EFFECT OF FINANCIAL DEEPENING ON ECONOMIC GROWTH IN KENYA

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DECLARATION

This project is my original work and has not been presented for a degree in any other university.

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DEDICATION

I dedicate this thesis to my parents and siblings who have stood by me through my whole academic life and through their guidance I have made it to this level and will continue to achieve more in future with them by my side.

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LIST OF ABBREVIATIONS AND ACRONYMS

ANOVA: Analysis of Variance

ATM: Automated Teller Machine

CBK: Central Bank of Kenya

CMA: Capital Markets Authority

DFI: Development Finance Institution

FD: Financial Deepening

FDI: Foreign Direct Investments

GDP: Gross Domestic Product

GEMS: Growth Enterprise Market Segment

GNI: Gross National Income

GNP: Gross National Product

IMF: International Monetary Fund

KNBS: Kenya National Bureau of Statistics

MFI: Microfinance Institution

NSE: Nairobi Securities Exchange

NBFI: Non-Bank Financial Institution

ROSCA: Rotating Savings and Credit Association

SACCO: Savings and Credit Cooperative Society

SSA: Sub-Saharan Africa

ABSTRACT

In the contemporary financial sector, financial deepening has become a critical issue especially in stimulation of economic growth of a country. Kenya has been developing its financial sector particularly through financial deepening to achieve its economic growth aspirations. The study sought to establish the effect of financial deepening on economic growth of Kenya. The research design adopted for this study was descriptive design. Secondary data used in this study was sourced from Nairobi Securities Exchange, Central Bank of Kenya websites and Kenya National Bureau of Statistics (KNBS) as well as World Bank development indicators. The study population was quarterly data for 11 years giving a total of 44 observations per variable. The study used both descriptive and inferential statistics in analyzing the data. First, data collected was sorted, classified and collated. Descriptive statistics such as mean and standard deviation for each variable were calculated and tabulated using tables and inferential statistics. The STATA computer software was used in the analysis of data. Data was analysed using inferential statistics inform of regression and correlation analysis. To measure the effect of financial deepening on economic growth of Kenya the researcher used regression analysis. The effect was examined at 95% confidence level while employing student t test. The data was subjected to diagnostic tests to evaluate conformity with multiple regression model assumptions. This would ensure validity of the results. The study employed normality, heteroscedasticity, multicollinearity, serial correlation and unit root diagnostic tests. The study results established that banking deposits had a statistically insignificant effect on economic growth measured, Capital market capitalization had a statistically significant effect on economic growth, Mobile banking had a statistically significant effect on economic growth and that direct capital Inflows had a statistically significant effect on economic growth. The study concludes that financial deepening has a significant effect on economic growth of Kenya. The study recommends that government should not just focus on savings mobilization in the economy rather they should focus on policies and strategies that translate savings to investments. The study also recommends that the government should continue strengthening the capital market by putting in place supportive business environment that encourages the setup of companies that may list their shares at the Nairobi securities exchange. The government of Kenya through the central bank and communication authority should continue strengthening mobile banking. Finally, government to continue putting in place policies that encourage improved capital inflows from abroad.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

According to Sessional paper No. 1 of 1986 on Economic management for economic reforms in Kenya. The financial Market is key in achieving meaningful economic growth and development. Capital markets assists in liquidity provision, price discovery, general reduction in transactions costs, and risk transfer. They reduce information cost through generation and dissemination of information on firms leading to efficient markets in which prices incorporate all available information (Yartey & Adjasi 2007). The Capital market in Kenya dates back to 1922 when the Stock exchange was started, however, there was little activity until the late 1980s when the government adopted reforms that were aimed at reviving the financial sector. The Capital markets in Sub Saharan Africa, Kenya included displayed extreme thinness and illiquidity compared with other emerging markets of South East Asia (Ziorklui, 2001).

In 1986, The Government of Kenya made a deliberate policy effort to foster growth of the Capital Markets through adoption of The Sessional paper No.1 of 1986, which recognized the Capital markets as key in achieving meaningful economic growth and development. The Government through the policy; recommended that a regulatory framework be set up to regulate and facilitate the development of the Capital Market in Kenya. The birth of The Capital Markets Authority in December 1989 was a step forward following the deliberations of The Sessional paper No.1 of 1986.The Capital Markets Authority Act (Chapter 485 a) facilitated the setup of The Capital Markets Authority and its functions, but even after the establishment of the Capital Markets

Authority, Kenya still lagged behind with thin and illiquid capital market (Ngugi, 2003).While Kenya's financial sector is viewed as substantially diversified, it is dominated by banking institutions which have not evolved to provide long term capital adequately (Ngugi, Amanja & Maana, 2008).

1.1.1 Economic Growth

Economic growth can be described as the sustained increase in welfare of an economy. For some, economic growth‖ is synonymous with ―economic development‖ and is associated with such things as growth of population (especially working population), development of resources, technological advance and increasing capital formation. Generally, economic growth means growth of output and discussions of economic growth is conducted in quantitative terms. Economic growth is commonly measured as the annual rate of increase in a country's gross domestic product (GDP) by economists or by related indicators, such as gross national product (GNP) or gross national income (GNI) which is derived from the GDP calculation (Arthur, 1964) Iram and Nishat (2009) describe economic growth as the indicator of the health of an economy, and that capital is one of the pre-requisites to maintain and enhance the momentum of growth. Simply put, a country's economic health can be measured by 4 looking at the country's economic growth and development. Economic growth is what mainly determines the material well-being of a nation.

1.1.2 Financial Deepening

Financial deepening is a term used to refer to increasing provision of financial services. It can refer both a wider choice of services and better access for different socioeconomic groups. One of the key features of financial deepening is that it accelerates economic growth through the expansion of access to those who do not have adequate finance themselves. Typically, in an underdeveloped financial system, the incumbents have better access to financial services through relationship banking. Moreover, incumbents also finance their growth through internal resource generation (Goswami & Sharma, 2011).

Financial deepening refers to the improvement or increase in the pool of financial services that are tailored to all the levels in the society. It also refers to the increase in the ratio of money supply to GDP/Other price index that ultimately postulates that the more liquid money is available in the economy, the more opportunities exist in that economy for continued and sustainable growth. It basically supports the view of: Development in Financial sectors leads to development of the economy as a whole (Cole, 1974).

Conceptually, financial depth is often understood to mean that: sectors and agents are able to use a range of financial markets for savings and investment decisions, including at long maturities (access); financial intermediaries and markets are able to deploy larger volumes of capital and handle larger turnover, without necessitating large corresponding movements in asset prices (market liquidity); and the financial sector can create a broad menu of assets for risk-sharing purposes (hedging or diversification). In other words, deep markets allow savers to invest in a broad range of quality investment and risk-

sharing instruments and allow borrowers to likewise tap a broad range of financing and risk management instruments (Goswami & Sharma, 2011).

1.1.3 Financial Deepening and Economic Growth

Theoretically, financial sector deepening can reduce poverty through two channels. First, financial development can benefit to the poor indirectly through economic growth by improving conditions in the sectors and regions where they live. This is what is referred to in the literature as trickledown theory where economic growth is seen to either trickle down to the poor through job creation and other economic opportunities. This has been supported by a number of studies such as Ravallion and Datt (2012) and Mellor (2009) among others. Second, financial deepening can affect poverty directly by facilitating transactions and allowing the poor to broaden their access to financial services such as credit opportunities and deposits and insurance-risk services. This would reinforce the productive assets of the poor, which would augment their productivity and boost their economic potential (World Bank, 2010; Jalilian & Kirkpatrick, 2012).

Deng, Casu, and Ferrari (2014) argues that on one hand, the liberalisation of bank interest rates and the increase in foreign banks' presence have had a positive and significant impact on technological progress and cost efficiency. On the other hand, prudential regulation might adversely affect bank cost performance. This means that the relationship between the two remains an empirical issue. In particular, the more the government retreats from influencing the allocation of scarce financial resources, the more the price mechanism would be restored and the more the conditions for market competition would be improved, which is expected to result in more efficient banking activities. Ataullah et

al. (2014) find evidence that financial deregulation has a positive impact on bank efficiency in both India and Pakistan. Maudos et al. (2002) conclude that cost efficiency of Spanish banks improved due to a more competitive environment.

