

**THE RELATIONSHIP BETWEEN FINANCIAL DEEPENING AND
ECONOMIC GROWTH IN KENYA**

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DECLARATION

I confirm that this is my original work and has not been submitted for presentation at the University of Nairobi or any other institution of higher learning.

Signature

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This research project has been submitted for examination with my approval as the University supervisor

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DEDICATION

This project is dedicated to my classmates, for their moral support and for encouraging me to advance my studies.

ACKNOWLEDGEMENT

I am most thankful to God Almighty for this far he has led me. To Him I say thank I express my sincere gratitude. Were it not for His grace, I could not be alive and definitely could not have completed this project.

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LIST OF ACRONYMS AND ABBREVIATION

ANOVA	Analysis of Variance
ARDL	Autoregressive Distributed Lag
ATMs	Automated Teller Machines
CBK	Central Bank of Kenya
CEE	Central and Eastern Europe
CESEE	Eastern and South-Eastern European
ECM	Error Correction Model
FDI	Foreign Direct Investment
FSDK	Financial Sector Deepening of Kenya
GDP	Gross Domestic Product
NBFI	Non-Bank Financial Institutions
SACCOs	Savings and Cooperative Societies
SHF	Smallholder farmers
SPSS	Statistical Package for Social Science

ABSTRACT

Financial theories have emphasized the need to increase savings through deepening of financial markets so as to stimulate investments for improved economic growth. This has led to the expansion of financial sector providers to include microfinance institutions among others to ensure that the depth of financial systems is commensurate. The study sought to determine the extent to which changes in economic growth could be explained by changes in the level of financial depth. The level of financial depth was measured by the extent of credit to private sector, market capitalization and broad money in the economy. In order exhaustively respond to study objective, the study adopted a descriptive research design because it is best suited in illustration of characteristics of a study phenomenon. This was because the study sought to study the phenomenon as they were without manipulating them. Descriptive designs were concerned with establishing the what, when, where, how and whom of a phenomenon so that more information was availed which helped in building a profile. This study used secondary data. Secondary data is defined as the data which has already been collected and used for other purposes other than for the sole purpose of the current study. This study collected secondary data on study variables from the Central Bank of Kenya, Kenya National Bureau of Statistics and World Bank website for the period 200 to 2016. Data on market capitalization was collected from the Nairobi Securities Exchange annual Handbook Manual. The study used descriptive and inferential statistics in estimating the extent to which changes in the independent variables affected the dependent variable. Specifically, the descriptive statistics included mean, skewness, and kurtosis, median, lowest and highest values. Analyzed data was presented in tables and charts. The study established that the Model summary indicated an R of 0.936 showing that financial deepening showed a strong positive relationship with economic growth in Kenya. The ANOVA results show that the overall regression model was a significant predictor of the relationship between the variables of the study. The p value $0.002 < 0.05$ further supports the argument of significance. From correlation analysis, broad money had a Pearson correlation of -0.159 with p value was 0.002. Private credit sector had a Pearson correlation of 0.893 with p value 0.000 and market capitalization had a Pearson correlation of 0.846 with p 0.001 which is less than 0.05. The study concluded that private sector credit and market capitalization had p values less than 0.05 and therefore significant indicators of economic growth. The study recommends that the Central Bank of Kenya should instill sound fiscal and monetary policies for regulating the level of inflation and supply of money in the economy. The national government should encourage private sector participation and involvement in economic development by providing conducive and favorable economic environments.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The level of financial development of a nation has significant influence on the economic growth because of its ability to mobilize savings from surplus households in an efficient manner through promotion of information sharing. Deep financial markets ensure that resources are optimally used by being efficiently invested in projects with optimal returns. It also helps in ensuring that all surplus money in the economy is collected and disbursed to deficient households with productive and profitable projects (Schweitzer, 1964).

Economies with better financial development have been found to realize optimal resource allocation through diversification and prudent management of risks. Financial intermediaries contribute to economic growth through mobilization of resources into a pool which is then channeled into productive activities thereby generating more wealth, employment and goods and services for exchange. Different governments have implemented various policies with the aim of improving the level of financial depth so as to promote their economic development. Nzotta and Okereke (2009) noted that Nigeria set up policies that aimed at promoting the level of financial development which later resulted into improved subsequent economic growth. The level of financial deepening was later improved following increased integration between the Nigerian financial systems with the global economy.

This study was guided by the many theories including: Finance Led Growth Hypothesis, Financial Intermediation Theory. The Finance Led Growth Hypothesis argues that in economies where financial institutions perform their functions perfectly well, there is efficient allocation of scarce resources which spurs growth in other economic sectors for improved general economic growth. The Financial Intermediation Theory on the other hand stresses the role played by financial intermediaries in ensuring funds move from surplus households to deficit households in an efficient manner through removal of information asymmetry.

The Kenyan financial system has undergone a lot of changes especially following developments in information communication and technology. Unlike before the year 2000 when financial institutions relied on brick and mortar branch network to offer their services, technology has revolutionized the way that commercial banks reach out to their customers. Introduction of mobile money services, internet banking among other technology based innovations has increased the level of financial deepening. However, not significant changes have been recorded on the level of economic growth. The growth has remained in one digit of between 4 and 6 percent. This study therefore sought to examine the relationship between financial deepening and economic growth in Kenya.

1.1.1 Financial Deepening

Financial deepening has been used to refer to a condition where there exists sufficient liquidity and smooth process of financial institutions carrying out the financial intermediation process. This means that deep financial market ensure that financial

institutions can mobilize all surplus resources and channel them into deficit households in the most efficient way. Deep financial markets support economic activities of the nation which is an ingredient of economic development.

Financial deepening has been found to act as a catalyst for rapid economic growth as it accelerates the level of investment in an economy. Deep financial markets ensure that all resources available in an economy are put into useful use as opposed to markets with low depth which means that some resources are stored outside the formal financial system thus making it difficult to account for them (FSDK,2011). Financial deepening has been measured using several variables including: market capitalization, private sector credit, and broad money (Sackey and Nkrumah, 2012). This model of measuring financial depth has been adopted by several scholars including Onwumere, Ibe, Ozoh, and Mounanu (2012); Ghildiyal, Pokhriyal and Mohan (2015) and Alrabadi and Kharabsheh (2015)

1.1.2 Economic Growth

Economic growth refers to the level of total outputs recorded in an economy within a particular time period which is normally one year. It represents the goods and services produced and sold as a result of the activities of its citizens and those residing in the country. It summarizes the activities of country in creation of value over the period under review. The common measure of economic growth across the world is the GDP growth rate which is an annual rate that shows the change in a country's GDP as compared to the previous year. Other measures commonly used in measuring economic growth of a nation include: gross national product (GNP) which is also referred to as gross national income

(GNI) which is derived from the GDP calculation (Schweitzer, 1964). Increases in economic growth means that the country has increased its total output within a given period.

1.1.3 Effect of Financial Deepening on Economic Growth

There has been established some theoretical link between financial deepening and economic growth. Deeper financial markets operate efficiently by mobilizing optimal amount of resources and channeling them into productive units in an economy thus leading to greater levels of employment and economic development. Deeper financial markets facilitate enhance capital accumulation by ensuring that all surplus resources are put into a useful economic activity for better economic growth. However, according to Fukuda and Dahalan (2008), financial development has a positive impact on economic growth although finance led growth may bring adverse effect like financial crisis.

In another study, Robinson (1952) argued that economic growth leads to financial deepening and not the other way round. This is because higher economic growth is a precondition for high demand which then forces the financial sector to respond by extending their reach. These findings contradicts the findings by Sindani (2013) that financial sector deepening causes growth in economic development. Based on bootstrap Granger causality tests, financial deepening shows no predictive power for economic growth just in the same way that economic growth shows no predictive power for financial deepening.

1.1.4 Financial Deepening and Economic growth in Kenya

The Kenyan government plans to transform the country into middle income status by the year 2030 and have identified financial deepening as one of the key pillar of achieving the middle income status. This is because of the critical role played by financial markets in economic development. They help in mobilizing resources that would otherwise be lying idle to be utilized in more productive functions. Kenya has a well-developed and liquid government bond market, the equities market but only a few companies have listed, which are skewed towards financial companies, and low liquidity (Capital Markets Master Plan, 2014). The ratio of equity market capitalization to GDP in Kenya is targeted at between 50% to 70% by end-2023.

