THE RELATIONSHIP BETWEEN FINANCIAL INCLUSION AND GDP GROWTH

IN KENYA

BY

ORUO JULIE

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DECLARATION

This Research Project is my original work and has not been presented in any other University.

Signed…… Date ……..

ORUO JULIE

D61/67890/2011

This Research project has been submitted for presentation with my approval as University Supervisor.

Signed…….. Date ……

Supervisor: Dr. Josiah Aduda

Department of Finance and Accounting

School of Business, University of Nairobi

DEDICATION

The research project is dedicated to my lovely family.

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I wish recognize a number of individuals who contributed to the successful completion of this research project.

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ABSTRACT

Financial inclusion is a necessary condition for financial deepening, which helps to address the basic issue of growth with equity. Financial inclusion is a step toward inclusive development. The financial system in Kenya still remains under-developed as compared to other developing economies. With the invention of mobile money, Kenya has experienced positive growth in the financial sector in the recent decade. The objective of this study was to determine the relationship between financial inclusion and economic growth in Kenya.

The study adopted a descriptive research design which is concerned with the what, where and how of a phenomenon hence more placed to build a profile on that phenomenon. The study used secondary data collected from various sources including Kenya National Bureau of Statistics while data and the Central Bank of Kenya. The study period was 2002/2003-2011/2012 financial periods. The study used annual data because economic growth was determined annually. In order to determine the relationship between financial inclusion and economic growth in Kenya, the researcher conducted a multiple regression analysis.

This study concludes that economic growth in Kenya has a strong positive relationship with financial inclusion in Kenya. Economic growth has a strong positive relationship with branch networks and a weak positive relationship with the number of mobile money users/accounts. On the other hand economic growth has a weak negative relationship with the number of automated teller machines in the country and a strong negative relationship with the bank lending interest rates. A branch network has the highest influence on the economic growth followed by number of mobile money users/accounts then the number of automated teller machines in the country and bank lending interest rates. There is continuous economic growth in Kenya and that the economic growth and that the number of automated teller machines, number of mobile money users as well branch networks is on increase. This study recommends that the policy makers should come up with legislation that will prevent such occurrences in the future.

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CHAPTER ONE
INTRODUCTION

1.1. Background of the Study

Financial inclusion is a state in which all people have access to appropriate, desired financial products and services in order to manage their money effectively (Leyshon and Thrift, 1995). Sinclair (2001) defines financial exclusion as the inability to access necessary financial services in an appropriate form. Exclusion can come about as a result of problems with access, conditions, prices, marketing or self-exclusion in response to negative experiences or perceptions. Access to finance by the poor and vulnerable groups is an integral part of our efforts to promote inclusive growth because of by providing access to finance is a form of empowerment of the vulnerable groups. It is achieved by financial literacy and financial capability on the part of the consumer and financial access on the part of product, services and advice suppliers (Transact, the national forum for financial inclusion, 2007). The effort of all institutions both financial and developmental is aimed at encouraging inclusion. The use and access of financial services has been at the stem of study for major regulatory financial institutions. Some developed countries report annually on the level of access of finance for economic and social developments. Technology is gaining grounds on banking services through the use of ICT devices. Some of the various ways of encouraging and ensuring financial inclusion is in the circulation of deposit accounts, loans, insurance and automated electronic transfers.

In the present day, financial inclusion affect the degree to which a person's economic opportunities are determined by individual skill, initiative, social status and political connections. The financial system influences an individual's ability to a start business and pay for education. It also influences one's ability to realize their economic goals therefore shaping the gap between the rich and the poor and the degree to which the gap persist across generations. By affecting the distribution of capital, finance can change both the rate of economic growth and the demand for labor, with implications on poverty and income distribution (Demirguc-Kunt and Levine, 2009).

Financial systems that functions well are key to a country's economic well-being as they offer savings, credit, payment, and risk management products to people with a variety of needs. By allowing a wide variety and easily accessible financial services with no prices or non-price barriers, poor people are likely to benefit as they would not rely on their own savings to invest in their education or start business in pursuit for growth opportunities. Use of personal savings as form of investment contributes to persistent income inequality and slows economic growth (King and Levine, 1993).

1.1.1 Financial Inclusion

Financial inclusion which is also referred to as banking sector outreach can be defined broadly as the process of availing an array of required financial services, at a fair price, at the right place, form and time and without any form of discrimination to all members of the society (Sarma and Pais, 2011). The objectives of financial inclusion include advantaging the poor majority of who do not use formal financial services. Financial Inclusion is an intervention strategy that seeks to overcome the market friction that hinders the markets from operating in favor of the poor and underprivileged. Financial inclusion offers incremental and complementary solutions to tackle poverty, to promote inclusive development and to address MDGs (Sarma, 2010). It aims at drawing the unbanked population into the formal financial system so that they have the opportunity to access financial services ranging from savings, payments, and transfers to credit and insurance.

1.1.2 The Concept of GDP Growth

Economic growth is defined as 'a rise in the total output (goods or services) produced by a country'. It is an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. Economic growth occurs whenever people take resources and rearrange them in ways that are more valuable. Economic growth refers only to the quantity of goods and services produced; it says nothing about the way in which they are produced. Economic growth can be measured in nominal terms, which include inflation, or in real terms, which are adjusted for inflation i.e. by the percent rate of increase in the gross domestic product (GDP). Economic

growth measures growth in monetary terms and looks at no other aspects of development (Ayres, Robert, Warr, and Benjamin 2006).