1.1.4 Financial Deepening and Economic Growth in Kenya

The Kenyan government has a vision of transforming the country into middle-income level and industrializing economy by the year 2030 and they have identified the financial sector as one of the areas that would help in attaining this critical target. The Capital Markets Authority of Kenya acknowledges that the Kenyan financial markets are at different stages of development. Whereas Kenya has a well-developed and liquid government bond market, the equities market on the other hand is characterized by relatively few listings, which are skewed towards financial companies, and low liquidity (Capital Markets Master Plan, 2014).

Ambitious targets have been set for improvements in listings, liquidity and performance of new product areas in order to develop the Kenyan financial markets. First, is to improve the ratio of equity market capitalization to GDP which currently stands at 50% to 70% by end-2023. Second target is the number of GEMS listing, which reflect the supply of future main board listed companies, to increase by 3-4 annually. The third target is to raise the ratio of corporate bonds outstanding to GDP to reach 40% by end-2023 and lastly the value of outstanding exchange-traded derivative contracts to reach USD 200 billion by end-2023 which is an ambitious target, given that the market has not yet been launched, but is achievable by comparison with other markets (Capital Markets Master Plan, 2014).

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); and the introduction of new products and financial service delivery channels (such as M-pesa, Islamic banking, mobile banking, agency banking and the integration of Automated Teller Machines (ATMs) by micro finance institutions) to name a few (Bakang, 2015).

1.2 Research Problem

Financial deepening is often used in development studies and it refers to an increase in the supply of financial assets in an economy geared towards development of all levels of the society. It's defined as a process that marks improvement in quantity, quality, and efficiency of financial intermediary services (Sackey & Nkurumah, 2012). Different views on the finance growth nexus have been raised over the years. The supply leading hypothesis suggest that financial development contributes to economic growth whereas growth led finance hypothesis states that a high economic growth may create demand for certain financial instruments and arrangements and the financial markets are effectively a response to these demands and changes. The Kenyan financial system has undergone a lot of changes in the last decades. In Sessional Paper No. 1 1986 the government

indicated its commitment in facilitating growth of the capital market and this saw the kick-off of the capital market reform in late 1980s which saw institutional and policy reforms. The intention of these reforms was to increase the degree of financial development in the country. The vision 2030 has also made financial deepening a major sub-pillar of the broader economic pillar that is aimed as transforming the economy of Kenya into a middle-income country.

Empirical studies have been carried out on the relationship between financial deepening and economic growth. Study by Ouma, (2014), on effects of real Interest Rate on the Financial Deepening in Kenya established that real interest rate had significant influence financial deepening; however, it did not relate financial deepening to poverty. Study by Otieno (2013), argued that a developed financial system broadens access to funds, conversely, in underdeveloped financial systems, access to funds is limited and people are constrained by the ability of their own funds and have to resort to high cost informal sources such as moneylenders. Study however ignored the effect of financial access on poverty in Kenya. A paper by Aduda, & Kalunda (2012) concludes that enhanced measures of financial inclusion which include both access and usage should be applied, since access and usage are not the same but supplementary. Informal financial services should also be included as they play a big role in developing countries. The study interestingly ignored the effect of the same on poverty rates in Kenya. Study by Odhiambo (2009) on effect of Interest Rate Reforms, Financial Deepening on Economic Growth in Kenya established that financial deepening and interest rate reforms affect economic growth; however, the study failed to consider effect of financial deepening on poverty rate in Kenya.

Even with the studies already done in Kenya, A number of developments are happening in the financial sector that has not been interrogated in the context of financial deepening and economic growth. In 2016, the parliament a passed capping on interest rate charged by commercial banks on loans hence affecting the ability of commercial banks to create credit. Additionally, the last few years has seen a major shift from brick and mortar banking to mobile base banking hence revolutioning the process of financial intermediation greatly in terms of mobile banking loans and other transactions that have a bearing on financial deepening. There is need therefore to address the relationship between financial deepening and economic growth especially by incorporating the role mobile banking, direct capital inflow in financial deepening and economic growth. This study therefore seeks to fill the gap by studying the effect of financial deepening and the growth of Kenya's economy. This study therefore sought to answer the question: what is the effect of financial deepening on economic growth of Kenya?

1.3 Research Objective

General Objective

To establish the effect of financial deepening on economic growth of Kenya.

Specific objectives:

i. To examine the effect of total deposits in banking industry on Economic growth rate in Kenya.
ii. To establish the effect of Capitalization of stock exchange market on economic growth rate in Kenya.

iii. To examine the effect of Mobile banking innovation on economic growth rates in Kenya.

iv. To examine the effect of direct Capital inflow on economic growth rates in Kenya.

1.4 Value of the Study

The current study is of great value to theory of Finance in general. The study specifically adds to knowledge on the relationship between financial deepening and economic growth. The study provided an understanding on theoretical understanding on the nexus of finance and growth by critically analyzing both theoretical and empirical relationship between financial deepening and economic. Researchers and academicians who wish to carry out further research in the area of financial deepening and economic growth may obtain some insight on this area. The study therefore extended the boundary of literature on the long-held discussions on the nexus of finance and growth.

The study also is very critical for policy makers at the national and international stage. Government officials and financial sector regulators would find the current review very insightful in the formulation of financial policies that promote financial sector deepening and efficiency which would go a long way in ensuring a continued growth of financial sectors and beyond. The study would make them appreciate the big role they play in making decisions that affect the financial deepening and efficiency variables that in turn affect the dependent variable that in our case is the economic growth. The capital and money market regulators globally may formulate financial regulatory policies based on

the finding of the current review on the relationship existing between financial deepening and economic growth.

The study will also be crucial documents for practitioners in finance and economic development. Investment firms and individual investors will find the study informative when making informed investment choices while making investment decisions as they construct their investment portfolios in the capital markets. The study will be of significance as at the moment governments of developing countries like Kenya that have vision of transforming their countries into middle-income level and industrializing economy with financial sector as one of the areas that will help in attaining this critical target. This is embodied in the development plans of most countries that is the economic blueprint to transformation of world economies.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The chapter discusses the major theoretical underpinnings of the study and relevant empirical literature on the relationship between financial deepening and economic growth as moderated by financial efficiency. The chapter further identified gaps in empirical literature

2.2 Theoretical Framework

A number of theories have been advanced in financial literature to postulate the relationship between financial deepening and efficiency and economic growth. The current study specifically relied on three theories that served as the base of the study. The theories include financial intermediation theory, financial liberalization hypothesis and Keynes theory. The chapter offers a discussion of the theories and their link with the current study.

2.2.1 Financial Intermediation Theory

Financial intermediation is a process that involves surplus units depositing funds with financial institutions who then lend to deficit units. Bisignano (1998) and Leland and Pyle (1977) identify that financial intermediaries can be distinguished by four criteria: first their main categories of liabilities (deposits) are specified for a fixed sum which is not related to the performance of a portfolio. Second the deposits are typically short-term and of a much shorter term than their assets. Third a high proportion of their liabilities are chequeable (can be withdrawn on demand). And fourth their liabilities and assets are largely not transferable. The most important contribution of intermediaries is a steady

flow of funds from surplus to deficit units. According to Scholtens and van Wensveen (2003), the role of the financial intermediary is essentially seen as that of creating specialized financial commodities. These are created whenever an intermediary find that it can sell them for prices which are expected to cover all costs of their production, both direct costs and opportunity costs. Financial intermediaries exist due to market imperfections. As such, in a 'perfect' market situation, with no transaction or information costs, financial intermediaries would not exist. Numerous markets are characterized by informational differences between buyers and sellers. In financial markets, information asymmetries are particularly pronounced. Borrowers typically know their collateral, industriousness, and moral integrity better than do lenders. On the other hand, entrepreneurs possess inside information about their own projects for which they seek financing (Leland and Pyle, 1977). Moral hazard hampers the transfer of information between market participants, which is an important factor for projects of good quality to be financed.

2.2.2 Shaw's Financial Liberalization Hypothesis

Shaw (1973) advanced financial liberalization theory to explain the relationship between deregulation of financial sector and financial deepening. According to Shaw (1973), financial deepening hypothesis, financial liberalization tends to raise ratio of private domestic savings to income. With real growth of financial institutions, there are many investors having access to borrowing. There arise incentives for saving with many players and borrowings become cheaper. Savings also tend to rise in the Government sector. With financial deepening, savings from the foreign sector respond to financial

liberalization. There is inflow of capital and easy access to foreign capital markets, which remove distortions in relative prices. Liberalization permits the financial process of mobilizing and allocating savings to displace inflation and foreign aid.