Kenya is one of the countries in the African continent having a well-developed financial system based on the ground. During the last two decades, several reforms translated by developments and innovations have taken place in the Kenyan banking sector that have led to the increase in the sector's assets. Such developments have mainly been driven by financial innovations in the sector. Specifically, the reduction of the retention ratio from 6 to 5.25 percent by the Central Bank of Kenya (CBK) made loans more affordable to the public; the transformation of Non-Bank Financial Institutions (NBFI) into commercial banks(e.g. Equity and Family banks (Bakang, 2015)

1.2 Research Problem

Financial theories have emphasized the need to increase savings through deepening of financial markets so as to stimulate investments for improved economic growth. This has

led to the expansion of financial sector providers to include microfinance institutions among others to ensure that the depth of financial systems is commensurate. According to Financial Sector Deepening Kenya (FSDK), the level of financial sector depth in Kenya has been increasing with time. However, the same has not been reflected in economic development as statistics point that the Kenyan economy has been posting between 4.5-6.0 percent growth rate from year to another. Statistics in Kenya indicate that the level of financial inclusion has increased since 2010. However, this is not synonymous with financial depth as more and more financial institutions have not ventured into remote areas. The level of growth in the financial sector in Kenya has been unprecedented following developments in information communication and technology (Sindani, 2013). Statistics from the Financial Sector Deepening indicate that the level of financial deepening stood at 87 percent by the end of the year 2016. Despite this growth in financial deepening, the economic growth has grown decimally between 4 to 6 percent. Financial institutions have relied on mobile telephone technology and internet to extend the depth of financial services. This has made it possible for individuals who could not be reached initially by formal financial services initially (Otieno, 2013). Despite the growth in financial deepening, the growth in economic growth has remained low.

Several studies have been conducted on the relationship between financial sector deepening and economic growth. Yildiz and Atasaygin (2015) examined how financial sector depth related with with economic growth using the experience of Turkey and established that growth in the economy had promoted financial deepening. Okafor, Onwumere and Chijindu (2016) investigated how different indicators of financial sector deepening related

with economic growth in Nigeria and established that broad money and private sector credit both had a direct influence on economic growth rate recorded. However, the study was conducted in Nigeria and may have little application for the Kenyan economy since they operate under different macroeconomic settings. They assessed the direction of the relationship between economic growth and financial deepening and established that in different periods, financial deepening had predictive power on economic growth while in other instances, it did not. This shows that the direction of the relationship is not constant and may vary from one economy to another and from one year to another in the same economy. In Kenya, Sindani (2013) examined how financial sector deepening influenced economic growth and established that financial sector influenced economic growth.

However, the period lapse between the time the study was carried out is huge and many changes have taken place both in the level of deepening and economic development. In addition, the variables considered are different from those to be used in this study. Aduda, Chogii and Murayi (2014) examined how deepening of capital markets in Kenya related with economic growth. This study considered capital market where stocks are traded and not the entire financial sector hence their findings may not apply to the current study setting. Andele(2013) examined how financial depth related with profitability of commercial banks whereas Ng'ang'a (2013) studied relationship between financial depth and poverty levels. These studies concentrated on different dependent variables from the current study hence a limitation to their application in the current study setting.

From the review of various studies above, it can be appreciated that a lot of research has been undertaken on financial deepening and economic growth. However, it can also be noted that the existing literature presents several research gaps in context and time scope which make it difficult to apply their findings in the current study setting. This study therefore sought to fill the gaps in different studies by answering one research question: What is the relationship between financial deepening and economic growth in Kenya?

1.3 Research Objective

To determine the relationship between financial deepening and economic growth in Kenya

1.4 Value of the Study

The findings of this study would be significant to a number of stakeholders including financial institutions, Government of Kenya and future researchers and scholars. For the Government of Kenya, the results of this study would inform them on the effectiveness of the various policies and guidelines initiated in promoting financial deepening and how this has contributed to the economic development of the nation. It will also inform them of the gaps in policies which they can develop further policies to promote economic development. The results of this study would be significant to financial institutions on informing them the level of financial deepening so far in regard to their efforts. This will inform them on what they need to do to improve the deepening level for improved growth in the level of GDP.

The study results would also be important to future scholars and researchers by providing additional empirical literature which will direct their future research work. In addition, the study will suggest areas of further research where they can investigate to build the body of knowledge on financial deepening and economic growth.

The findings of this study would also contribute to the growth of theoretical application of financial deepening and economic growth. It would extend the application and importance of the finance led hypothesis and the financial intermediation theory in improving the level of economic growth.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter deals with previous literature as presented by other scholars and researchers. It specifically looks at the theories that form the foundation of the study, determinants of economic growth, empirical literature, conceptual framework and the summary of literature reviewed.

2.2 Theoretical Review

This section presents the theories on which the study is anchored. It specifically discusses the Finance Led Growth Hypothesis and the Financial Intermediation Theory.

2.2.1 Finance Led Growth Hypothesis

This Hypothesis was developed by Schumpeter (1911). The hypothesis believes that development of financial sectors play a major role in economic development of a nation. It is a hypothesis founded on the notion that financial development acts as a catalyst of economic growth. Financial development achieves this role by ensuring efficient mobilization of resources through mobilization of savings, efficient allocation of capital, bringing down the cost involved in information gathering among other ways. An efficient financial sector is one that ensures that resources are gathered in a more efficient and economical manner after which the resources are allocated optimally to productive units. Various empirical evidence (Levine, 1997; King and Levine, 1993; Darrat, 1999) have been presented to support this hypothesis.

This hypothesis focuses on the role played by financial sector in mobilization of savings and investment in a more efficient and transparent manner and promotion of productivity by creating more efficient markets. Schumpeter (1911) argued that a well-functioning financial system catalyzes technological innovations by allocating resources efficiently from unproductive to productive sectors of the economy. This is well illustrated by Al-Yousif (2002) who argues that presence of well-functioning financial intermediaries in an economy enhances optimal allocation of resources for higher economic growth. This theory is relevant for this study because it explains how developments in financial deepening affect economic growth of nation which is the subject of the current study. This theory is significant for this study because it brings out the importance of financial deepening on economic growth of nations. It identifies the key role played by financial depth in economic growth of nations hence justifying the undertaking of this study for the Kenyan perspective.

2.2.2 Financial Intermediation Theory

This theory is concerned with the role played by financial intermediaries in an economy. Financial sector plays the main role of financial intermediation in any economy by electing surplus resources from households and redirecting the same resources to deficient households with investment ideas but limited in resources (Christopoulos & Tsionas, 2004). This theory anchors on the information asymmetry and agency theories. The information asymmetry theory focuses on the moral hazard and adverse selection effects by ensuring that the organization invests in some verification and auditing procedures to

guard against individuals who may want to take advantage of the information asymmetry (Towey, 1974).

Unlike in perfect markets where all market participants have information about the borrower as well as savers; the imperfect market presents great challenges of information asymmetry which can be exploited to hurt the financial performance of banks (Fama, 1980). This theory is further explained from the transaction cost approach which holds that financial intermediaries help in improving efficiency in collection of information about deficiency households thus help reduce the transaction costs for the lender (Pyle, 1971). This theory is relevant for this study because it helps in elaborating reasons for the existence of financial intermediaries and the role they play in ensuring that surplus households extend their resources to deficient households in a more economical manner. This theory is significant for this study because it explains the key function of financial institutions in an economy which is the process of linking surplus households to deficit households in the most efficient manner. It helps explain reasons as to why financial institutions need to deepen their outreach for optimal performance of their function which in turn affects the level of economic growth registered by economies.