Economic growth can be either positive or negative. Negative growth can be referred to by saying that the economy is shrinking. Negative growth is associated with economic recession and economic depression. Gross national product (GNP) is sometimes used as an alternative measure to gross domestic product. In order to compare multiple countries, the statistics may be quoted in a single currency, based on either prevailing exchange rates or purchasing power parity. Then, in order to compare countries of different population sizes, the per capita figure is quoted. To compensate for changes in the value of money (inflation or deflation) the GDP or GNP is usually given in "real" or inflation adjusted, terms rather than the actual money figure compiled in a given year, which is called the nominal or current figure (Ayres and Benjamin, 2006). King and Levine (1993) and Beck et al (2000) suggest that financial systems are important for productivity, growth and development. Well-functioning institutions and markets, it is noted, augment technological innovation, capital accumulation and therefore economic growth. They also note that well-functioning financial markets lower the costs of transaction increasing the amount of savings put into investment. They also allows for capital to be allocated to projects that yield the highest returns and therefore enhance GDP growth rates.

1.1.3 The Relationship between Financial Inclusion and GDP Growth

Financial inclusion is important for GDP growth and reducing inequality and poverty in any country. The transformative power of financial inclusion in should not be under estimated because improved access to finance by poor households and micro enterprises can unlock income earning opportunities and self-reliance for many hence positively impact economic development of a nation. Proponents of financial inclusion opine that financial exclusion leads to loss of opportunity to grow, a retarded country's growth and increased poverty levels. According to Sinclair, McHard, Dobbie, Lindsay and Gillespie (2009) exclusion from the financial system brings real and rising costs, often borne by those who can least afford them.

A well-developed financial system accessible to all reduces information and transaction costs, influences saving rates, investment decisions, technological innovation, and the long-run growth rates (Beck et al. 2009 as cited by Kumar and Mishra. This may be contested on the basis of the numerous customers with opaque information characteristics under flexible rules, who are the financial inclusion initiative target.

According to Kempton et. al (2000) social exclusion has clear links with poverty, disadvantage and deprivation and is a much broader concept which is a shorthand term for what can happen when people or areas suffer from a combination of linked problems such as unemployment, poor skills, low incomes, poor housing, high crime environments, bad health, poverty and family breakdown. Social exclusion brings about social classes and divisions. The included become fearful and distrustful of the excluded and vice versa culminating to polarized societies that are unhealthy for the economy. In such cases the rich areas and people tend to get richer and poor areas and people poorer. Therefore financial inclusion can be instrumental in bridging the gap between the included and excluded and the rich and the poor. This means that financial inclusion should not be dealt with in isolation but in line with other socioeconomic, cultural and geographic aspects. Despite this knowledge on the effects of financial exclusion, financial inclusion has not been fully realized as evidenced by the size of the financially excluded, that is, those lacking access to formal financial services.

1.1.4 Financial Inclusion and GDP Growth in Kenya

The financial system in Kenya has grown rapidly in the last decade. Though the largest in East Africa, it has failed to provide adequate access to banking services to the bulk of the population and lending is skewed in favor of large private and public enterprises in urban areas. This is evidenced by distribution of bank branches at 93 percent in urban and rural areas and 7 percent in arid and semi-arid areas (Beck, Cull, Fuchs, Getenga, Gatere, Randa, Trandafir, 2010). This data demonstrates that there is exclusion and that the poorer sections of the society, who are found in rural and arid and semi-arid areas, have not been able to access adequately financial services. This is despite the laudable reports on the state of financial inclusion in Kenya.

Levels of financial inclusion have increased in Kenya though marginally as revealed by FinAccess (2006), and Ndii (2009). FinAccess (2006) revealed that the level of financial exclusion has fallen from 38.4 percent to 32.7 percent of the population. The study found that the usage of banking services had increased markedly, from 18.9 percent to 22.6 percent. The study further revealed that the total proportion of people formally included, that is, able to access a service from formal sources: banks, Savings and Credit Cooperative Organizations (SACCOs), Micro Finance Institutions (MFIs) and money transfer operators such as M-PESA has increased significantly from the period 2004 to 2006 from 26.4 percent to 40.5 percent. Ndii (2009) revealed further that increase in access, with a quarter of the adult population registered as M-PESA users. The MFI customer base grew by 117 percent, while commercial banks registered 92 percent growth in customer numbers. SACCOs and the Postbank lost customers.

1.2. Problem Statement

Financial inclusion is a necessary condition for financial deepening, which helps to address the basic issue of growth with equity. Financial inclusion is mainly concerned with eradication of poverty. Financial inclusion is a step toward inclusive development. Financial inclusion, within the broader context of inclusive development, is viewed as an important means to tackle poverty and inequality and therefore promote economic growth. Yunus, Muhammad and Karl Weber,(2007) indicates that a small loan, a savings bank account and an insurance policy can make a great difference to poor and low income family. These financial services enable the poor to have better nutrition, housing, education for children and better health-care and improve standard of living. Financial inclusion therefore serves as an effective way to alleviate poverty in the world.