Liberalization enables superior allocation of savings through widening and diversifying financial markets wherein investment opportunities compete for savings flow. The savers are offered a wider menu of portfolio choice. The market is broadened in terms of scale, maturity and risk (Shaw, 1973). Information is available more cheaply. Local capital markets are integrated and new avenues for pooling savings and specializing in investments are possible. Prices are used to discriminate between investment opportunities. In this context, Shaw (1973) states that, "Financial depth seems to be an important pre-requisite for competitive and innovative disposition of savings flows." Thus, financial liberalization and allied Policies bring in equal distribution of income. It reduces monopoly rents arising out of import and other licenses to few importers and bank borrowers. It contributes to the stability of growth in output and employment (Shaw, 1973).

Critics of financial liberalization policies have argued that the efficient markets paradigm is fundamentally misleading when applied to capital flows. In the theory of the second best, removing one distortion need not be welfare enhancing when other distortions are present (Evans, 2017). If the capital account is liberalized while import competing industries are still protected, for example, or if there is a downwardly inflexible real wage, capital may flow into sectors in which the country has a comparative disadvantage, implying a reduction in welfare (Okpe, 2018). If information asymmetries are endemic to

financial markets and transactions, in particular in countries with poor corporate governance and low legal protections, there is no reason to think that financial liberalization, either domestic or international, would be welfare improving (Stiglitz, 2000). Moreover, in countries where the capacity to honor contracts and to assemble information relevant to financial transactions is least advanced, there can be no presumption that capital would flow into uses where its marginal product exceeds its opportunity costs.

2.2.3 Keynes Theory

John Maynard Keynes (1936) advanced Keynesian theory in in financial economic analysis. This theory assumes equilibrium with less than full employment where both employment and income are fluctuating. The theory views interest as reward for parting with liquidity. It provides that interest rate is determined by the demand and supply of money. The theory opined that supply of money is usually determined by monetary authorities while the demand for money is a function of income and interest rate (Keynes,1936). This theory assumes equilibrium with less than full employment where both employment and income are fluctuating. The theory views interest as reward for parting with liquidity. It provides that interest rate is determined by the demand and supply of money. The theory opined that supply of money is usually determined by monetary authorities while the demand for money is a function of income and interest rate.

The theory further explained that transitionary and precautionary motive of liquidity is dependent on income while speculative motive is dependent on interest rate, it is interest elastic. The Keynesian theory implies that low interest rate as a component of cost administered is detrimental to increase savings and hence investment demand. Proponents of this theory argue that increase in the real interest rate would have strong positive effects on savings which can be utilized in investment, because those with excess liquidity would be encouraged to save because of the high interest rate, thus banks would have excess money to lend to investors for investment purpose thereby raising the volume of productive investment. Keynes also emphasized that the rate of interest is purely a monetary phenomenon.

This theory introduced the concept of liquidity trap, a situation where low interest rates discourage savings and consequently reduces investments due to lack of investable fund. Anyingang and Udoka (2012), in their study observed that the Keynesian liquidity preference theory interest rate is a stock theory. It is a stock analysis because it takes the supply of money as given during the short run and determines the interest rate by liquidity preference or demand for money. This theory alludes to the Nigerian situation under the regulated interest era, where the monetary interest rate set by government authorities was low and the real interest rate was even lower because of inflation. The low interest rate encouraged inefficiency in the use of capital and resultant negative growth trend in investment. The negative trend was also because of lack of investable fund as people preferred to hold liquid cash as there was no adequate inducement to part with liquidity. Keynes theory is regarded as an improvement over classical theory as it considers interest as a monetary phenomenon that links the present and the future. This

theory abandoned the assumption of full employment, introduced the concept of unemployment therefore, it considered the change in the income level and its relation with savings and investment. Thus, in Keynesian analysis more investment leads to more consumption, or in other words, investment and consumption go together. Keynesian analysis is more realistic in the context of unemployment of resources prevailing in the economy. Opponents of this theory insist that it is an indeterminate, incomplete, inadequate and unrealistic theory of interest rate.

2.3 Determinants of Economic Growth

A wide range of studies has investigated the factors underlying economic growth and have placed emphasis on a different set of explanatory parameters and offered various insights to the sources of economic growth. These factors include investment, human capital, innovation and R&D, economic policies and microeconomic conditions, openness to trade, FDI, institutional framework, political factors, social cultural factors, geography and demographic trends (Petrakos, Arvanitidis & Pavleas, 2007).

2.3.1 Investment

Investment is the most fundamental determinant of economic growth identified by both neoclassical and endogenous growth models. According to Barro (1996) the neoclassical growth model for a closed economy, the saving rate is exogenous and equal to the ratio of investment to output. A higher saving rate raises the steady-state level of output per effective worker and thereby raises the growth rate for a given starting value of GDP. Some empirical studies of cross-country growth have also reported an important positive role for the investment ratio (DeLong & Summers, 1991; Mankiw, Romer & Weil, 1992).

The importance attached to investment by these theories has led to an enormous amount of empirical studies examining the relationship between investment and economic growth. Nevertheless, findings are not conclusive (Petrakos et al., 2007).

2.3.2 Human Resource

Human capital refers principally to workers' acquisition of skills and know-how through education and training. A large number of studies have found evidence suggesting that educated population is key determinant of economic growth (Petrakos et al., 2007). Barro (1996) in his paper ―Determinants of Economic Growth: A Cross-Country Empirical Study‖ carried out some studies on initial level of human capital and found out that an extra year of male upper–level schooling is estimated to raise the growth rate by a substantial 1.2 percentage points per year. More surprisingly, female education at various levels is not significantly related to subsequent growth. However, some additional results indicate that female schooling is important for other indicators of economic development, such as fertility, infant mortality, and political freedom. Specifically, female primary education has a strong negative relation with the fertility rate (Schultz, 1989; Behrman, 1990; Barro and Lee, 1994). A reasonable inference from this relation is that female education would spur economic growth by lowering fertility.

2.3.3 Economic Policies & Macroeconomic

Environment Economic policies can influence several aspects of an economy through investment in human capital and infrastructure, improvement of political and legal institutions and so on whereas macroeconomic conditions are regarded as necessary but not sufficient 16 conditions for economic growth (Fischer, 1993). In general, a stable

macroeconomic environment may favour growth, especially, through reduction of uncertainty, whereas macroeconomic instability may have a negative impact on growth through its effects on productivity and investment (e.g. higher risk) (Petrakos et al., 2007).

2.3.4 Openness to Trade

Openness to trade has been used extensively in the economic growth literature as a major determinant of growth performance. Openness affects economic growth through several channels such as exploitation of comparative advantage, technology transfer and diffusion of knowledge, increasing scale economies and exposure to competition. Openness is usually measured by the ratio of exports to GDP or by the sum of imports and exports relative to the GDP. There is a substantial and growing empirical literature investigating the relationship between openness and growth (Petrakos et al., 2007). According to Barro (1996) the effect of a change in the terms of trade—measured as the ratio of export to import prices on GDP is, however, not mechanical. If the physical quantities of goods produced domestically do not change, then an improvement in the terms of trade raises real domestic income and probably consumption, but would not affect real GDP. Movements in real GDP occur only if the shift in the terms of trade stimulates a change in domestic employment and output. For example, an oil-importing country might react to an increase in the relative price of oil by cutting back on its employment and production.

2.3.5 Foreign Direct Investment

Foreign Direct Investment (FDI) has recently played a crucial role of internationalizing economic activity and it is a primary source of technology transfer and economic growth. This major role is stressed in several models of endogenous growth theory (Petrakos et al., 2007). According to Abala (2014), it is widely acknowledged that FDI has potential benefits that accrue to host countries. The view suggests that FDI is important for economic growth as it provides much needed capital, increases competition in host countries and helps local firms to become more productive by adopting more efficient technology.

