two gave that there was an expansion in the sums Kenyans were putting resources into the buy of stocks at the NSE. The more cash Kenyans contribute on the Nairobi Securities Exchange by buying shares, the higher the impelled level of financial development rate.

It is however unrealistic to finish up from the investigation whether there is a precisely characterized circumstances and end results connection between showcase capitalization and financial development. This is a direct result of the undeniable nature that financial development is an aftereffect of such a significant number of variables whose causal consequences for monetary development have not been resolved.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This section gives the summary of the discoveries in light of the information investigation, feature the impediments in the examination and propose suggestion.

5.2 Summary of the findings

This examination was done on firms recorded on the Nairobi Securities Exchange (NSE) with the expectation of discovering how monetary development was influenced by the advancements in the level of market capitalization. This exploration was done out of the hole left by most inquiries about on Kenya that harped such a great amount on the connection between advertise capitalization, exchanging volume, share costs and Gross domestic product and the blended finding of comparable looks into that had a tendency to be nation particular.

The exploration display that was utilized was a relapse investigation that would relate monetary development and securities exchange advancement. The two factors were operationalized as a rate with Gross domestic product development rate as an intermediary for financial development rate and market capitalization as an intermediary for capital market improvement. The information utilized were gathered from the Nairobi Securities Trade for the period traversing eleven years from 2005. The invalidate

estimation of a recorded association's capitalization was taken as detailed in the money related records and such esteems added to get the aggregate capitalization for that year.

Examination of the information uncovered that there was a feeble positive connection between monetary development and Market capitalization. This showed the improvement of the Kenyan securities advertise as for showcase capitalization had little effect on the economy. The improvement of this market has experienced posting of more firms, officially recorded firms assembling reserves through the NSE and financial specialist enthusiasm for exchanging shares as a technique for putting bringing about higher stock costs.

5.3 Conclusion

The investigation set up that the improvement of the NSE as measured by Market Capitalization has a feeble positive relationship on monetary development rate measured by Gross domestic product development rate. It isn't just a mobilizer of assets for organizations, yet that, it additionally goads monetary development. This conclusion is drawn out of the way that there is an expansion in financial development if the estimation of firms on the Nairobi Securities Exchange increments. As examined before, there are two primary wellsprings of increment in showcase capitalization, specifically, increment in the costs of stocks and new postings. Whichever is the source, the importance is that as more individuals put resources into the recorded firms, so does the financial development

rate increments. There could be a solid connection between the exercises of the recorded firms and financial advancement.

The examination shows that the recorded firms are a piece of the drivers of monetary development in Kenya. The consolation of all the more posting of firms as an improvement technique is by all accounts proving to be fruitful as the greater part of the biggest firms in Kenya are recorded. Different firms that were initially possessed by the administration of Kenya have additionally been recorded. All the substantial banks, insurances, pension, large manufacturing firms in Kenya are key players in the stock.

It can likewise be presumed that if more supports are created through the Nairobi Securities Trade, there could be larger amounts of monetary development. At the point when the level of market capitalization was low similar to in 2000, so was the financial development rate. As the level of market capitalization expanded, a sign of its advancement, the financial development reacted decidedly by additionally expanding.

5.4 Recommendations

It has been contended in this examination that the significance of the stock market can't be disregarded for it is a noteworthy goad of financial development. This investigation, in this way, wishes to make the accompanying proposals. Instruments ought to be set up to strengthen the necessity that the recorded firms work professionally and effectively for they give an association between the stock market and financial development.

The stock market ought to be a very much watched asset dealt with nurture it assembles assets that drive advancement in Kenya through the recorded firms. Facilitate it ought to be enhanced to end up noticeably more effective. Like the created securities exchanges, there is have to put more in innovation that will enhance the working inside the NSE as an association and one that will prompt more exact and quick spread of data concerning firms. This will guarantee that assets are activated and assigned in the most proficient ways.

There ought to be consolation of more firms to come up and list their offers on the Nairobi Securities Exchange. The examination found that the expansion in advertise capitalization was, to some degree, because of more firms posting on the Nairobi Securities Exchange. The Nairobi Securities Trade requests abnormal state of administration execution and conditions for a firm to stay recorded. The organizations that are recorded will have a tendency to understand this sort of change as an advantage of being enlisted. Notwithstanding, those that are not maintaining such measures will have no other choice than being wiped out. All things considered the assets of the speculators will be coordinated towards better oversight firms that will in the end goad monetary development.

To spur stock market capitalization, international investors should be encouraged to actively participate in the market through technological innovation in regard automated trading, electronic fund clearance and enhanced stable political environment.

There is moreover need to encourage confidence in the NSE by the CMA through ensuring transparency and sensible trading trade and overseeing in the stock exchange.