The financial system in Kenya still remains under-developed as compared to other developing economies. With the invention of mobile money, Kenya has experienced positive growth in the financial sector in the recent decade. Financial services including credit, payment of services and savings are currently being offered to individuals via mobile money thus broadening access to financial services. Despite the increase in use of mobile money with adults using mobile money standing at 68%, highest figure in the

world, Kenya is still classified as low income with nations such as United Kingdom with a 0% mobile money usage classified as high income nations, Demirguc-Kunt and Klapper (2012).

Locally in Kenya, several studies have been done on financial inclusion and economic development. Decker (2012) did a study by reviewing the effectiveness of Microfinance institutions in financial inclusion in Kenya. Decker (2012) established that MFIs should diversify their credits and savings as key financial products that are critical to empowerment as the first step towards financial inclusion, balancing their operations as commercial, NGOs or Government programs to meet the financial needs of people at different levels. Ndege (2012) did a study on the relationship between financial sector deepening and economic growth in Kenya and established a positive relationship between financial sector deepening and economic growth in Kenya. Odhiambo (2008) did a study on financial depth, savings and economic growth in Kenya; he sought to establish a dynamic casual relationship. From the above discussions together with the changing macroeconomic environment in Kenya, this study will seek to fill the research gap on the relationship between financial inclusion and GDP growth in Kenya. To achieve this, this study sought to answer the following research question: What is the relationship between financial inclusion and GDP growth of Kenya?

1.3. Objectives of the Study

To determine the relationship between financial inclusion and GDP growth in Kenya

1.4. Significance of the Study

The findings of this study would be important to several stakeholders:

First, the findings would be valuable to future researchers and scholars in finance and especially in the area of financial inclusion and GDP growth. This study would specifically suggest areas for further research where future scholars and researchers can expand knowledge while at the same time act as source of reference material.

The findings of this study would also be important to policy makers in Kenya in the formulation of macroeconomic policies. More specifically, the findings of this study would be valuable to the Treasury and the Central Bank of Kenya staff in their evaluation of policies affecting financial inclusion in Kenya.

This study would also be important to financial institution managers as it gives more insight in the factors that encourage financial inclusion thus increase their market share and financial performance. The level of inclusion in Kenya has been low with the number of banks increasing. By understanding the matrix in financial inclusion, managers would be in a better position to understand what strategies they need to put in place to promote financial inclusion hence their market share.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter, the study reviews literature by different scholars that focuses on the relationship between financial inclusion and GDP growth. First, it briefly reviews the theoretical models that illustrate how improved access to finance is likely to promote growth. The chapter then proceeds to discuss the concept of financial inclusion before presenting empirical studies guiding this study and chapter summary.

2.2 Review of Theories

2.2.1 Financial Intermediation Theory

Financial intermediation is a process which 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 finds 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 Modern Economics Theory

Modern economics has gone far in discovering the various pathways through which millions of expectations of, and decisions by, individuals can give rise to emergent features of communities and societies (e.g., rate of inflation, productivity gains, level of national income, prices, and stocks of various types of capital, cultural values, and social norms). Two factors make economic theory particularly difficult (Hannagan, 1998). First, individual decisions at any moment are themselves influenced by these emergent features, by past decisions (e.g., learning, practice, and habit), and by future expectations. Second, the emergent features that can be well handled by existing economic theory and policy concern only fast-moving variables. The more slowly emergent properties that affect attitudes, culture, and institutional arrangements are recognized, but are poorly incorporated.

According to William (1991), economists know that success in achieving financial return from fast dynamics leads to slowly emergent, nearly hidden, changes in deeper and slower structures, changes that can ultimately trigger sudden crisis and surprise. But the complexities that arise are such that most modern economists are frustrated in their attempts to understand the interactions between fast- and slow-moving emergent features.

2.3 GDP Growth

Just like a firm keeps record of the progress it makes over the years, an economy maintains its record of performance by the national income accounting. It is important for an economist to know how the economy is doing, because several policy steps depend upon the economic performance. Measuring GDP growth involves quantifying the increase in welfare and to endowing with numerical precision the large-scale economic

and social changes taking place in an economy. Economic growth is the sustained increase in welfare of an economy together with the ongoing changes in that economy's industrial structure; public health, literacy, and demography; and distribution of income. In the long run, as this economic transformation evolves so do social, political, and cultural norms. Societies change profoundly and multidimensional, as economic performance improves.

There are several measures instituted and used to measure economic growth including: National income levels, physical capital allocation, Gross Domestic Products (GDP) of the nation among others. Gross Domestic Product is designed to measure the value of production of those activities that fall within the boundary of the national accounts system. GDP estimates are subject to uncertainties and to difficult measurement problems in some areas such as those in measuring production by the government sector (OECD, 2006). Over and above these technical problems, however, is the question as to whether, of all the data that can be extracted from the System of National Accounts, GDP is best suited to the task of measuring the total value of the economic resources that affect well-being. This section examines alternative national-accounts-based measures of economic resources, notably national income and household consumption, and assesses if they paint a different picture of the evolution and cross-country comparison than that based on GDP.