2.3 Determinants of Economic Growth

Wide research has been conducted on the factors underlying economic growth of countries and reasons as to why one economy performs better than another. Some of the commonly discussed factors affecting economic growth include the level of investment, human capital qualification and competency, research and development, economic policies,

macroeconomic conditions, institutional framework, foreign direct investment and the level of openness of an economy among others. Some of these factors are discussed below:

2.3.1 Financial Deepening

Financial development and economic growth influence each other positively. According to Choong and Chan (2011), situations in which empirical studies point to the existence of a direct relationship between financial depth indicators and growth, no conclusive evidence points to the direction of causality between financial depth and economic growth. As noted by Schumpeter (1911), a financial system that operates at its optimal level in that it is able to incorporate as many citizens of a nation as possible, promotes the level of innovations which lead to improved efficiency levels as better ways of doing things are invented. This in return ensures that resources are optimally allocated within an economy. The financial intermediation process will operate optimally by collecting surplus resources and channeling them into deficit productive units.

Levine (1996) in his working research paper on how economic growth reacted to changes in the level of financial development indicated that a positive relationship existed of the first order between economic growth and financial deepening. This study indicated that changes in economic growth were directly related to the levels of financial development because of the ability of financial institutions to collect all surplus resources and channel them to productive units. Empirical evidence indicates that financial development of an economy can be used as a good predictor of expected future levels of economic growth in nations. It can also be used to predict the level of capital accumulation and technological

advancement the small margins of error. However, the question that all empirical evidence has failed to answer is the issue on causality between the two variables in this study. In essence, Levine and Zervos (1998) are of the opinion that one cannot ascertain with clarity which of these two factors cause change in another. It is therefore relevant for future scholars to examine the granger causality between the two variables to come to a conclusion (Beck, Levine & Loayza, 2000).

According to Levine and Zervos (1998), to empirical indicators are required if one is to assess the manner in which economic growth rate changes with regard to changes in the level of development in the stock market. This is based on the key role that stock markets play in making available resources to invest in productive functions. Some of the stock market characteristics could include: liquidity and size. The total value of shares traded on a given market multiplied by the number of outstanding shared has been applied to measure stock market size.

2.3.2 Investments and Economic Growth

Capital accumulation has been found to possess significant effects on economic development of countries across the world. Investments in a country are measured by the total accumulated capital which is then used in the production processes to contribute to economic development. Statistics from the World Bank (1989) indicate that countries that recorded higher GDP growth rate had a relatively higher ratio of relative investments to GDP. Investment was defined in terms of economic activities involving the usage of resources to produce goods and services. This takes the form of investments in

infrastructure, education and training, agricultural research and extension services among other areas.

The role of investments in economic growth has been studied by a number of scholars. For instance, Drezgić (2008) examined how public investments affected the level of economic growth in Croatia and established that public investments provided the necessary infrastructure for economic development. Khuong (2010) established that a countries investment in information communication and technology led to improved overall economic growth.

2.3.3 Foreign Direct Investment and Economic Growth

Foreign direct investment represents investment brought in by individuals who are not citizens of a country for the purposes of engaging in the production process of a country. Foreign Direct Investment (FDI) is a good source of technological know-how transfer from well developed economies to developing countries. The investments and technological investment by foreigners help improve the productive capacity of the host country thereby boosting economic growth. FDI contributes to capacity development of a nation and improve the general production levels. They have also been found to promote competitiveness of host countries products and services in the international market (World Development Report, 2011).

Least developed countries have instituted several incentive programs with the aim of attracting investments from foreign countries. Blomstrom and Kokko (2009) identified a number of incentive policies developed by governments of developing nations with the aim of attracting FDI. Some of these policies revolved around offering tax holidays, lower taxes to investors, and market monopolies.

2.4 Empirical Literature

This section examines studies that have been conducted by other scholars with the aim of establishing what they found out, how they conducted their studies so that the gaps can be filled. It is divided into international and local studies.

2.4.1 International Studies

Nzotta and Okereke (2009) conducted an empirical examination how different level of financial depth affected economic development of Nigeria over a diverse period of time ranging 1986 and 2007. This was informed by previous scholars who enumerated the role played by financial deepening on economic growth across the world. Financial systems play a key role in mobilization of savings and allocating them optimally to development processes. The study applied the two stages least squares analytical framework in analyzing the data. The findings show that financial deepening index was low over the study period, The findings indicated that financial system had not played its intermediation role effectively especially in the area of credit allocation and in the monetization of the economy.

Onwumere, Ibe, Ozoh, and Mounanu (2012) applied evidence extracted from the Nigerian statistics to examine the impact that depth in financial systems on economic growth using data drawn from sixteen years ranging between 1992 and 2008. The study was based on assumptions which states that existence of an efficient financial markets promote the supply of financial services before the demand for the same arises in an economy. It was believed that financial development is one of the key pillars upon which economic growth hinges. The research design adopted in this study was ex-post facto research design. The study adopted a number of proxies for financial deepening including: broad money, economic volatility, capital market activities and liquidity levels of the market. For the dependent variable which was economic growth, gross domestic product growth rate was applied. The study adopted a Multiple Regression Model (MRM) to estimate the extent to which study independent variables impacted economic growth. From the findings, broad money velocity and market liquidity promoted economic growth. However, the financial services sector did not impact positively as expected to induce economic growth.

Ghildiyal, Pokhriyal and Mohan (2015) concentrated on assessing the causal impact of financial deepening on economic growth in India. Using the Autoregressive Distributed Lag (ARDL) bound testing approach in analyzing the long term equilibrium relationship, it was established that levels of financial depth critically influenced the level of growth in GDP of economies. The study further applied the Granger Error Correction Model (ECM) technique in the estimation of the causal impact for short term periods. It is argued that for the development of an economy to be realized, financial has to be well developed such that it can play its financial intermediation functions efficiently. The study measured economic

growth using the GDP per capita proxy while financial deepening was measured using the ratio of broad money (M2) to GDP, stock market development measured by computing the ratio of market capitalization to GDP, the banking sector development as measured by the ratio of credit to private sector to GDP. The study also examined trade openness of the economy through the ratio of Total trade (Import plus export) to GDP. From the findings, a unidirectional causality was established from economic growth to financial deepening among study variables.

Alrabadi and Kharabsheh (2015) examined financial deepening and economic growth using the Case of Jordan economy using data for the period 1992 – 2014. Study variables included: GDP per capita, lending interest rate, total amount of exports and imports total deposits, consumer price index, total credit granted to private sector, money supply (M2), and government expenditures over the period. Control variables in the study included: inflation, lending rate, and the degree of openness. The study made use of several tests in the quest to achieve the objectives of the study. The tests included: Vector auto regressive regressions, Granger causality and Johansen-Juselius cointegration tests. The study used panel data collected on a quarterly basis. The findings indicated that a statistically significant long run equilibrium relationship existed between financial deepening and economic growth regardless of the proxy used for financial deepening

Oyeleye, (2016) concentrated on examining the effect of financial depth on GDP between 1985 and 2014 in Nigeria. The focus of the study was on stock market and bank deepening variables. The study was premised on the belief that financial deepening improves the

efficiency with which financial sector mobilizes financial resources for allocation into various productive units. The study focused on money supply, private sector credit, market capitalization and financial savings. The findings indicate the existence of a positive significant effect between financial depth and GDP growth rate.

Kalaš, Stameski and Alimpijević (2016) conducted a study on how development of financial systems affect the level of GDP rates using new empirical evidence drawn from the period spanning 1990 to 2008. Bongini, Iwanicz-Drozdowska, Smaga and Witkowski (2017) examined how financial development related with economic growth by evaluating the role played by foreign-owned banks in Central, Eastern and South-Eastern European (CESEE) countries between 1995 and 2014.

2.4.2 Local Studies

Locally, Ngugi, Amanja and Maana (2009) examined capital market, financial deepening and economic growth in Kenya. The focus of the study was on stock market and bonds market development. The findings indicated that a significant relationship existed between economic growth and capital market and banks deepening variables. However, the non-bank related variable showed no significant relationship. The effect was more affected by the cost of doing business and investments.