5.5 Limitations of the Study

It is difficult to tell from the investigation whether really the stocks trading system specifically influences the financial development rate of the nation. What the investigation basically demonstrates is that the two were moving a similar way amid the time of concentrate yet has missed the mark regarding demonstrating the association. The research identified that other economic parameters such as inflation, interest rates and exchange rates have a significant influence on the economic development. The model focused on a unilateral direction and not the possibility of a vicious cycle between the variables under study. This model and the investigation conclusively do not provide settlement to these issues.

The time of study traverses only eleven years beginning 2005. Amid this period there was a general upward pattern in both market capitalization and monetary development. It is not known whether really the connection given by the regression model would be the same if the period was stretched out to wider period.

By the way that a day's cost is utilized to gauge the market estimation of stocks. In fact the market estimation of stocks continues changing on daily and hourly premise.

5.6 Suggestions for Further Research

Market capitalization changes on daily and on hourly basis. The information used to record capitalization is the historical data stored by the Capital market Authority on quarterly releases.

The investigation does not answer the topic of what might be the discoveries if more regular information through presentation of firm's financial reports to market players was utilized to influence the stock market capitalization.

There is need to establish if the relationship between stock market capitalization is causal and to what extent the association can be quantified.

REFERENCES

- Andrianaivo, M and Yartey, C.A. (2010). Understanding the growth of African financial markets. *African Development Review*, 22(3), 394-418.
- Boopen, S, Shalini, T and Sawkut, R. (2009). Financial development and economic Growth. *Journal of Economic Studies*, 36(2), 124-134.
- CMA. (2016). *Cmaorke*. Retrieved 28th August, 2016, from http://www.cma.or.ke/index.php?option=com_content
- Denisia, V. (2010). Foreign direct investment theories: An overview of the main FDI Theories. *European Journal of Interdisciplinary Studies*, 2(2), 104-110.
- Dorko, K. (2012). *Relationship between Stock market Development and Economic Growth in Kenya*. An unpublished MBA project, university of Nairobi.
- Fama, E. (1970). Efficient Stock markets: A Review of theory and empirical Work. *Journal of Finance*, 25, 383-416.
- Hongyi, L and Huang, L. (2010). Health, education, and economic growth in East Asia. *Journal of Chinese Economic and Foreign Trade Studies*, 3(2), 110-131.
- Jorgenson, D.W. (2005). Growth accounting, in handbook of economic growth. *Eds.: P. Aghion and S. Durlauf, Amsterdam: North-Holland Elsevier Publishers*.
- Khorasgani, M.F. (2008). Higher education development and economic growth in Iran. *Education, Business and Society: Contemporary Middle Eastern Issues*, 1(3), 162-174.

KNBS. (2016). *Knbsorke*. Retrieved 26th August, 2016, from

www.knbs.or.ke/index.php?...economic...economic...

Kothari, C. (2004). *Research Methodology: Methods and Techniques (2nd Ed.)*. New Delhi: New Age Publishers.

Kuznets, S. (1955). Toward a theory of economic growth, national policy for economic welfare at home and abroad, R. Lekachman, ed. Garden City, Doubleday and Co.

Levine, R. and S. Zervos, (1996), 'Stock Market Development and Long-Run Growth,' *World Bank Economic Review*, Vol 10(2), pp 323-339.

Mahdi, F.K. (2008). Higher education development and economic growth in Iran.

Education, Business and Society: Contemporary Middle Eastern Issues, 1(3), 162-174.

Maranga, G. (2013). *The Relationship between Stock market Returns and Economic*

Growth in Kenya. An unpublished MSc Finance project, university of Nairobi.

Masoud, N and Hardaker, G. (2012). The Impact of financial development on economic growth. *Studies in Economics and Finance*, 29(3), 148-173.

Mishkin, F. (2004). *The Economics of Money, Banking, and Financial Markets (7th Ed.)*.

Boston: The Addison-Wesley Publishers.

Mishkin, F and Eakins, S. (2012). *Financial Markets and Institutions (7th Ed.)*. Boston:

Pearson Education, Inc.

Musebe, C. (2015). *Effect of Firms' Market Capitalization on Stock Market Volatility of*

Companies Listed at the Nairobi Securities Exchange. An unpublished MBA

project, university of Nairobi.

Naik, P.K & Padhi, P. (2015). On the Linkage between stock market development and economic growth in emerging market economies. *Review of Accounting and Finance*, 14(4), 363-381.

Omoke, J. (2010). *The Relationship between Stock market Development And Economic Growth in Kenya*. An unpublished MBA project, university of Nairobi.

Ross, S, Westerfield, R, and Jordan, B. (2013). *Fundamentals of Corporate Finance (10th Ed.)*. New York: McGraw Hill Irwin.

Sehrawat, M & Giri, A.K. (2015). Financial development and economic growth: Empirical Evidence from India. *Studies in Economics and Finance*, 32(3), 340-356.

Sharma, D. (2016). Nexus between financial inclusion and economic growth. *Journal of Financial Economic Policy*, 8(1), 13-36.