Another measure of economic growth as the Gross Value Added (GVA) per head which is typically used for considering performance levels within a country. Although there are some criticisms of this metric it has the advantage that it provides a full picture of performance implicitly including both productivity and employment effects.

2.4 Review of Empirical Studies

Several scholars and researchers have reviewed the concept of financial inclusion and economic growth. Aduda and Kalunda (2012) did a study on financial Inclusion and Financial Sector Stability With Reference To Kenya by conducting a review of literature. They established that the existing studies had shown that financial exclusion had its roots in social exclusion which indicates the depth and importance of financial inclusion in

creating inclusive development. Their study 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.

Andrianaivo and Kpodar (2011) did a study on Information Communication and Technology (ICT), financial inclusion, and growth with evidence from African countries. Their study concentrated on the impact of information and communication technologies (ICT), especially mobile phone rollout, on economic growth in a sample of African countries from 1988 to 2007. Further, this study investigated whether financial inclusion was one of the channels through which mobile phone development influenced economic growth. In estimating the impact of ICT on economic growth, Andrianaivo and Kpodar (2011) used a wide range of ICT indicators, including mobile and fixed telephone penetration rates and the cost of local calls. they addressed any endogeneity issues by using the system Generalized Method of Moment (GMM) estimator. Financial inclusion was captured by variables measuring access to financial services, such as the number of deposits or loans per head, compiled by Beck, Demirguc-Kunt, and Martinez Peria (2007) and the Consultative Group to Assist the Poor (CGAP, 2009). The results confirm that ICT, including mobile phone development, contribute significantly to economic growth in African countries. Part of the positive effect of mobile phone penetration on growth comes from greater financial inclusion. At the same time, the development of mobile phones consolidates the impact of financial inclusion on economic growth, especially in countries where mobile financial services take hold.

Sarma (2012) writes on index of financial inclusion as a measure of financial sector inclusiveness. Sarma (2012) notes that the promotion of an inclusive financial system is a policy priority in many countries. While the importance of financial inclusion is widely recognized, the literature lacks a comprehensive measure that can be used to measure the extent of financial inclusion across economies. Sarma (2012) study attempts to fill this gap by proposing an index of financial inclusion (IFI). The proposed IFI captures information on various dimensions of financial inclusion in a single number lying between 0 and 1, where 0 denoted complete financial exclusion and indicates complete

financial inclusion in an economy. The proposed index was easy to compute and was comparable across countries and over time. It also satisfied some important mathematical properties.

Sahu (2013 did a study on commercial banks, financial inclusion and economic growth in India. The objectives of the study were to understand the status of India's financial inclusion, in order to estimate the financial inclusion index for various states in India and to study the relationship between Financial Inclusion Index and Socio-economic Variables. It was found that 72.7 percent of India's 89.3 million farmer households were excluded from formal sources of finance. The C-D ratios of foreign banks was 85.0 per cent, of regional rural banks was 59.9 per cent and of Private sector banks was 74.7 per cent which had increased in 2011 from their levels in the previous year (72.9 per cent, 58.3 per cent and 72.7 per cent respectively). No state in India belonged to high IFI group. The two states namely Chandigarh and Delhi belonged to medium IFI, and rest of the states had low IFI values.

Dixit and Ghosh (2013) looked at financial inclusion for inclusive growth of India by concentrating on Indian states. The study concluded that inclusive growth attainment depends a great deal on equitable distribution of growth opportunities and benefits. And financial inclusion was one of the most crucial opportunities which needed to be equitably distributed in the country in order to attain comprehensive growth. It needed to be understood by the state that in order to bring orderly growth, order needs to be developed with regard to inclusive finance. The percentage of financial inclusion in the different states of the country varied differently. For instance Kerala, Maharashtra and Karnataka accounted for higher rate of financial inclusion but the states such as Gujarat, Manipur, Assam, Bihar, Uttar Pradesh, and Madhya Pradesh, stood poorly on the grounds of financial inclusion. Financial literacy and level of awareness continue to remain an issue with regard to usage of financial services/products. It calls for coordination of all the stakeholders like sectorial regulators, banks, governments, civil societies, NGOs, etc. to achieve the objective of financial inclusion. Challenges of financial exclusion are faced by most of the states of the country and in order to solve it states have to develop its own

customized solutions drawing upon its own experiences and features and those of its peers across the country.

Levine (1997) empirically tested the neo-classical view and finds that countries with larger banks and more active stock markets grow faster over subsequent decades even after controlling for many other factors underlying economic growth. Equally important is access to finance by all segments of the society (Levine 1997, Pande and Burgess 2003). Finance can also play a positive role in poverty reduction. A well-developed financial system accessible to all reduces information and transaction costs, influence saving rates, investment decisions, technological innovation, and long-run growth rates (Beck *et al.* 2009). Evidences from Binswanger and Khandker (1995) and Pande and Burgess (2003) suggest that Indian rural branch expansion program significantly lowered rural poverty, and increased non-agricultural employment.