Bakang (2013) examined how financial deepening affected economic growth in Kenya. The study examined how various policies formulated and implemented by the Government on financial deepening affected economic growth between the period 2000 to the year

2013. The study collected quarterly time series data on the identified variables including: liquidity, credit to private sector, assets owned by banks expressed as a ratio to all banks and central bank assets put together, commercial bank deposits as a ratio to GDP while the dependent variable – economic growth was measured by real GDP. The findings indicated that all the four variables assessed produced positive and statistically significant effect on GDP. The study recommended that more savings be encouraged so that adequate amounts are made available for investment so as to spur economic growth. This study though similar to the current study, there is a time lag between the period it was undertaken and now. More developments have been achieved in the financial sector mainly aimed at improving the level of financial depth and inclusion. However, the economic growth of the country has not improved in the same proportionality.

Chogii, Aduda and Murayi (2014) examined how GDP growth rate of Kenya changed with regard to changes in stock market development using data from the NSE for the period between 1992 and 2011 for the Kenyan stock market. This followed prevailing controversy on the role played by deep markets on growth of economies as presented in debates by previous scholars. The study adopted a correlation research design using secondary data collected from the NSE. Study findings indicated that capital market deepening positive effected GDP growth which lends support to the finance growth nexus.

Kisaka, Adhiambo, Ndege and Muio (2015) conducted a study on the effect of financial depth on performance of smallholder farmers (SHF) in Kisumu County, over a period 2011/2012 to 2012/2013. This followed limited consensus on empirical the interaction of

financial deepening and performance of SHF. The study applied a descriptive research design using registered SACCOs at SASRA. The study applied a linear regression model to estimate the relationship between the dependent and independent variable. The findings show that a strong relationship exists between SHF performance and financial deepening. However, the performance of SHF was discovered to be negatively influenced by deposits and share capital.

Mogaka, Mboya and Kamau (2015) conducted a study on how deepening of capital market deepening influenced mortgage market growth in the Kenyan economy. The variables included: Equity Market Capitalization to GDP, Bond Market Turnover Ratio, Pension Assets and Ratio of Insurance Assets to GDP over the period spanning 1984 to 2013. The study conducted a correlation analysis to establish the association between dependent and independent variables. From the findings, insurance assets and pension assets have the highest positive influence on mortgage growth in Kenya.

2.5 Conceptual Framework

The conceptual framework is a figurative display of variables both independent and dependent with clearly marked direction of relationship. This identifies the independent and dependent variables being considered in a study and how they relate. The study will be guided by the following conceptual framework which identifies the independent variables as: Ratio of broad money to GDP, Ratio of private sector credit to GDP and a ratio of market capitalization to GDP whereas the dependent variable is GDP.

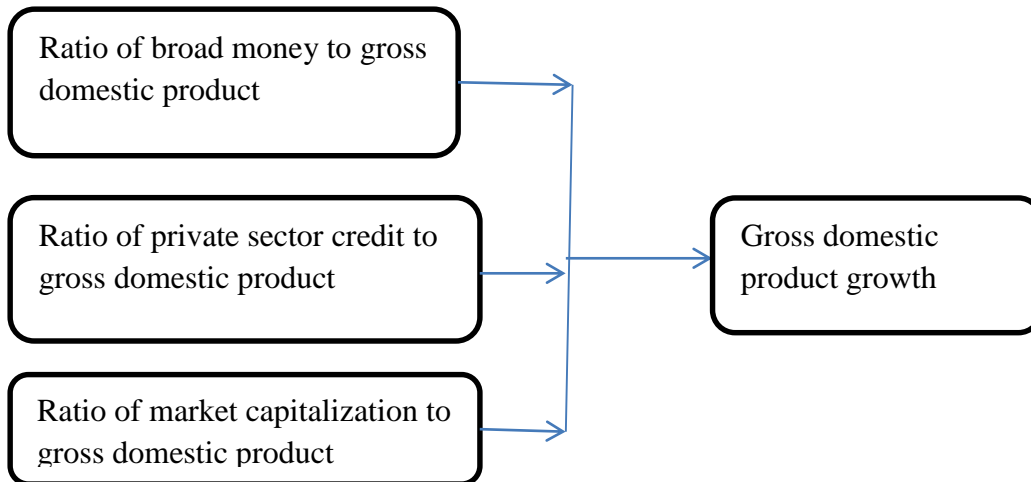


Figure 2. 1: Conceptual Framework

2.6 Summary of the Literature Review

Various studies were examined on the relationship between financial deepening and economic growth across the world. For global studies (Ghildiyal et al., 2015; Nwanna and Chinwudu, 2016; Alrabadi and Kharabsheh, 2015; Nzotta and Okereke, 2009; Onwumere et al. 2012; Cojocaru et al., 2015) conducted a study on financial deepening and economic growth in different countries across the world. Their findings established that financial deepening boost economic growth. However, the studies were conducted in areas with different macroeconomic settings which limit their application in the local context. For the local studies (Bakang, 2013; Chogii, Aduda and Murayi, 2014; Kisaka, Adhiambo et al., 2015; Mogaka, et al., 2015; Ngugi, et al., 2009), The focus was on a variety of financial markets including capital markets as opposed to financial deepening. In addition, there is a time lapse between the time that the studies were undertaken and the current study. The scope of variables considered is also different from the current study hence the need to proceed with this study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Chapter three concerned itself with research methodology where the researcher discussed various methods that were applied to collect data that facilitated exhaustive response to the research question. It specifically highlighted the research design that was adopted, population of the study, data collection and analysis.

3.2 Research design

A research design refers to a master plan that identifies procedures and methods that a researcher intends to follow to achieve set objectives (Jonker & Pennink, 2010). The study adopted a descriptive research design. This was because the study sought to study the phenomenon as they were without manipulating them. Descriptive designs were concerned with establishing the what, when, where, how and whom of a phenomenon so that more information was availed which helped in building a profile (Yin, 2013). This design had successfully been applied by other scholars (Nwanna and Chinwudu (2016); Nzotta and Okereke (2009); Bakang (2013) successfully.

3.3 Data Collection

This study used secondary data. Secondary data is defined as the data which has already been collected and used for other purposes other than for the sole purpose of the current study. This study collected secondary data on study variables from the Central Bank of Kenya for the period 2006 to 2016. The study used annual data as some variables could not

be easily broken down. Data on Economic growth was collected from the Kenya National Bureau of Statistics and World Bank website. Data on private sector credit and broad money was collected from the Central Bank of Kenya annual supervision reports. Data on market capitalization was collected from the Nairobi Securities Exchange annual Handbook Manual.

3.4 Data Analysis

The study used descriptive and inferential statistics in estimating the extent to which changes in the independent variables affected the dependent variable. Specifically, the descriptive statistics included mean, skewness, and kurtosis, median, lowest and highest values. Analyzed data was presented in tables and charts. The study applied the statistical package for social science (SPSS) software Version 23.0 in capturing and analyzing data.

3.4.1 Analytical Model

The study applied a multivariate regression model taking the form:

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

Whereby Y = Gross domestic product growth (GDP Growth Rate).

X_1 = money extended to private sector as credit.

X_2 = market capitalization as a percentage of GDP.

X_3 = Broad money as a percentage of GDP

ε = Error term/Erroneous variables

The study used F-distribution tables to test the relevance of the model in determining the relationship between the dependent and independent variable.

3.4.2 Diagnostic Tests

In order to ascertain the appropriateness of the data in conducting the analysis and response to the research objective, the study conducted two diagnostic tests: Mutlicollinearity and autocorrelation tests. Mutlicollinearity tests was used to ensure that no dummy variable was included which could bring the challenge variable interdependence (Maddala and Lahiri, 2009). Autocorrelation test was adopted to determine if there exists some degree of similarity between the time series data that was collected and the lagged version of the same data over successive time intervals.

3.4.3 Tests of significance

In order to ascertain the significance of the model in estimating the changes in economic growth following several levels of financial depth, the study used Analysis of Variance (ANOVA). The study specifically examined the value of F- Calculated against F- critical. In cases where F- calculated was greater than F- Critical, the study concluded that the model was significant in estimating the relationship.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents an analysis of the collected data. The study focused on establishing the manner in which GDP growth rate reacted to the level of financial depth. The researcher collected secondary data using data collection sheet. The study used descriptive statistics and normality tests. In descriptive analysis, means, standard deviations skewness and kurtosis were used. The findings were presented using tables.