2.4 Empirical Review

Study by Ndebbio (2004) on financial deepening, economic growth and development. This study identifies the range of financial assets that can adequately approximate financial deepening, which simply means an increase in the supply of financial assets in the economy. FD is represented by two variables, the degree of financial intermediation/development (M2/Y) and the growth rate in per capita real money balances (GPRMB). Because of lack of data on other measures of financial assets in most SSA countries, broad money (M2) was used as numerator for both variables. Estimations depending on the two measures of FD and other explanatory variables of interest were done with ordinary least squares (OLS) multiple regression procedure. Three modelled equations, with justifications for each, were estimated and analyzed. A cross-country regression was used for 34 SSA countries. To even out year-to-year fluctuations as well as reflect underlying structural changes, the variables were calculated on a decade

average basis. Two policy implications derive from the study: that SSA countries should strive hard to make real money balances grow, and that these countries should also come up with policies to improve financial development/intermediation. Given such factors as price stabilization, elimination of fiscal deficit and removal of various restrictions on financial institutions, real money balances could be made to grow. Financial intermediation/ development could positively affect output growth if, among other suggested ways, the volume of investment is raised.

Research by Nzotta & Okereke (2009) examined financial deepening and economic development in Nigeria between 1986 and 2007. The central focus is that a high level of financial deepening is a necessary condition for accelerating growth in an economy. This is because of the central role of the financial system in mobilizing savings and allocating same for the development process. The study made use of secondary data, sourced for a period of 22 years. Study specified nine explanatory variables for the study based on theoretical underpinnings. Study sought to establish a relationship between these variables and financial deepening index. The two stages least square analytical framework was used in the analysis. A trend analysis was also done in the study. At the end of the study, study found that financial deepening index is low in Nigeria over the years. Study also found that the nine explanatory variables, as a whole were useful and had a statistical relationship with financial deepening. However, four of the variables; lending rates, financial savings ratio, cheques/GDP ratio and the deposit money banks/GDP ratio had a significant relationship with financial deepening. Study concluded that: the financial system has not sustained an effective financial intermediation, especially credit allocation and a high level of monetization of the economy. Thus, the

regulatory framework should be restructured to ensure good risk management, corporate governance and stemming systemic crisis in the system.

Study by Nwanna and Chinwudu (2016) examined financial deepening and economic growth in Nigeria from 1985 to 2014. It focused on the impact of stock market and bank deepening variables such as money supply, market capitalization, private sector credit and financial savings have on economic growth of Nigeria. Stock market provides the avenue through which long term fund could be raised for investment project. It is reputed to perform critical functions, which promote economic growth and prospects of the economy. The study adopted the supply leading hypothesis. The study used annual time series data for 1985 to 2014 obtained from the Central Bank of Nigeria statistical bulletin.

The ordinary least square (OLS) econometric techniques were employed in which variations in the dependent variable, economic growth, measured by gross domestic product growth rate were regressed on money supply ratio to gross domestic product, private sector credit ratio to gross domestic product, market capitalization ratio to gross domestic product and financial saving ratio to gross domestic product using time series data from 1985 to 2014. The result of the analysis reveals that both banks based and stock market financial deepening proxies has significant and positive effect on economic growth and that the banking sector and stock market in Nigeria has an important role in the process of economic growth. Based on the findings there should be improvement by encouraging more participation in the stock market. Easing restrictions on international capital and entry into stock market to ensure more companies are listed.

Study by Sindani (2013) set to establish the impact of financial sector deepening on economic development in Kenya. The study adopted a Quantitative comparative design. The target population for this study was: 44 banking institutions (43 commercial banks and 1 mortgage finance company - MFC), operating in Kenya as at 31st December 2011. The study used secondary data collected from the Central Bank of Kenya and Deloite reports. Since the data used was secondary data, the study conducted a census of the Banking sector where all the 44 commercial banks were included.

This study established that the financial sector was stable during the study period as witnessed by the stable number of banking institutions following stringent regulations by the Central bank of Kenya which had reduced the frequency of commercial banks becoming bankruptcy. During the period of the study (2007-2011), financial sector deepening was high as the commercial banks strived to leverage their operations through adoption of new technologies including automation of bank process and adoption of Automated Teller Machines as opposed to offering their services only through physical brick and mortar branches. The economic growth started at a high of 7.1 then fluctuated to a low of 1.5 in 2008.

Paper by Bakang (2015) investigated the effects of financial deepening on economic growth in the Kenyan banking sector. The study achieves this objective using quarterly time series data from 2000 to 2013. Financial deepening, the independent variable was captured by four alternative indicators: Liquid Liabilities (LL) as ratio to nominal Gross Domestic Product (GDP); Credit to the Private Sector (CPS) as ratio to nominal GDP;

Commercial Bank Assets as ratio to commercial bank assets plus Central Bank Assets (CCBA); and Commercial Bank Deposits (CBD) as ratio to nominal GDP. The dependent variable, economic growth, was measured by real GDP. All the variables were integrated at level I (1) and the Johansen Jeluisus cointegration test showed evidence of cointegrating equations between GDP and financial deepening indicators. Four models were estimated to determine the long run and short run effects. The study found that banking sector in Kenya has an important role in the process of economic growth. Specifically, the empirical results reveal that liquid liabilities, credit to the private sector, commercial-central bank assets and commercial bank deposits have positive and statistically significant effects on GDP.

The study recommends therefore to reinforce existing policies that would encourage the public to save more money with commercial banks. Increasing the interest rate paid to depositors on their deposits for example, would incite people to save more. In addition, the study recommends the intensification of financial inclusion policies through increased access and usage of formal banking services while reducing banks transaction costs. This would encourage more people to participate in economic activities, to borrow and invest more.

Study by Gries, Kraft, & Meierrieks (2009) sought to establish Linkages between Financial Deepening, Trade Openness and Economic Development in Sub-Saharan Africa. The study tested for causality for 16 Sub-Saharan African countries. The study used principal component analysis to obtain a broad indicator of financial deepening. The study employed unit root and cointegration tests to analyze the properties of the

investigated time series and to identify possible long-run relationships between them. Subsequently employing Hsiao's version of Granger causality testing within a VAR/VECM. The empirical results can be summarized as follows. First, cointegration evidence shows that finance, growth and openness do not share significant long-run relationships for most of the sample. Second, study detected only limited support for causal interactions of financial depth and economic development.

In particular, there is evidence of finance-led growth only in three out of 16 cases. Third, for most countries the study detected either a demand-following or insignificant relationship between finance and growth. We thus provide support for more skeptical views on direct finance-growth linkages. Fourth, study was not able to identify any predominant causal relationship for SSA. Additionally, there is only limited evidence that suggests that either financial deepening has promoted economic development indirectly via influencing trade openness or that openness has enhanced growth as a by product of its impact on financial development.

2.5 Conceptual Frame Work

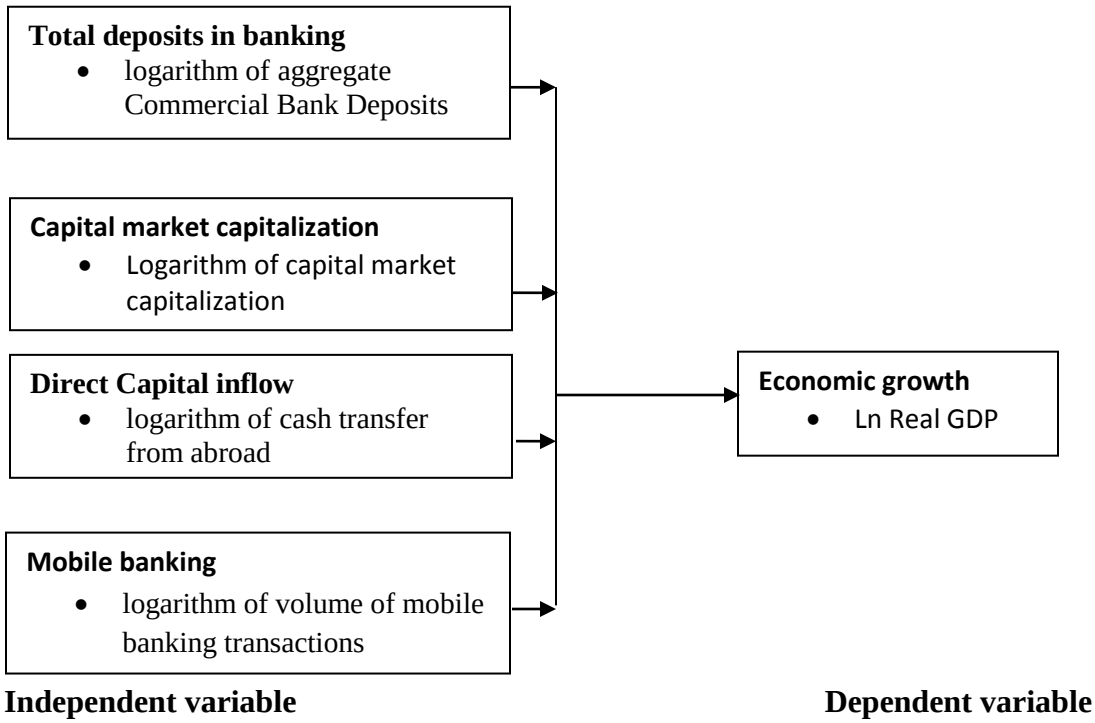

Figure 2. 1: Conceptual framework

The figure 2.1 shows the conceptual framework of the study. The conceptual framework shows the interplay between major variables of the study that is dependent variable and independent variable. The dependent variables were economic growth of Kenya. The independent variable weres financial deepening (total deposits in banking, capital market capitalization, direct capital inflow and mobile banking