Kelkar (2010) did a study on financial inclusion for inclusive growth. The findings showed that enhanced financial inclusion will drastically reduce the farmers' indebtedness, which is one of the main causes of farmers' suicides. The second important benefit is that it will lead to more rapid modernization of Indian agriculture. New agriculture, by nature, needs more working capital and is capital intensive as it depends on improved seeds, fertilizers and other modern inputs and equipment. Since enhanced financial inclusion means better risk management tools for the farmers, they will be encouraged to adopt new technologies at a faster rate. Yet another benefit will be increased growth, as well as more equitable growth, in both rural and urban areas because financial growth will mobilize what Prof. C. K. Prahalad calls "the bottom of the pyramid". By providing greater access to educational loans for all sections of society, improved financial inclusion will also mean India becoming a more equal opportunity nation—a pre-condition for promoting inclusive growth.

Decker (2012) reviewed the effectiveness of Microfinance institutions in financial inclusion in Kenya. Findings from the research indicate that MFIs adopted various methods in promoting financial inclusion in Nairobi such as the targeting of traders and farmers who make up bulk of the population and often excluded financially by the formal

sector, the use of credits and savings as key financial products that are critical to empowerment as the first step towards financial inclusion, balancing their operations as commercial, NGOs or Government programs to meet the financial needs of people at different levels, the use of savings as one of major sources of capital especially for those operating on commercial basis to reduce dependence on borrowings, use of cumulative savings and ability to pay as basis for lending to guard against the risk of defaults, levying of reasonable and affordable interest rates as well as flexible payment periods to ease constraints on those taking loans. The study further revealed that the need for MFIs products vary from product to product with very strong need for working capital on the credit side and very strong need for savings accounts on the savings side. The outcome of the study was overwhelmingly favorable as 85% of MFIs products meet customers' expectations. This outcome is an indication of how effective MFIs can be in promoting financial inclusion.

Gakii (2012) looked at factors determining financial inclusion: the case of mobile money transfer services in Nairobi. The main objective of this paper was to examine the factors determining the use of mobile financial services in Kenya. The study used a sample drawn from the Nairobi central business District. A multinomial logit model was used to model the use of three types of financial services namely mobile money transfers, mobile payments and mobile banking against various explanatory factors such as age, gender, and education level, tariff of service and volume of transactions. The study found that the use of more sophisticated financial services - mobile payments and mobile banking - depends on the gender, education and wealth of individuals as well as the tariffs of service and volume of transactions. The study recommended the development of financial products and services which are gender-sensitive and sensitive to low-income earners, as well as creation of awareness on financial services both in urban and rural areas.

Kimani (2012) looked at the impact of collective investment schemes on financial inclusion in Kenya. The purpose of the study was to determine the impact of collective investment schemes on financial inclusion in Kenya. The target population was collective investment schemes. A census of all the 11 collective schemes was used. The sampling stage involved the selection of the respondents using a stratified sampling approach. The

strata were the various respondents in the schemes. Both qualitative and quantitative data was collected using a questionnaire that consisted of both open ended and close ended questions. Data was analyzed using Statistical Package for Social Sciences (SPSS) and results presented in frequency tables to show how the responses for the various questions posed to the respondents. The data was then analyzed in terms of descriptive statistics like frequencies, means and percentages.

Mulwa (2012) reviewed the role of wireless communication in financial inclusion: a case study of selected mobile banking products in Makueni County. Conclusions included that translation needed to recognize that products were context specific; the stability of mobile banking products was dependent on the interplay of all the actors (human and non-human) and what emerges from this interplay. Successful translations depend on how faithful key actors are towards their alliances. Significantly the study established three key theoretical implications in mobile banking if the implementation process has to result to stabilization: No single actor has the ability to set the networks course or impose its own culture and personal goals upon the other nodes sharing the network because the logic of the network sets the rules for participation in the network, a certain size of access points and users was necessary if mobile banking w~ to sustain itself and translation required that all means be used to ensure that the most successful model of mobile banking is put in place before roll out. The recommendations of the study included that regulators needed to revise regulations to promote market development, the focal actors to step up awareness campaigns and literacy seminars for rural populations, support agents financially and also train of assistants.

2.5 Chapter Summary

This chapter reviewed literature by other scholars and researchers on the subject of financial inclusion and economic development. Aduda and Kalunda (2012) did a study on financial Inclusion and Financial Sector Stability With Reference To Kenya by conducting a review of literature. Andrianaivo and Kpodar (2011) did a study on Information Communication and Technology (ICT), financial inclusion, and growth with evidence from African countries. Sarma (2012) writes on index of financial inclusion as a

measure of financial sector inclusiveness. Sahu (2013 did a study on commercial banks, financial inclusion and economic growth in India. Dixit and Ghosh (2013) looked at financial inclusion for inclusive growth of India by concentrating on Indian states. Levine (1997) empirically tested the neo-classical view and finds that countries with larger banks and more active stock markets grow faster over subsequent decades even after controlling for many other factors underlying economic growth. Kelkar (2010) did a study on financial inclusion for inclusive growth. Decker (2012) reviewed the effectiveness of Microfinance institutions in financial inclusion in Kenya. Gakii (2012) looked at factors determining financial inclusion: the case of mobile money transfer services in Nairobi. Kimani (2012) looked at the impact of collective investment schemes on financial inclusion in Kenya. Mulwa (2012) reviewed the role of wireless communication in financial inclusion: a case study of selected mobile banking products in Makueni County.