4.2 Descriptive Statistics

The researcher sought to describe relationship between financial deepening and economic growth in Kenya using descriptive statistics. In essence, means, standard deviations skewness and kurtosis were used.

4.2.1 Skewness and Kurtosis

The study sought to determine the skewness and kurtosis statistics of the variables and the findings are indicated are indicated in Table 4.1.

Table 4.1: Skewness and Kurtosis

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Broad money	11	-.742	.661	-.506	1.279
Credit to private sector	11	-.417	.661	-1.366	1.279
Market capitalization	11	.309	.661	-1.450	1.279
Gross domestic product growth	11	.297	.661	-1.145	1.279

From the results, broad money to gross domestic product had -0.742 skewness and a kurtosis statistics of -0.506, credit extended to private sector had -0.417 skewness statistics with a kurtosis statistic of -1.366, market capitalization had 0.309 skewness and kurtosis statistic of -1.450 and finally the Gross domestic product growth had 0.297 skewness and kurtosis statistic of -1.145.

Some authors have used Skewness and Kurtosis in detecting Normality of datasets. According to Kothari (2004), data analysis proceeds if values of Skewness and Kurtosis fall between +2 and -2. Therefore in our case, the data set was okay to start on the analysis.

4.2.2 Means and Standard Deviation

The researcher wanted to establish the means and standard deviations of the variables in the study. Means measure the concentration of the observation while standard deviation determines the spread of the observations away from means in the data sets. The findings are shown in Table 4.2.

Table 4. 2: Means and Standard Deviation

	N	Mean	Std. Deviation
Ratio of broad money to gross domestic product	11	629.8927	287.90866
Ratio of private sector credit to gross domestic product	11	34.1464	5.13863
Ratio of market capitalization to gross domestic product	11	46.7736	18.81903
Gross domestic product growth	11	46.7209	14.46244

From the findings, ratio of broad money to gross domestic product had a mean of 629.8927 with a standard deviation of 287.90866, ratio of private sector credit to gross domestic product had a mean of 34.1464 with a standard deviation of 5.13863, ratio of market capitalization to gross domestic product had a mean of 46.7736 with a standard deviation of 18.81903 and Gross Domestic Product growth had a mean of 46.7209 with a standard deviation of 14.46244.

From the findings above, the ratio of broad money to Gross Domestic Product is spread across the entire economy of the country. This is also the most risky variable affecting economic growth of the country. Economic planners and policy makers should therefore exert caution while regulating money supply in an economy.

4.3 Graphical Illustration of Variables of the Study

In order to establish a clear trend in the movement of the variables over a period 2006 to 2016, the researcher used graphs. The variables plotted included money supply, private sector credit, market capitalization and GDP. The findings are indicated in subsequent sections.

4.3.1 Money Supply

Graphs were used to illustrate the relationship between money supply and economic growth. The trend analysis for this variable is indicated in Figure 4.1.

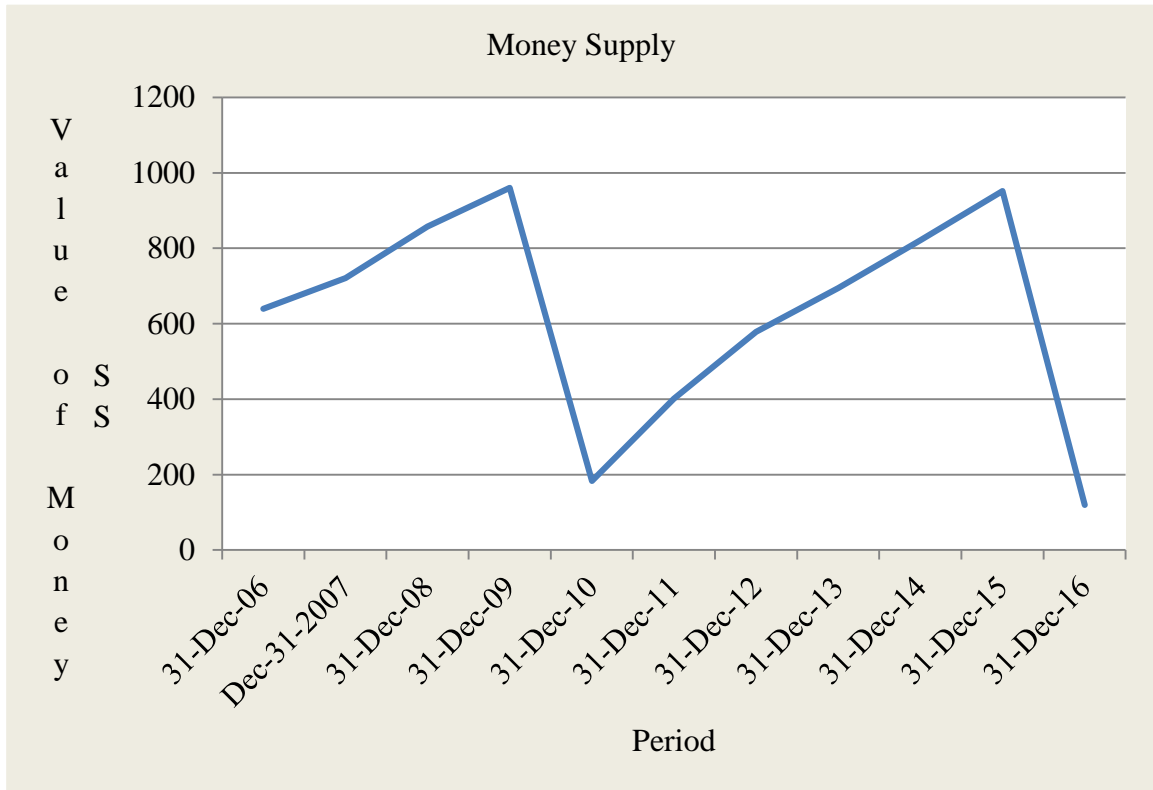


Figure 4.1: Money Supply

From the findings, the movement of money supply over the period of consideration was erratic, characterized by ups and downs. This shows that the economy has generally not been stable due to occasional moments of recessions, peaks and off peaks. During times of recession, economic activities generally are low, employment is generally low and therefore economic growth is at also low. During peak times, business activities within the economy are generally high, with significant level of employment and therefore higher levels of economic growth.

4.3.2 Private Sector Credit

The researcher further illustrated the trend in movement of private sector over the period of consideration (2006-2016) in Figure 4.2.