WorldBank. (2016). *Worldbankorg*. Retrieved 26th August, 2016, from

<http://www.worldbank.org/en/country/kenya/overview>

Zikmund, W, Babin, J, Carr, J and Griffin, M. (2010). *Business Research Methods (8th Ed.)*. USA: South Western College Publishers.

APPENDIX:

DATA COLLECTION SUMMARY

Year	Quarter	Ye	MC	Ir	Int	Ex
2005	Q1	4.9	326.924	14.319847	10	74.803
	Q2	5.5	420.729	14.206284	10	76.681
	Q3	5.8	449.795	7.5491612	8.75	74.103
	Q4	8.4	462.475	4.4252262	9.75	73.107
2006	Q1	4.7	484.176	8.429678	9.75	72.281
	Q2	6	623.204	4.3276357	9.75	73.405
	Q3	5.2	726.971	4.876222	10	72.866
	Q4	8.2	791.58	6.5867967	10	69.627
2007	Q1	7.2	696.917	3.3521541	10	69.293
	Q2	8.3	743.906	2.7135854	8.5	66.575
	Q3	6.8	791.66	5.3447417	8.75	67.024
	Q4	6.3	851.133	5.6317592	8.75	63.303
2008	Q1	2.1	797.281	10.488606	8.75	64.924
	Q2	2.2	1230.677	17.437408	9	63.783
	Q3	4.5	972.267	15.880101	9	71.409
	Q4	2.7	853.88	16.573286	8.25	78.04
2009	Q1	6.2	689.045	14.135656	8	80.261
	Q2	2	821.762	10.603761	8.25	77.851
	Q3	1.9	771.612	9.7564248	7.75	75.605
	Q4	1.9	834.165	7.9788065	7	75.431
2010	Q1	1.4	983.117	5.5350311	6.75	76.947
	Q2	4.6	1108.654	3.6741751	6.75	81.018
	Q3	6.1	1173.698	3.3294584	6	80.912
	Q4	6.1	1166.992	3.8433801	6	80.568
2011	Q1	5	1090.212	7.049091	6	84.206
	Q2	4.3	1121.44	13.162907	6.25	89.049
	Q3	4	885.571	16.512499	7	96.357
	Q4	4	868.241	19.187037	18	86.663
2012	Q1	4.2	940.796	16.857365	18	82.897
	Q2	4.3	1048.717	11.765479	18	84.789
	Q3	5	1155.988	6.3727404	13	84.613
	Q4	4.7	1272.002	3.5257315	11	85.994
2013	Q1	6.1	1599.798	4.078618	9.5	85.818
	Q2	7.5	1618.27	4.3668514	8.5	85.488

	Q3	6.4	1790.854	6.9956242	8.5	87.413
	Q4	3.5	1920.718	7.4223963	8.5	86.309
2014	Q1	5.2	2000.473	6.7756996	8.5	86.489
	Q2	6	2106.691	7.0334453	8.5	87.612
	Q3	4.6	2295.95	7.53679	8.5	88.836
	Q4	5.6	2300.054	6.1764718	8.5	90.444
2015	Q1	5.8	2444.829	5.8166511	8.5	91.727
	Q2	5.6	2301.879	6.9943212	10	97.705
	Q3	6.1	2063.644	6.1420532	11.5	105.275
	Q4	5.5	2049.539	7.3512101	11.5	102.195

Descriptive Statistics

	N	Range	Minimum	Maximum	Sum	Mean	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
Ye	44	7	1	8	223	5.07	.263
MC	44	2118	327	2445	51651	1173.89	89.572
lr	44	16	3	19	372	8.45	.691
Int	44	12	6	18	412	9.36	.430
Ex	44	42	63	105	3549	80.66	1.496
Valid N (listwise)	44						

Descriptive Statistics

	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Ye	1.744	3.042	-.467	.357	-.103	.702
MC	594.153	353017.359	.787	.357	-.556	.702
Ir	4.582	20.998	.879	.357	-.409	.702
Int	2.854	8.144	1.872	.357	3.896	.702
Ex	9.923	98.462	.313	.357	-.149	.702
Valid N (listwise)						

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Ex, Ir, Int, MC ^b	.	Enter

a. Dependent Variable: Ye

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.559 ^a	.312	.242	1.519

a. Predictors: (Constant), Ex, Ir, Int, MC

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	40.865	4	10.216	4.431	.005 ^b
Residual	89.930	39	2.306		
Total	130.795	43			

a. Dependent Variable: Ye

b. Predictors: (Constant), Ex, Ir, Int, MC

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	4.542	2.291		1.982	.055
MC	.000	.001	-.105	-.509	.614
Ir	-.230	.056	-.603	-4.097	.000
Int	.104	.088	.170	1.186	.243
Ex	.023	.036	.131	.648	.521

a. Dependent Variable: Ye

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Ye	.181	44	.001	.922	44	.006
MC	.182	44	.001	.892	44	.001
lr	.221	44	.000	.874	44	.000
Int	.253	44	.000	.784	44	.000
Ex	.078	44	.200 [*]	.978	44	.551