2.6 Summary of Literature and Study Gap

The chapter has discussed the major theoretical underpinnings of the study and relevant empirical literature on the relationship between financial deepening and economic growth as moderated by financial efficiency and public debt. The study was based on a number

of theories including Financial Intermediation Theory developed by Akerlof (1970 that the financial system connects depositors and borrowers of funds. the second theory is Shaw's Financial Liberalization Hypothesis by Shaw (1973). According to Shaw (1973), financial deepening hypothesis, financial liberalization tends to raise ratio of private domestic savings to income. Finally, John Maynard Keynes (1936) Keynesian Theory assumes equilibrium with less than full employment where both employment and income are fluctuating, low interest rate as a component of cost administered is detrimental to increase savings and hence investment demand. Finally, the chapter has examined various empirical literature both locally and globally on relationship between financial deepening and economic growth. Even with the studies already done in Kenya, A number of developments are happening in the financial sector that has not been interrogated in the context of financial deepening and economic growth. In 2016, the parliament a passed capping on interest rate charged by commercial banks on loans hence affecting the ability of commercial banks to create credit. Additionally, the last few years has seen a major shift from brick and mortar banking to mobile base banking hence revolutioning the process of financial intermediation greatly in terms of mobile banking loans and other transactions that have a bearing on financial deepening. There is need therefore to address the relationship between financial deepening and economic growth especially by incorporating the role mobile banking, direct capital inflow in financial deepening and economic growth.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This section highlights the methodology that was used in the study. It includes research design, data collection and data analysis methods. Data collected from the Nairobi Securities Exchange, Kenya National Bureau of Statistics, Central Bank of Kenya and World Bank.

3.2 Research Design

Research design adopted for this study was descriptive design. Descriptive approach to this study was the most preferred as the study attempts to investigate what effect financial deepening has on economic growth in Kenya. Descriptive research studies are those studies which are concerned with describing the characteristics of a particular individual, or of a group, whereas diagnostic research studies determine the frequency with which something occurs or its association with something else (Kothari, 2004)

3.3 Data Collection

Secondary data was used in this study. The data on capital market capitalization was sourced from Nairobi Securities Exchange. Data on cash transfer from abroad, mobile banking transactions, commercial bank deposits was sourced from Central Bank of Kenya websites whereas data on real economic growth (GDP) and direct capital inflow was sourced from Government of Kenya through Kenya National Bureau of Statistics (KNBS) as well as World Bank development indicators. The study population was quarterly data for 11 years giving a total of 44 observations per variable.

3.4 Data Analysis

The study used both descriptive and inferential statistics in analyzing the data. First, data collected was sorted, classified and collated. Descriptive statistics such as mean and standard deviation for each variable were calculated and tabulated using tables and inferential statistics. The STATA computer software was used in the analysis of data. Data was analysed using inferential statistics inform of regression and correlation analysis. To measure the effect of financial deepening on economic growth of Kenya the researcher used regression analysis. The effect was examined at 95% confidence level while employing student t test.

3.5 Analytical Model

The study adopted a multivariate regression model to determine the effect of financial deepening on economic growth to regress the independent variables against the dependent variable. The general form of a multiple regression model is as given below:

$$\mathbf{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)}$$

Where:

Y= Dependent variable is Gross Domestic Product Growth rate: Measured using Nominal GDP growth rate.

X_1, X_2, X_3 and X_4 = Independent Variables used as proxies of financial deepening.

$\mathbf{X_1}$= Total deposits of banking industry: Natural logarithm of aggregate deposits in the commercial banking sector.

$\mathbf{X_2}$= Capital market Capitalization: Natural logarithm of capitalization of the Nairobi stock exchange.

$\mathbf{X_3}$= mobile banking innovation: Natural logarithm of the total commercial banking mobile banking transactions volume.

$\mathbf{X_4}$ = Direct capital inflow: Natural logarithm of total cash transfers from abroad.

$\boldsymbol{\beta_0}$: Intercept term measuring level of economic growth when financial deepening is held constant.

$\boldsymbol{\beta i}$: Coefficients of independents variables measuring the responsiveness of economic growth due to a percentage change in financial deepening proxies.

ε : Stochastic Term that captures other variables that also affects economic growth which are not part of the model.

3.6 Diagnostic Tests

The data was subjected to diagnostic tests to evaluate conformity with multiple regression model assumptions. This would ensure validity of the results. The study employed normality, heteroscedasticity, multicollinearity, serial correlation and unit root diagnostic tests.

3.6.1 Normality Test

The test is conducted to test whether data exhibits a normal distribution. If the data is not normally distributed, it may not display the correct relationship between variables studied (Garson, 2012). The study employed Shapiro-Wilk test to test normality. The test is most appropriate for a sample size of 50 or less. The choice of this test is informed by the small number of samples to be studied. Data is normal if the significance values for Shapiro-Wilk tests are greater than P-Value statistic test of 0.05. A value below 0.05 depicts the data is not normally distributed.

3.6.2 Heteroscedasticity Test

Gujarati (2003) described heteroscedasticity as lack constant error variance. The study used Breusch-Pagan / Cook-Weisberg test by using the regression residual value of the independent variables. There is no heteroskedasticity if the significance values are greater than the P-value statistics test of 0.05.

3.6.3 Multicollinearity

Kothari (2004) postulates that multicollinearity exists if there is an association of independent variables. Therefore, independent variables ought to be linearly independent of each other. Cooper and Schindler (2006) asserts the existence of multicollinearity leads to invalid significance tests due to the distorted regression coefficients. The study employed Variance Inflation Factor (VIF) to test the existence of multicollinearity. If VIF is less than 5, then there is no existence of multicollinearity (Gujarati, 2003).

3.6.4 Serial Correlation

Gujarati (2003) posit that serial correlation exists if an error term of one period is correlated with that of subsequent periods. The study used Wooldridge Drukker test to test existence of autocorrelation. Data has no serial correlation if P value is greater than the 5% level of significance.

3.6.5 Unit Root Test

Unit root test is conducted to ensure that the variables are stationary. Gujarati (2003) posit that a data has no unit roots if the variance, autocorrelation and mean of the data structure do not vary with different time periods. Wooldridge (2012) asserted that stationarity ensures that the regression results are not spurious thereby guaranteeing robust regression results. The study employed Augmented Dickey Fuller (ADF) unit root test to evaluate the availability of unit roots in the data. If P-Value is greater than 5% level of significance, it implies the data is not stationary i.e. availability of unit roots.

CHAPTER FOUR: DATA ANALYSIS AND PRESENTATION

4.1 Introduction

This chapter presents the findings of the study. The study sought to analyse the financial deepening on economic growth in Kenya. The research findings were computed from secondary data collected from different sources including Central bank, Kenya Bureau of Statistics and Nairobi Securities Exchange. The findings were analysed beginning with descriptive statistical analysis followed by inferential statistical analysis.

4.1.1 Response Rate

The study initially targeted to collect data on financial deepening and economic growth in Kenya. The study targeted quarterly data for 18 years beginning 2000-2017 but due to fact that data on mobile banking was only available from 2007 to 2017 accounting for 11 years.