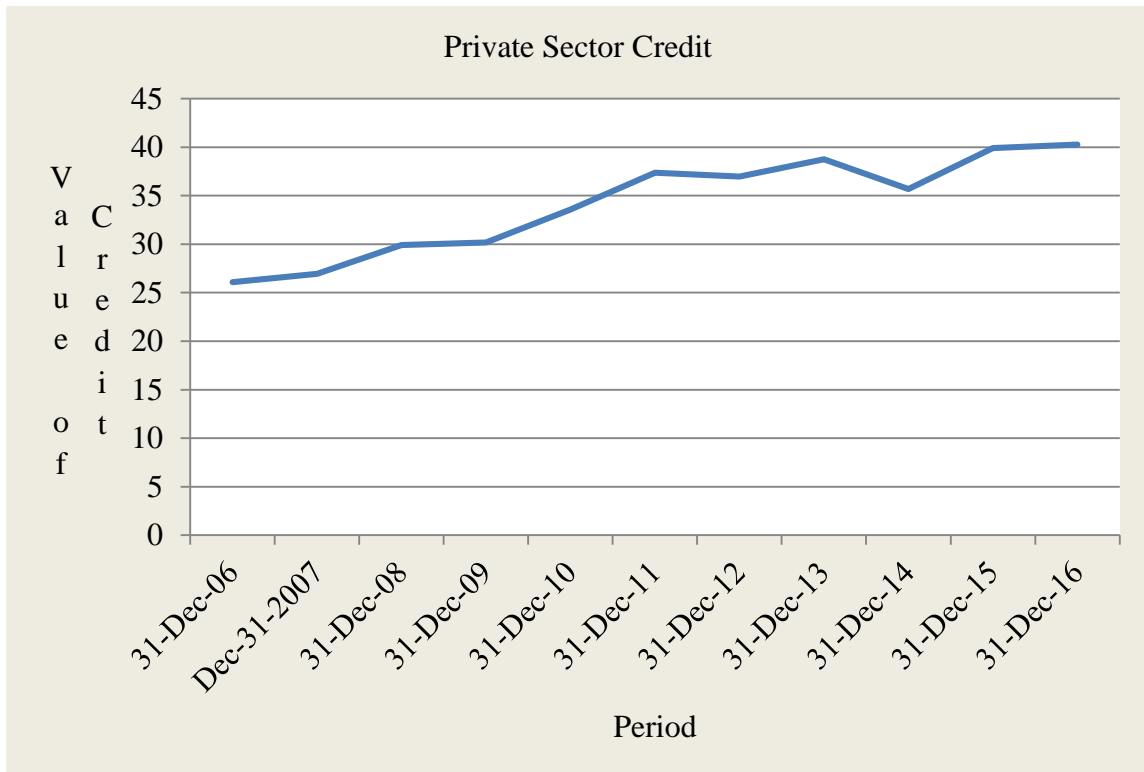


Figure 4.2: Private Sector Credit

Figure 4.2 illustrates the movement of private sector credit over an eleven year period. From the findings, there has been stability in money issued to private sector as credit over the period of consideration. Private sector credit has generally been on an increasing trend over the period of consideration. This is boosted by sustainable monetary policies formulated by the Central Bank of Kenya on lending institutions that enhances the cost and availability of credit for economic growth. Some of these conducive policies include the recent interest capping bill assented by the President in August of 2016.

4.3.3 Market Capitalization

The findings of the market capitalization as used in the study over a period 2006 to 2016 are shown in Figure 4.3.

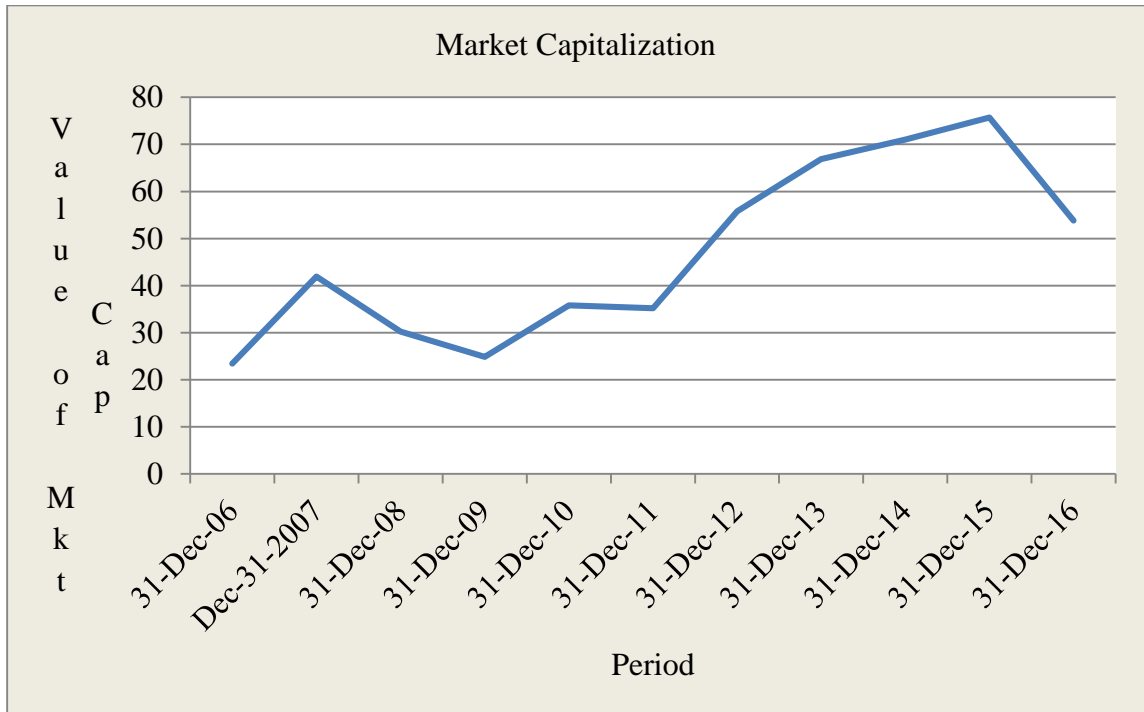


Figure 4.3: Market Capitalization

The movement in market capitalization over a period of consideration is illustrated in Figure 4.3. From the findings, there has generally been stability in movement of market capitalization over the eleven year period. The highest level of market capitalization was around 2015 to 2016. This was attributed by formulation of sound legislations and policies that promote business activities and therefore economic growth for example the interest rate capping and increased business listing on the NSE which boots the daily volume of shares moved and therefore market capitalizations which overally results into increased economic growth.

4.3.4 GDP Growth

This variable was used to measure economic growth and it represented the dependent variable of the study. The findings are indicated in Figure 4.4.

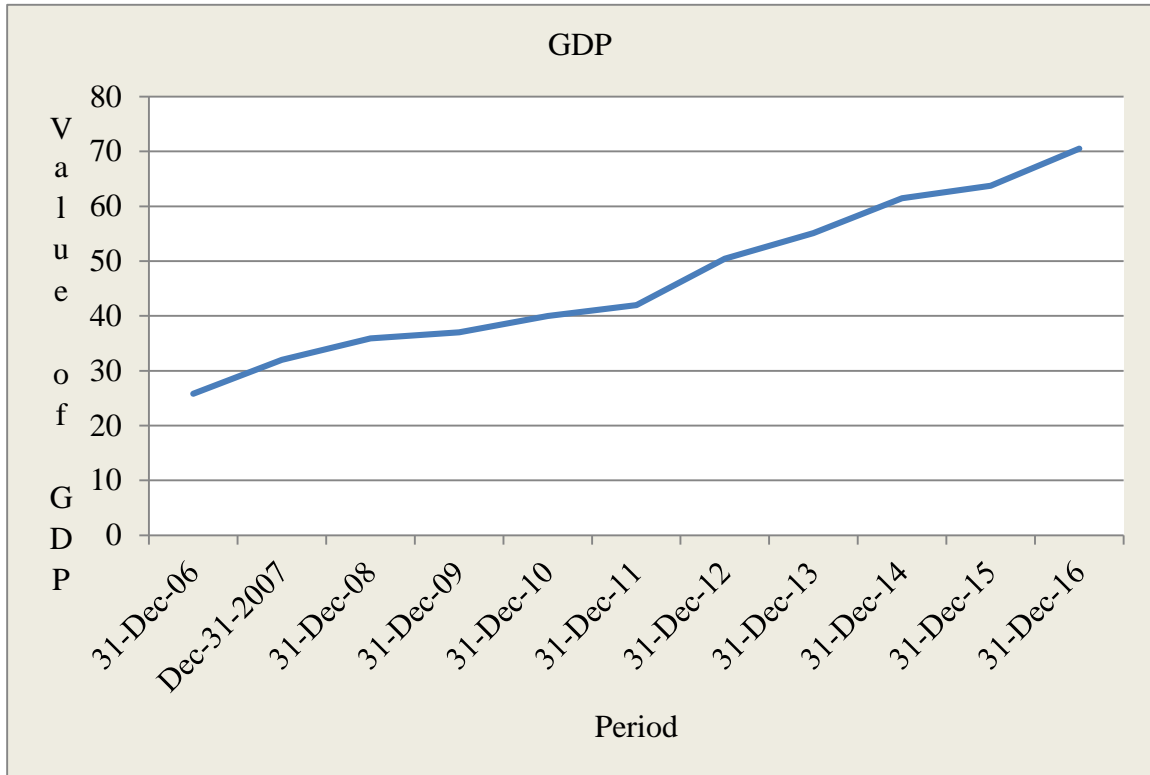


Figure 4. 4: GDP Growth

Figure 4.4 indicates the trend in movement of GDP growth rate which measured economic growth in Kenya. From the findings, economic growth in Kenya has been on an increasing trend over a period of consideration. The movement of GDP is stable across the studied period. This shows that the monetary policies formulated by the Central Bank of Kenya and the fiscal policies with the National government have generally bared fruits in terms of enhancing economic growth.