From this empirical review, it evident that the existing studies has tended to concentrate on various ways that have been used to promote financial inclusion. For those that have attempted to establish the relationship between financial inclusion and GDP growth, they have been done in other countries like India which have different macro-economic environment compared to those in Kenya. This study therefore seeks to fill this research gap by determining the relationship between financial inclusion and GDP growth in Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter sets out various stages that were followed in completing the study. It explains how research is going to be executed and how data was collected and analyzed. The section specifically covers; research design, target population, data collection and data analysis.

3.2 Research Design

The study adopted a descriptive research design. Mugenda and Mugenda (2003) describes descriptive research design as a systematic, empirical inquiring into which the researcher does not have a direct control of independent variable as their manifestation has already occurred or because the inherently cannot be manipulated. Descriptive studies are concerned with the what, where and how of a phenomenon hence more placed to build a profile on that phenomenon (Mugenda and Mugenda, 2003). Descriptive research design is more appropriate because the study seeks to build a profile about the relationship between financial inclusion and GDP growth.

3.3 Population of the Study

Population in statistics is the specific population about which information is desired. According to Ngechu (2004), a population is a well-defined or set of people, services, elements, and events, group of things or households that are being investigated. This study used secondary data collected from various sources. Data on GDP growth was collected from the Kenya National Bureau of Statistics while data on financial inclusion was collected from the Central Bank of Kenya. The study period was 2002/2003-2011/2012 financial periods. This period had been chosen because of the many changes that occurred within the economy that had far reaching implications on the financial inclusion variables in Kenya. The study used annual data because GDP growth is determined annually.

3.4 Data Collection

The study used secondary data from the Kenya National Bureau of Statistics while data on financial inclusion was collected from the Central Bank of Kenya. The data was collected using data collection sheet which wish was edited, coded and cleaned. Data was mainly obtained covering the period 2002/2003-2011/2012 financial periods. Annual data was used in the study.

3.5 Data Analysis

The study used Statistical Package for Social Sciences Version 21.0 to aid in data analysis. The paired t-test, a non-parametric test of differences developed by Sir Williams Gosset (Mugenda & Mugenda, 2003) were be used in this study as a test of significance. The analysis was at 0.05 level of significance.

3.5.1 Analytical Model

In order to determine the relationship between financial inclusion and GDP growth in Kenya, the researcher conducted a multiple regression analysis using the following regression model. The model was based on the arguments of Andrianaivo and Kpodar (2011) in a study on Information Communication and Technology (ICT), financial inclusion, and growth with evidence from African countries. Sahu (2013 also did a study on commercial banks, financial inclusion and economic growth in India. Kelkar (2010) did a study on financial inclusion for inclusive growth:

$$Y= \beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4 + €$$

Where: Y= GDP Growth

X_1= Percentage increase in the number of Automated Teller Machines in the Country

X_2 = Percentage increase in the number of Mobile Money Users/ Accounts

X_3 = Percentage increase in the number of Branch Networks

X_4 = Bank Lending Interest Rates

In order to test the significance of the model in measuring the relationship between financial inclusion and GDP growth, this study conducted an Analysis of Variance (ANOVA). On extracting the ANOVA statistics, the researcher looked at the significance value. The study was tested at 95% confidence level and 5% significant level. If the significance number found is less than the critical value (α) set 2.4, then the conclusion was that the model was significant in explaining the relationship.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

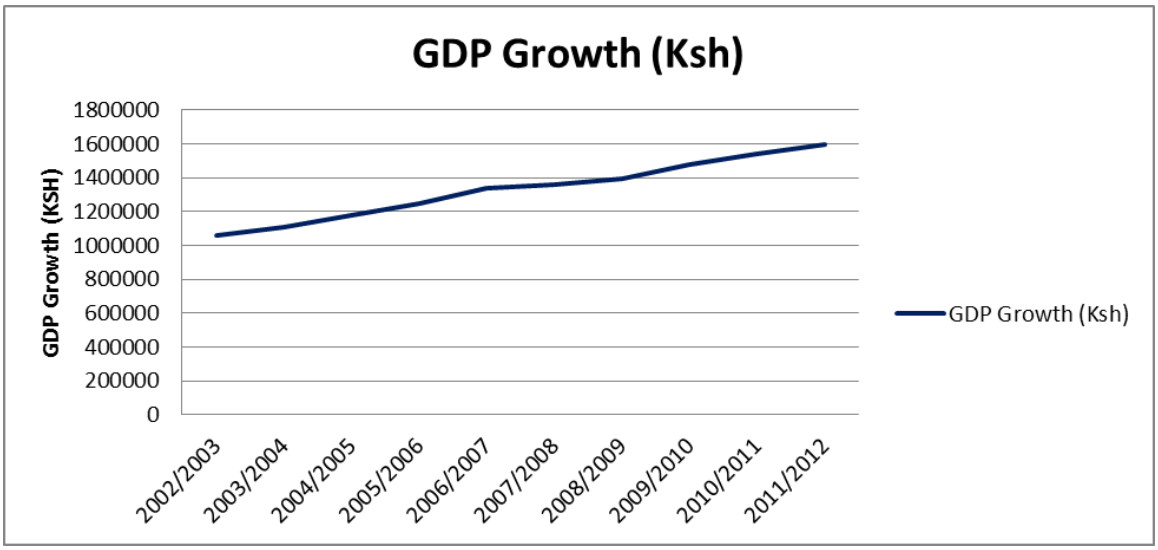
This chapter presents analysis and findings of the study as set out in the research objective and research methodology. The study findings are presented on to determine the relationship between financial inclusion and GDP growth in Kenya. The data was gathered exclusively from the secondary source which included the records at Central Bank of Kenya.