4.2 Descriptive Analysis

The aim of the descriptive statistics was to describe the general distributional properties of the data, to identify any unusual observations or any unusual patterns of observations that may cause problems for later analyses to be carried out on the data. Thus, initial exploration of the data using simple descriptive tools was provided to describe and summarize the data generated for the study. This section provides the descriptive statistics as per the objectives of the study. That is effect of financial deepening (Direct transfers, Mobile banking, Banking deposits and capital market capitalization) on economic growth in Kenya as shown in Table 4.1.

Table 4. 1: Summary of Descriptive Statistics

Statistics	Direct capital inflow	Mobile banking	GDP	Banking deposits	Capitalization
Minimum	42685.79	0.064391	315849	983.2	689.045
Maximum	188168.3	301.63	1150141	2845.3	2447.72
mean	93827.41	135.2931	660790.4	2234.2	1521.20959
standard Dev	39782.04	106.4297	335411.7	465.7	671.400264
Obs	44	44	44	44	44

4.2.1 Direct Capital Inflows

The researcher wanted to establish the central tendency and distribution of direct capital Inflows in Kenya. Direct capital inflows capture the finances received from abroad into domestic economy. The results are presented in table 4.1. The mean direct capital transfers was Ksh. 93827.41 million suggesting that the average quarterly direct capital inflow from aboard was about Ksh. 93827 millions. The standard deviation for quarterly direct capital inflow was Ksh. 39782.04 demonstrating that direct capital inflows was spreads around the mean with about Ksh.3978 Millions. The minimum quarterly direct capital inflow was ksh. 42685.79 million and the maximum quarterly direct capital inflow was ksh.188168.3 Million.

4.2.2 Mobile Banking

The researcher also sought to establish the central tendency and distribution of mobile banking. Mobile banking was measured by value of mobile banking transactions. The results are presented in table 4.1. The mean quarterly mobile banking was Ksh. 135.2931

billion suggesting that the average mobile banking was about ksh.135 billion. The standard deviation for quarterly mobile banking was Ksh.106.4297 billion demonstrating that mobile banking was spreads around the mean with about ksh 106 billion. The minimum quarterly mobile banking was ksh.0.064391 billion and the maximum mobile banking was Ksh. 301.63 billion.

4.2.3 Capital Market Capitalization

The researcher also sought to establish the central tendency and distribution of capital market Capitalization. The capital capitalization was measured by the value of all publicly was measured by value of mobile banking transactions. The results are presented in table 4.1. The mean quarterly capitalization was Ksh.1521.209 billion suggesting that the average capital market capitalization was about ksh.1,521 billion. The standard deviation for quarterly capital market capitalization was Ksh. 671.400264 billion demonstrating that capital market was spreads around the mean with about ksh 671 billion. The minimum quarterly market capitalization was ksh. 689.045 billion and the maximum market capitalization was Ksh. 2,447.72 billion.

4.2.4 Banking Deposit

The study also attempted to examine the central tendency and distribution of banking deposits in Kenya. The results are presented in table 4.1. The mean banking deposits was ksh. 2234.2 billion Suggesting that the average banking deposits was about 2.3 trillion. The standard deviation for the quarterly banking deposits was Ksh. 465.7 Billion in Kenya and was spreads around the mean with about Ksh. 466. The minimum and

maximum quarterly commercial banking deposits was Ksh.983.2 billion and ksh. 2845.3 billion Respectively.

4.2.5 Economic Growth

The research also sought to establish the central tendency and distribution of economic growth in Kenya. The proxy for Economic growth was real GDP for Kenya. The results are presented in table 4.1. The mean quarterly economic growth was Ksh. 660,790.4 million suggesting that the average economic growth was about Ksh. 661 billion. The standard deviation quarterly economic growth was Ksh. 335411.7 million demonstrating that quarterly economic growth was spreads around the mean with about Ksh. 335412 million. The minimum quarterly economic growth was Ksh. 315849 million and the maximum quarterly economic growth was Ksh. 2845.3 million.

4.3 Correlation Analysis

The researcher carried out correlations to assist explains the relationship between independent variable financial deepening and dependent variable economic growth. The researcher used Pared Pearson Correlation to establish the relationship as shown in table 4.2.

Table 4. 2: Correlation Analysis

	Cap inflow	Mobile	Deposits	CAP	GDP
Transfers	1				
	44				
Mobile	0.8235*	1			
	0				
	44	44			
Deposits	0.0828	0.2113	1		
	0.5932	0.1686			
	44	44	44		
CAP	0.8077*	0.7861*	0.1071	1	
	0	0	0.4889		
	44	44	44	44	
GDP	0.9176*	0.7215*	0.1407	0.9593*	1
	0	0	0.3623	0	
	44	44	44	44	44

*. Correlation is significant at the 0.05 level (2-tailed).

Independent variables: direct capital inflows, mobile banking, banking deposits, market capitalization and

Dependent variable: economic growth

The researcher wanted to establish the Pairwise correlation between variables used in the study. Pairwise Pearson correlation coefficients were calculated at 0.05 level of significance. There was a statistically significant positive correlation between direct capital transfers and economic growth ($r = 0.9176^*$ $p = 0$ and $\alpha = 0.05$).

Mobile banking was positive and statistically correlated with economic growth ($r = 0.7215$, $p = 0$ and $\alpha = 0.05$).

There was positive statistically insignificant correlation between bank deposits and economic growth ($r = 0.1407$, $p = 0.3623$ and $\alpha = 0.05$).

The relationship between capital market capitalization and economic growth was positive and statistically significant ($r = 0.9593$, $p = 0.$ and $\alpha = 0.05$).

4.4 Diagnostic Tests

Panel data was subjected to diagnostic tests to evaluate conformity with multiple regression model assumptions. This ensured validity of the results. The study employed normality, heteroscedasticity, multicollinearity, serial correlation and unit root diagnostic tests.

4.4.1 Normality Test

The test is conducted to test whether data exhibits a normal distribution. If the data is not normally distributed, it may not display the correct relationship between variables studied (Garson, 2012). The study employed Shapiro-Wilk test to test normality.

Table 4. 3: Shapiro-Wilk Test to Test Normality

Variable	Obs	W'	V'	z	Prob>z
Direct capital Inflows	44	0.91578	3.972	2.587	0.00485
Mobile	44	0.79247	9.788	4.278	0.00001
Deposits	44	0.88966	5.204	3.093	0.00099
CAP	44	0.8885	5.259	3.113	0.00093
GDP	44	0.76983	10.856	4.472	0.00001

From table 4.3, one rejects the null hypothesis H_0 direct capital Inflows ($p = 0.00485$), Mobile banking ($p = 0.00001$), bank Deposits ($p = 0.00099$) Capital market capitalization ($p = 0.00093$) and economic growth (0.00001). This owes to p-values lower than 0.05.

The data seems not normal since the sample size was small however, this cannot affect the estimation of coefficient of explanatory variables used in the study.

4.4.2 Heteroscedasticity Test

Gujarati (2003) described heteroscedasticity as lack constant error variance. The study utilized Breusch-Pagan / Cook-Weisberg test for heteroskedasticity test by using the regression residual value of the independent variables. There is no heteroskedasticity if the significance values are greater than the P-value statistics test of 0.05. The results are shown in table 4.4

Table 4. 4: Breuch-Pagan Test

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of GDP
chi2(1) = 0.97
Prob > chi2 = 0.3255

There is no heteroskedasticity if the significance values are greater than the P-value statistics test of 0.05. The results show that p value was greater than chi2 hence the hypothesis that variances are constant was accepted thus, it can be concluded that there was no heteroscedasticity.

4.4.3 Multicollinearity

The study employed Variance Inflation Factor (VIF) to test the existence of multicollinearity. If VIF is less than 5, then there is no existence of multicollinearity (Gujarati, 2003). The results are shown in table 4.5.

Table 4. 5: Variance Inflation Factor

Variable	VIF	1/VIF
Direct Capital Inflows	2.06	0.485437
CAP	2.84	0.352113
Mobile	3.39	0.294985
Deposits	1.08	0.925926
Mean VIF	2.3425	

O‘Brien (2007) suggested that a Variance Inflation Factor (VIF) greater than 5 are a sign of multicollinearity; the higher the value of VIF's, the more severe the problem. Results in table 4.5 show that all the variables had a variance inflation factors (VIF) of less than 5 and overall VIF of 2.3425. These results show that multicollinearity problem was very low.