4.4 Correlation Analysis

In order to determine the strength and direction of the relationship between the variables of the study, the researcher carried out correlation analysis. Usually, correlation analysis is used for determining the strength and direction of the relationship between the study variables. The Pearson Correlation coefficient r indicates the strength of the relationship between the independent and the dependent variables of the study. The value of r can either be positive or negative ranging from 0 to 1. A positive coefficient indicates an increase in one dependent variable increase the dependent variable while a negative coefficient shows an inverse relationship between the study variables in that an increase in one of the variables would result into a decrease in another variable. In view of the strength, the Pearson correlation can either be weak, moderate or strong. Weak correlation is between 0 and 0.29, moderate correlation between 0.3 and 0.49 while strong is from 0.5 and 1. Significance of this relationship is indicated by the p values less than 0.05 shows the relationship is significant while p values greater than 0.05 shows the relationship is insignificant.

Table 4.3: Correlation Analysis

		GDP Rate	Broad money	private sector credit	Market capitalization
GDP Rate	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	11			
Broad Money	Pearson Correlation	-.159	1		
	Sig. (2-tailed)	.002			
	N	11	11		
Private sector credit	Pearson Correlation	.893	-.292	1	
	Sig. (2-tailed)	.000	.383		
	N	11	11	11	
Market capitalization	Pearson Correlation	.846	.131	.740	1
	Sig. (2-tailed)	.001	.702	.009	
	N	11	11	11	11

From the findings, broad money had a Pearson correlation of -0.159 which is equal to 15.9% and this shows that broad money contributes GDP by -15.9%, its p value was 0.002 and therefore there was a weak negative relationship between broad money and GDP. Since its p value was less than 0.05, it shows that the variable was significant.

Private sector credit to gross GDP had a Pearson correlation of 0.893 which is equivalent of 89.3% and therefore it contributes to gross domestic product growth by 89.3%, the p value was 0.000. Therefore there was a strong positive relationship between ratio of private sector credit to gross domestic product and gross domestic product growth and since its p value was less than 0.05, it shows the variable was significant.

Market capitalization to GDP had a Pearson correlation of 0.846 which is the same as 84.6% and therefore it contributes to GDP growth by 84.6% and this shows there was a strong positive relationship between broad money and GDP. Its p value was 0.001 which is less than 0.05; it indicates that the variable was significant to the study.

4.5 Regression Analysis

In order to estimate the extent that the dependent variables caused changes in the dependent variable, the researcher carried out a multiple regression analysis. This was to establish the extent to which financial depth affected the level of economic growth as measured by GDP rate. Study regression findings are well illustrated in the Table 4.4.

Table 4. 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.936 ^a	.875	.822	6.10328

The Model summary indicates an R of 0.936 showing that financial deepening has a strong positive relationship with economic growth in Kenya. Coefficient of determination R square was 0.875 showing that financial deepening explains 87.5% economic growth in Kenya. The other factors explain 13.7% change economic growth. Future studies should therefore be done to investigate these other factors.

Table 4. 5: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	1830.871	3	610.290	16.384	.002
Residual	260.750	7	37.250		
Total	2091.621	10			

The ANOVA findings of the processed data at 5% level of significance shows that F calculated value is 16.384 while F critical is 4.35 at d.f 3 and 7. Therefore, F calculated is greater than F critical which shows that the overall regression model was a significant

predictor of the relationship between the variables of the study. The p value $0.002 < 0.05$ further supports the argument of significance.

Table 4.6: Regression Coefficient

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	19.419	20.568		.944	.377
Broad money to GDP	-.003	.0013	-.061	-2.08	.022
Private sector credit to GDP.	1.514	.688	.538	2.203	.003
Market capitalization to GDP	.350	.181	.455	1.932	.095

The established equation becomes:

$$Y = 19.419 - 0.003X_1 + 1.514X_2$$

Y = Gross domestic product growth (GDP Growth Rate).

X₁ = Private sector credit to GDP.

X₂ = Market capitalization to GDP.

X₃ = Broad money to GDP

From the findings, when all the variables of the study are held constant, Gross domestic product growth would be at 19.419. A unit decrease in private sector credit to GDP would lead to 0.003 increases in GDP growth. A unit increase in private sector credit to GDP would lead to 1.514 increases in GDP growth.

In regard to significance level at 5%, the study revealed that the p values for private sector credit and market capitalization were less than 0.05 and therefore significant indicators of economic growth. In terms of the t values, broad money to GDP had -2.08, private sector credit to GDP had 2.203 and market capitalization to GDP had 1.932. As all the t values

are greater than 1.96, this shows that the variables had significant influence on economic growth.

4.6 Interpretation of Findings and Discussions

From correlation results, broad money had a Pearson correlation of -0.159 with p value was 0.002. The value of r is negative showing an inverse relationship between broad money and economic growth. This shows that as broad money reduces, economic growth increases. In reality however, it is expected that an increase in money supply results into economic growth especially during deflationary times. It is only during times of extreme inflation (hyperinflation or stagflation) where a decrease in money supply would result in economic growth which shall make sense in view of this finding. According to Onwumere, Ibe, Ozoh, and Mounanu (2012), broad money velocity and market liquidity promoted economic growth.

The findings of correlation analysis further indicated that private sector credit had a Pearson correlation r of 0.893 with p value 0.000. The value of r is positive and significant. It is significant because the p value is less than 0.05. It is positive showing that as private sector credit increases, economic growth is also achieved in the country. This is practically true since the money issued to private developers are used for creation of jobs, production of goods and services that increase consumption and therefore economic growth. This finding therefore indicates that financial intermediaries have played a significant role in the economic growth of the country. This finding contradicts with Nzotta and Okereke (2009) who established financial system had not played its intermediation role effectively especially in the area of credit allocation and in the monetization of the economy.

Correlation analysis results further indicated that market capitalization to GDP had a Pearson correlation of 0.846 with $p < 0.001$ which is less than 0.05. The value of r is strong and positive. This shows that as market capitalization increase, economic growth is also enhanced. Market capitalization aggregates the total value of all listed firms at NSE over a given period of time. An increase in market capitalization shows that more shares have been moved on the security exchange market for example the Nairobi Security Exchange NSE. Securities traded on an exchange market include common stock commonly called ordinary shares or equities, fixed income securities like corporate bonds and treasury bonds. This finding is in line with Alrabadi and Kharabsheh (2015) who established that that a statistically significant long run equilibrium relationship existed between financial deepening and economic growth regardless of the proxy used for financial deepening.

From the findings of regression analysis, the p value for private sector credit was less than 0.05. This shows that private sector credit significantly contributes towards economic growth of the country as a whole. In other words, it is a significant factor with far reaching effect on economic growth of the country as a whole. This finding is in line with Chogii, Aduda and Murayi (2014) who indicated that capital market deepening positively affected GDP growth which lends support to the finance growth nexus.

Regression results further indicated that market capitalization had p value less than 0.05 and therefore significant indicator of economic growth. The effect of market capitalization can best be illustrated by the market intermediation theory where NSE and other lending institutions play significant role in growth of the economy. The Financial Intermediation

Theory is concerned with the role played by financial intermediaries in an economy. Financial sector plays the main role of financial intermediation in any economy by electing surplus resources from households and redirecting the same resources to deficient households with investment ideas but limited in resources (Christopoulos & Tsionas, 2004).