4.2 Data Analysis and Findings

4.2.1 GDP Growth

The study sought to establish the trend of GDP growth in Kenya over the study period which was measured inter. The data findings are presented in Figure 4.1 below and appendix I.

Figure 4.1: GDP Growth



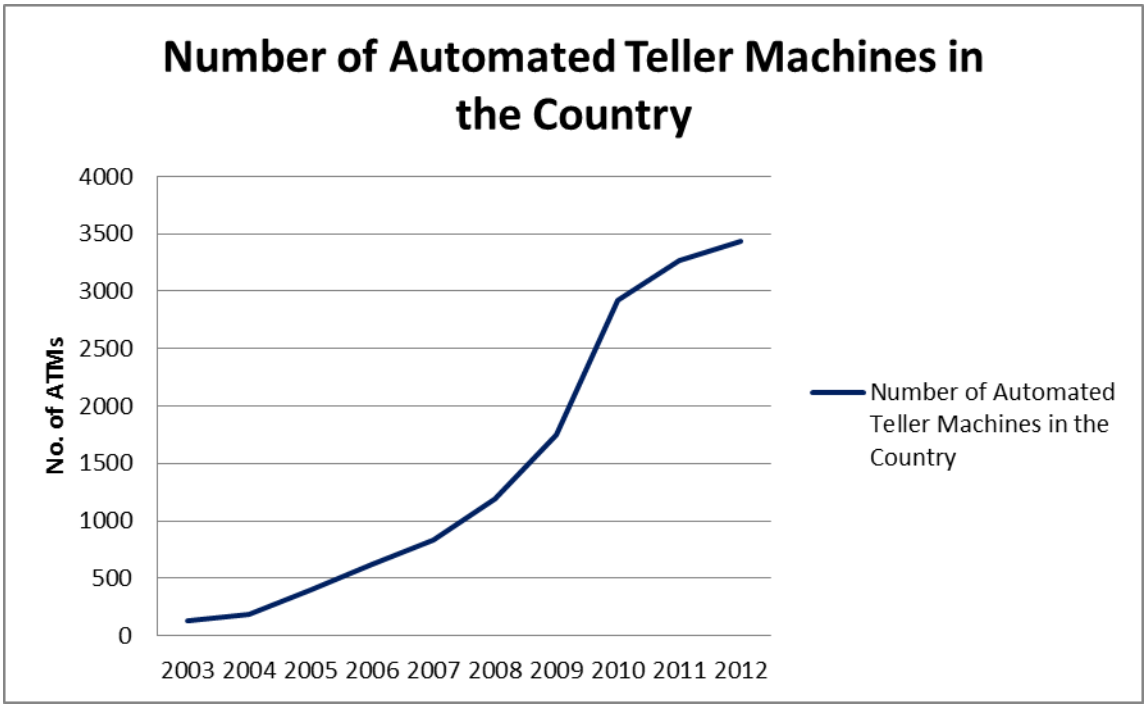
From the findings presented above, the study established that GDP growth had been on continuous increase over the study period. The 2002/2003 financial year recorded a GDP growth of 1,055,658 million shillings. This increased to 1,109,541 million shillings in 2003/2004, follow by a further increase to 1,175,133 shillings in 2004/2005 financial year. In the 2005/2006 financial year, GDP growth increased to 1,249,470 million

shillings, followed by further increase to 1,336,846 million and then 1,357,263 million shillings in the 2006/2007 and 2007/2008 financial year respectively. It is noted that the GDP growth in 2006/2007 financial year was very slow. GDP growth further increased to 1,394,387 million shillings in 2008/2009, followed by a further increase to 1,474,763 million shillings in 2009/2010 then 1,539,306 million shillings in 2010/2011. At the end of the study period 2011/2012, the GDP amounted to Ksh 1,597,198 million. This implied that the GDP growth of Kenya had been increasing over the study period however the study the growth was gradual as evidenced by the findings of this study. This study however notes that the GDP growth was very slow in2006/2007 financial year as evidenced by the findings of this study.

4.2.2 Number of Automated Teller Machines in the Country

The study sought to establish the trend in the number of automated teller machines in the country. The data findings are presented in the figure 4.2 and appendix I.