4.4.4 Serial Correlation

Gujarati (2003) posit that serial correlation exists if an error term of one period is correlated with that of subsequent periods. The study used Wooldridge Drukker test to test existence of autocorrelation. A data has no serial correlation if P value is greater than the 5% level of significance. The results are shown in table 4.6.

Table 4. 6: Autocorrelation Tests

Wooldridge test for autocorrelation
H0: no first order autocorrelation
F(1, 10) = 0.332
Prob > F = 0.5770

The value of P was greater than the 5% level of significance. The results are shown in table 4.6. The study therefore concludes that the was no serial correlation problem and thus error term of one period is correlated with that of subsequent periods.

4.4.5 Unit Root Test

Panel unit root test is conducted to ensure that the variables are stationary. Gujarati (2003) posit that a data has no unit roots if the variance, autocorrelation and mean of the data structure do not vary with different time periods. Wooldridge (2012) asserted that stationarity ensures that the regression results are not spurious thereby guaranteeing robust regression results. The study employed Augmented Dickey Fuller (ADF) unit root test to evaluate the availability of unit roots in the data. If P-Value is greater than 5% level of significance, it implies the data is not stationary i.e. availability of unit roots. Results is shown in table 4.7.

Table 4. 7: Augmented Dickey Fuller Unit Root

Variable Name	Statistic (Adjusted)	P-Value	Comment
Banking deposits	-9.1936	0.000	Stationary
Capital market capitalization	-25.2806	0.000	Stationary
Mobile banking	-14.6408	0.000	Stationary
Direct capital inflows	-18.2333	0.000	Stationary

All the values of P were less than 5% level of significance, it implies the data is stationary i.e. absence of unit roots. Results is shown in table 4.7

4.5 Regression Analysis

Regression analysis was multiple in natures as there were four independent variables. The independent variables were direct capital transfers, mobile banking, bank deposits and capital market capitalization. The dependent variable was economic growth measured by Real GDP. Multiple regression analysis involved calculation of coefficient of determination, Analysis of Variances (ANOVA) and regression coefficients.

Table 4. 8: OLS Regression Analysis

Source	SS	df	MS	Number of obs =	44
		F(4, 39) =			184.88
Model	11.2905935	4	2.82264838	Prob > F =	0
Residual	.595416423	39	.015267088	R-squared =	0.9499
		Adj R-squared =			0.9448
Total	11.8860099	43	.276418836	Root MSE =	0.12356

GDP	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Cap Inflows	.4853428	.1112539	4.36	0.000	.2603105	0.710375
Mobile	.0621813	.0178975	3.47	0.001	.0983824	0.0259801
Deposits	.0085088	.0042794	1.99	0.054	.0001471	0.0171647
CAP	.8682275	.0996484	8.71	0.000	.6666696	1.069785
_cons	1.662703	.8293403	2.00	0.052	-.0147961	3.340202

4.5.1 Coefficient of Determination and ANOVA

Tables 4.8 indicate that the model explains only 94.48% of the variations in Economic growth (GDP) as shown by the coefficient of determination (R^2) value of 0.9448 hence only 5.52 % Variations in economic growth is explained by other factors not included in the model. It is therefore clear that financial deepening explains only 94.448 % variations in economic growth. According to table 4.8 the overall significance of the model was 0.000 with an F value of 184.88. The level of significance was lower than 0.05 and this

means that financial deepening do show statistically significant effect on economic growth in Kenya (GDP).

4.5.2 Coefficients of Independent Variables

Table 4.8 further shows the coefficients of independent variable financial deepening proxies and the values of p and values of t. The model was thus estimated as

GDP = 1.662703 + .4853428 Direct capital inflows **+ .0621813** Mobile banking **+ .0085088** bank deposits **+ .8682275** Capital market capitalization**.**

The estimated model above shows the causal effect relationship between the independent variable financial deepening and dependent variable Economic Growth of Kenya. The estimated intercept term 1.662703 shows the level of economic growth in terms of Real Economic Growth when the independent variables are held constant. The coefficients estimate of the model are explained in details in the following discussion. The researcher established that banking deposits had a statistically insignificant effect on economic growth measured by GDP ($\beta 1 = .0085088$, $p = 0.054 > \alpha = 0.05$).

Capital market capitalization had a statistically significant effect on economic growth ($\beta 2 = .8682275$, $p = .000 < \alpha = 0.05$).

Mobile banking had a statistically significant effect on economic growth ($\beta 3 = .0621813$, $p = 0.001 < \alpha = 0.05$).

Finally, direct capital Inflows had a statistically significant effect on economic growth ($\beta 4 = .4853428$, $p = .000 < \alpha = 0.05$).

4.6 Discussion of Findings

The section presents the interpretation of findings based on regression analysis. The section is arranged in terms of components of financial deepening and how they relate to economic growth of Kenya in the study period.

4.6.1 Banking Deposits on Economic Growth

The researcher established that banking deposits had no significant effect on economic growth of Kenya using regression analysis it was established that real GDP that was used as proxy of banking deposits had a statistically insignificant effect on economic growth measured by GDP ($\beta 1 = .0085088$, $p = 0.054 > \alpha = 0.05$). The value $\beta 1$ was positive showing that increase in banking deposits leads to increase in economic growth in Kenya however the effect was not statistically significant implying the relationship between banking deposits is not strongly associated with economic growth of Kenya. The insignificant effect could be explained by the fact that it is not enough to generate savings that lie idle in commercial banking institutions. For savings to contribute to meaningful economic growth, the funds need to be invested in economic activities. The coefficient of banking deposits ($\beta 1$) measures the responsiveness of economic growth to change in banking deposits. Any increase in banking deposits by one unit should lead to increase in economic growth by .0085088 units.

4.6.2 Capital Market Capitalization on Economic Growth

Using OLS regression analysis, it was established that Capital Market capitalization had a statistically significant effect on economic growth measured by GDP ($\beta 2 = .8682275$, $p = .000 < \alpha = 0.05$). The value of coefficient of capital market capitalization ($\beta 2$) was

positive showing that any increase in capital market capitalization should lead to economic growth. The relationship was statistically significant implying that when the activities at the capital market in enhanced and the number of firms trading their shares at the capital market improves their likely to be positive economic growth. The value of coefficient of capital market capitalization shows that for every one-unit increase in capital market capitalization, Economic growth increases by .8682275 units.

4.6.3 Mobile Banking on Economic Growth

The researcher also sought to establish the effect of mobile banking on economic growth finding that mobile banking had a statistically significant effect on economic growth ($\beta 3 = .0621813$, $p = 0.001 < \alpha = 0.05$). The value $\beta 3$ was positive showing that any increase in mobile banking leads to economic growth in Kenya. The effect was statistically significant implying that mobile banking is a major contributor to economic growth of Kenya and that mobile banking leads to improved economic growth by allowing economic units access to financial services including deposits, transfer of money, payment of transactions and credit, all this mobile banking services have the potential of stimulating economic growth. The value of coefficient of mobile banking shows that for every one unit increase in mobile banking activities, the rate of economic growth increases by .0621813 units.

4.6.4 Direct capital Inflows on Economic Growth

The study established that Direct capital inflows had a statistically significant effect on economic growth measured by GDP ($\beta 4 = .4853428$, $p = .000 < \alpha = 0.05$). The value $\beta 4$ was positive showing that Increase in direct capital inflow from abroad leads to improved

economic growth in Kenya. The effect of direct capital inflow was statistically significant implying that inflow of funds from abroad inform of foreign investment, transfers from Kenyan citizens living abroad and repatriation of profits back home from Kenyan firms abroad leads to improved financial deepening as more funds are made available for investment purposes that should translate to economic in Kenya. The value of the coefficient of direct capital inflows shows that for every one unit increase in direct capital inflow leads to improved economic growth by .4853428 units.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

The aim of the study was to evaluate the effect of financial deepening on economic growth of Kenya. The data was analysed inform of descriptive and inferential statistics. This chapter covers the summary, conclusion, recommendation and areas of further research.