On a comparative level, of the inferential statistics, correlation analysis established all the independent variables (money supply, private sector credit and market capitalization) while regression analysis only indicated two independent variables (money supply and private sector credit) to have significant influence on economic growth. The general observation from these two inferential statistics therefore is that financial deepening significantly affects economic growth in Kenya. Bakang (2013) sought to determine how liquidity, credit to private sector, assets owned by banks expressed as a ratio to all banks and central bank assets put together, commercial bank deposits as a ratio to GDP all affected economic growth as measured by real GDP. The findings indicated that all the four variables assessed produced positive and statistically significant effect on GDP.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

Chapter five gives a summary on the findings based on the variables used. Key findings are used for generation of conclusions. There are also recommendations for policy makers. The chapter also gives limitations faced by the researcher in conducting the study. Suggestions for further studies are presented for future scholars and academicians.

5.2 Summary of the Findings

The purpose of this study was to examine the relationship between financial deepening and economic growth in Kenya. More specifically, the study examined how private sector credit, market capitalization and money supply affected economic growth in Kenya. The study used primary data. The collected data was coded into SPSS software after which analysis was done. The analyzed findings were presented in Tables. A summary of the analyzed findings is presented in this section.

From the Model Summary, the value of R was 0.936 showing that financial deepening has a strong positive relationship with economic growth in Kenya. Coefficient of determination R square was 0.875 showing that financial deepening contributes to 87.5% economic growth in Kenya.

The ANOVA findings of the processed data at 5% level of significance showed that F calculated value is 16.384 while F critical is 4.35. Therefore, F calculated is greater than F critical which shows that the overall regression model was a significant predictor of the relationship between the variables of the study. The p value $0.002 < 0.05$ further supports the argument of significance. In view of significance at 5%, of private sector credit to GDP and market capitalization to gross domestic product had p values less than 0.05 and therefore significant indicators of economic growth.

From correlation analysis, broad money had a Pearson correlation of -0.159 with p value was 0.002. Private credit sector had a Pearson correlation of 0.893 with p value 0.000 and ratio of market capitalization to gross domestic product had a Pearson correlation of 0.846 with p 0.001 which is less than 0.05.

5.3 Conclusion

The Model summary gave a strong coefficient of correlation indicating that financial deepening has a strong positive relationship with economic growth in Kenya. Financial deepening is enhanced by financial intermediation. In view of the Finance Led Growth Hypothesis developed by Schumpeter (1911), development of financial sectors plays a major role in economic development of a nation. The author posits financial development acts as a catalyst of economic growth. The regression model was a significant predictor of the relationship between financial deepening and economic growth in Kenya.

In view of significance, the ratio of private sector credit to gross domestic product and ratio of market capitalization to gross domestic product had p values less than 0.05 and therefore significant indicators of economic growth. According to Chogii, Aduda and Murayi (2014), capital market deepening positively affected GDP growth which lends support to the finance growth nexus. In a study by Kisaka, Adhiambo, Ndege and Muio (2015) on the effect of financial depth on performance of smallholder farmers (SHF) in Kisumu County, the findings showed that a strong relationship exist between SHF performance and financial deepening.

The study concludes that financial deepening significantly influences economic growth. Financial deepening can be done through financial intermediation as put forth by the Financial Intermediation Theory which illustrates the role which financial intermediaries help in enhancing economic growth of the country. Financial intermediaries are channels that enhance the cost and availability of credit to business owners for growth and profitability. According to (Christopoulos & Tsionas, 2004), financial sector plays the main role of financial intermediation in any economy by electing surplus resources from households and redirecting the same resources to deficient households with investment ideas but limited in resources.

5.4 Recommendations of the Study

The study recommends that the Central Bank of Kenya should instill sound fiscal and monetary policies for regulating the level of inflation and supply of money in the economy.

The national government should encourage private sector participation and involvement in economic development by providing conducive and favorable economic environments. The Capital Market Authority should relax the listing requirements for more firms to get listed at NSE which shall grow market capitalization and therefore economic growth.

5.5 Limitations of the Study

The current study collected data over a period of ten years that is 2006 to 2016, which indicates a study period of 11 years. This study period further indicates 11 observations used for data analysis. This data was collected on a yearly basis. The findings established from this study therefore would not necessarily be similar to the findings from a study undertaken over a relatively longer time span.

The researcher exclusively relied on secondary data for analysis. Secondary data was collected from various sources including The Kenya National Bureau of Statistics KNBS publications, the Nairobi Security Exchange publications and past similar studies done and kept at the University repositories. The collected data was analyzed using descriptive and inferential statistics.

The researcher adopted a descriptive research design in the current study to describe relationship between financial deepening and economic growth in Kenya. This design was used to establish the objective on an eleven year horizon. However, it could have been adequate to employ cross sectional design with the help of time series data.

The researcher aimed at using monthly data in the analysis of the findings; however for some variables like GDP data could not be obtained on a monthly interval. To overcome this, the researcher used annual average data. Different sources of data were used where discrepancies were identified from different sources. The researcher overcame this by doing averages for the data.

5.6 Suggestions for Further Studies

The current study sought to assess how financial deepening affected economic growth in Kenya; similar studies can be done to examine how financial deepening has affected financial soundness of commercial banks. The coefficient of determination R square indicated that 87.5% change in economic growth is explained by financial deepening, the other factors explaining (12.5%) of economic growth should be undertaken by other studies.

The researcher only relied on secondary data but future scholars should use both primary and secondary data. Primary data can be collected by use of questionnaires, interview guides and observations. Primary data is seen as first hand information free from bias as opposed to secondary. Incorporation of both primary and secondary data enhances comparison of the findings for meaningful decision making and policy formulation by relevant authorities.

Descriptive research design was adopted in the current study; future studies should be done using other designs. Future scholars ought to use panel data over a relatively longer period of time. Studies done over long period of time have certain advantages as compared to those undertaken over shorter period of time. This is because panel studies consider a number of occurrences and events that significantly influence the study. Studies done on longer periods of time have large number of observations which increase the sample size which influences the study findings in a way.

The secondary data used in the current study was collected on an annual basis. This has an effect of reducing the number of observations that represent the sample size. To overcome this, future scholars and academicians should use either quarterly or monthly data which increases the number of observations and therefore the sample size as required by different scholars and academicians.

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APPENDICES

APPENDIX I: DATA COLLECTION SHEET

Year	GDP Growth Rate	Private Sector Credit	market capitalization	Broad money
2006				
2007				
2008				
2009				
2010				
2011				
2012				
2013				
2014				
2015				
2016				

APPENDIX II: DATA COLLECTED FOR STUDY

Year	Money Supply	Private Sector Credit	Market Capitalization	GDP
31-Dec-06	639.93	26.08	23.4	25.83
Dec-31-2007	721.29	26.93	41.9	31.96
31-Dec-08	857.41	29.9	30.2	35.9
31-Dec-09	960.5	30.16	24.86	37.02
31-Dec-10	182.86	33.57	35.77	40.01
31-Dec-11	401.21	37.38	35.17	41.95
31-Dec-12	578.36	36.98	55.76	50.41
31-Dec-13	694.57	38.75	66.9	55.1
31-Dec-14	821.04	35.69	71	61.45
31-Dec-15	951.87	39.91	75.73	63.77
31-Dec-16	119.78	40.26	53.82	70.53

APPENDIX II: ANNUAL MONEY SUPPLY

YEAR	MONEY SUPPLY
2006	639.93
2007	721.29
2008	857.41
2009	960.5
2010	182.86
2011	401.21
2012	578.36
2013	694.57
2014	821.04
2015	951.87
2016	119.78

APPENDIX IV: PRIVATE SECTOR CREDIT

Year	Private Sector
2006	26.08
2007	26.93
2008	29.9
2009	30.16
2010	33.57
2011	37.38
2012	36.98
2013	38.75
2014	35.69
2015	39.91
2016	40.26

APPENDIX V: MARKET CAPITALIZATION

Year	Market Capitalization
2006	23.4
2007	41.9
2008	30.2
2009	24.86
2010	35.77
2011	35.17
2012	55.76
2013	66.9
2014	71
2015	75.73
2016	53.82

APPENDIX VI: GROSS DOMESTIC PRODUCT

Year	GDP
2006	25.83
2007	31.96
2008	35.9
2009	37.02
2010	40.01
2011	41.95
2012	50.41
2013	55.1
2014	61.45
2015	63.77
2016	70.53