5.2 Summary of Findings

There was positive correlation between bank deposits and economic growth ($r = 0.1407$, $p = 0.3623$ and $\alpha = 0.05$) and in addition, banking deposits had a statistically insignificant effect on economic growth measured by GDP ($\beta1 = .0085088$, $p = 0.054 > \alpha = 0.05$). The coefficient of banking deposts ($\beta1$) measures the responsiveness of economic growth to change in banking deposits shows that any increase in banking deposits by one unit should lead to increase in economic growth by .0085088 units.

The relationship between capital market capitalization and economic growth was positive ($r = 0.9593$, $p = 0.$ and $\alpha = 0.05$). Moreover, Capital market capitalization had a statistically significant effect on economic growth ($\beta2 = .8682275$, $p = .000 < \alpha = 0.05$). The value of coefficient of capital market capitalization shows that for every one-unit increase in capital market capitalization, Economic growth increases by .8682275 units.

Mobile banking was positively correlated with economic growth ($r = 0.7215$, $p = 0$ and $\alpha = 0.05$) and Mobile banking had a statistically significant effect on economic growth ($\beta3 = .0621813$, $p = 0.001 < \alpha = 0.05$). The value of coefficient of mobile banking shows that

for every one unit increase in mobile banking activities, the rate of economic growth increases by .0621813 units.

Finally, there was a positive correlation between direct capital transfers and economic growth ($r = 0.9176^*$ $p = 0$ and $\alpha = 0.05$). In a addition, direct capital Inflows had a statistically significant effect on economic growth ($\beta 4 = .4853428$, $p = .000 < \alpha = 0.05$). The value of the coefficient of direct capital inflows shows that for every one unit increase in direct capital inflow leads to improved economic growth by .4853428 units.

5.3 Conclusion

Given the fact that banking deposits had a statistically insignificant effect on economic growth measured by GDP. The study concludes that banking deposits had a weak effect on economic growth due to the fact that it is not enough to generate savings that lie idle in commercial banking institutions. For savings to contribute to meaningful economic growth, the funds need to be invested in economic activities. Given that Capital Market capitalization had a statistically significant effect on economic growth, the study concludes that there was a strong relationship between capital market capitalization and economic growth and that enhanced number of firms trading their shares at the capital market improves their likely to be positive economic growth.

Given that the findings showed that mobile banking had a statistically significant effect on economic growth, the study concludes that that mobile banking is a major contributor to economic growth of Kenya and that mobile banking leads to improved economic growth by allowing economic units access to financial services including deposits, transfer of money, payment of transactions and credit. Finally, given that Direct capital

inflows had a statistically significant effect on economic growth the study concludes that that direct capital inflow has a major and strong relationship with economic growth since funds from abroad leads to improved financial deepening as more funds are made available for investment purposes that should translate to economic in Kenya.

The current study has roots in the empirical literature. Study by Nwanna and Chinwudu (2016) established that both banks based and stock market financial deepening proxies has significant and positive effect on economic growth and that the banking sector and stock market in Nigeria has an important role in the process of economic growth. Paper by Bakang (2015) revealed that liquid liabilities, credit to the private sector, commercial-central bank assets and commercial bank deposits have positive and statistically significant effects on GDP. Study by Gries, Kraft, & Meierrieks (2009) detected only limited support for causal interactions of financial depth and economic development.

5.4 Recommendations

Based on the findings and conclusions of the study, a number of recommendations can be made. Given that banking deposits leads to increase in economic growth in Kenya and that relationship between banking deposits is not strongly associated with economic growth of Kenya. The study recommends that government should not just focus on savings mobilization in the economy rather they should focus on policies and strategies that translate savings to investments. For savings to contribute to meaningful economic growth, the funds need to be invested in economic projects.

Given that the relationship between capital market capitalization was statistically significant implying that when the activities at the capital market in enhanced and the

number of firms trading their shares at the capital market improves their likely to be positive economic growth. The study recommends that the government should continue strengthening the capital market by putting in place supportive business environment that encourages the setup of companies that may list their shares at the Nairobi securities exchange. The government through capital market authority should put in policies to attract capital into the capital market.

Due to the fact that mobile banking had a statistically significant effect on economic growth, the study concluded that mobile banking is a major contributor to economic growth of Kenya. The study recommends that the government of Kenya through the central bank and communication authority should continue strengthening mobile banking. A strong mobile banking should lead to improved economic growth by allowing economic units access to financial services including deposits, transfer of money, payment of transactions and credit.

Finally, given that Direct capital inflows had a statistically significant effect on economic growth and the conclusion that direct capital inflows was strongly related with economic growth. The study recommends to the government to continue putting in place policies that encourage improved capital inflows from abroad. The inflow of funds from abroad in the form of foreign investment, transfers from Kenyan citizens living abroad and repatriation of profits back home from leads to improved financial deepening as more funds are made available for investment purposes that should translate to economic in Kenya.

5.5 Areas for Further Studies

The current study on effect of financial deepening on economic growth of Kenya was successfully carried out. However, a number of gaps remain for future studies. Future studies should regress economic growth against lagged values of proxies of financial deepening. Additionally, Future studies should use a variety of proxies of financial deepening to establish if the findings hold.

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APPENDICES

Appendix I: Data Collection Sheet

	GDP	Total banking deposits	NSE capitalization	Volume of mobile banking transactions	Total transfers from abroad
2017					
2016					
2015					
2014					
2013					
2012					
2011					
2010					
2009					
2008					
2007					
2006					
2005					
2004					
2003					
2002					
2001					
2000					

Appendix II: Variables

Transfers	Mobile	Deposits	CAP	GDP	time
11.879	5.70273	14.3198	7.80291	13.9169	1
11.7816	5.50061	5.34474	7.63223	13.8402	2
11.9009	5.7092	14.2063	7.80227	13.9278	3
11.9328	5.70897	7.54916	7.80254	13.9386	4
12.1451	5.70255	4.42523	7.80062	13.9554	5
11.8388	5.66226	8.42968	7.80209	13.8689	6
11.8889	5.60915	4.32764	7.80275	13.8827	7
11.8603	5.66196	4.87622	7.80283	13.893	8
11.9121	5.70388	6.5868	7.80279	13.9047	9
11.7067	5.37914	3.35215	7.80173	13.8127	10
11.7741	5.41138	2.71358	7.74148	13.8238	11
11.8053	5.53372	5.63176	7.62537	13.8549	12
11.641	5.20028	10.4886	7.60114	13.7531	13
11.6646	5.25525	17.4374	7.65287	13.7734	14
11.7316	5.32147	15.8801	7.7389	13.7843	15
11.7092	5.36139	16.5733	7.74069	13.7946	16
11.5416	4.93741	14.1357	7.37763	13.7091	17
11.5616	5.01922	10.6038	7.38911	13.7196	18
11.6001	5.10887	9.75642	7.49045	13.7317	19
11.6368	5.17992	7.97881	7.56045	13.7402	20
11.5127	4.77869	5.53503	6.84673	12.8818	21
11.4999	4.8143	3.67418	6.95532	12.8954	22
11.4442	4.87099	3.32946	7.05271	12.9137	23
11.4954	4.95777	3.84338	7.14835	12.928	24
11.0896	4.38521	7.04909	6.99413	12.8396	25
11.1566	4.51124	13.1629	7.02237	12.8523	26
11.2781	4.65634	16.5125	6.78623	12.8678	27
11.32	4.72895	19.187	6.76647	12.8795	28
10.7779	3.94148	16.8574	6.89073	12.7892	29
10.8615	4.02531	11.7655	7.0109	12.817	30
10.8918	4.15789	6.37274	7.06791	12.8287	31
11.0049	4.28557	3.52573	7.06218	12.833	32
10.808	1.76837	4.07862	6.53531	12.7718	33
10.7765	1.92499	4.36685	6.71145	12.7588	34
10.8822	2.04367	6.99562	6.64848	12.759	35
10.8692	2.15431	7.4224	6.72643	12.7546	36
10.9069	1.67562	6.7757	6.68121	12.7123	37
10.9205	2.3096	7.03344	7.11532	12.7394	38
10.7253	2.81428	7.53679	6.87963	12.7442	39
10.7873	3.15403	6.17647	6.74979	12.7424	40
10.6691	-2.74279	5.81665	6.54667	12.663	41
10.6616	-0.74465	6.99432	6.61191	12.7116	42
10.9609	0.45213	6.14205	6.67413	12.7323	43
10.7778	1.21538	7.35121	6.74657	12.7361	44