Figure 4.2: Number of Automated Teller Machines in the Country

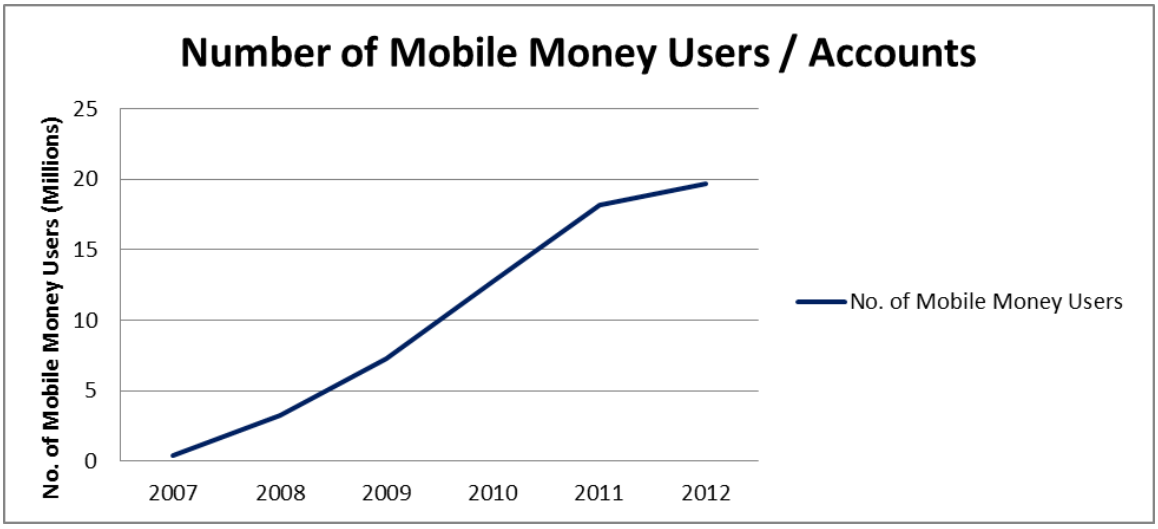


From the data findings, in the year 2003, the number of automated teller machines was totaled to 125. In the year 2004, the automated teller machines increased gradually to 185, then to 401 in the year 2005. This increased to 617 by the year 2006 and further to 833 as at 2007. As noted from the rate at which the automated teller machines were increasing in the country was becoming higher and higher. In the year 2008, the number of automated teller machines was 1187, which increased to 1753 in the year 2009 and further to 2927 in the year 2010. As at the end of the year 2011, the automated teller machines were 3263 which increased further to 3435 in the year 2012. From the finding, the number of ATMs increased continuously over the study period an indication that the banking sector in Kenya was growing.

4.2.3 Number of Mobile Money Users/ Accounts

The study sought to establish the trend in movement of the number of mobile money users/ Accounts in the country over the study period. The data findings are presented in figure 4.3 and appendix I.

Figure 4.3: Number of Mobile Money Users /Accounts

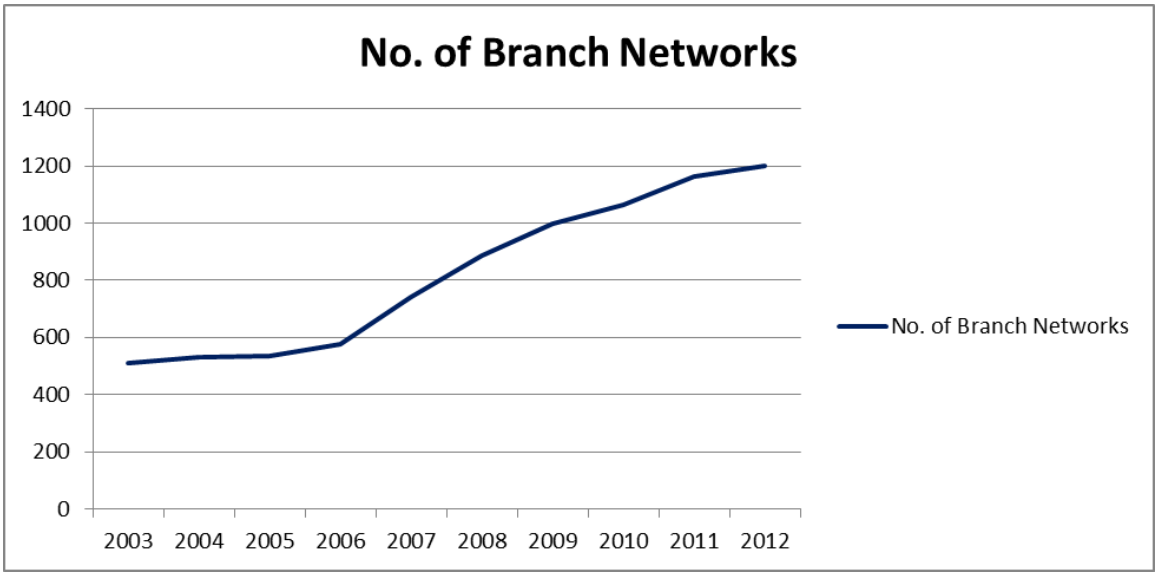


From the data findings, at the year 2007, the number of mobile money users was 0.42 million after which they increased to 3.26 million in the year 2008 and further to 7.26 million in the year 2009. As at the year 2010, the number of mobile money users were 12.69 which increased further to 18.21 million in 2011 and then to 19.66 million in the year 2012. The study findings established that the number of mobile service users was increasing continuously.

4.2.4 Branch Networks

The study sought to establish the trend in the branch network of the banking sector over the study period. The findings are presented in the figure 4.4 below and appendix I.

Figure 4.4: Branch Networks



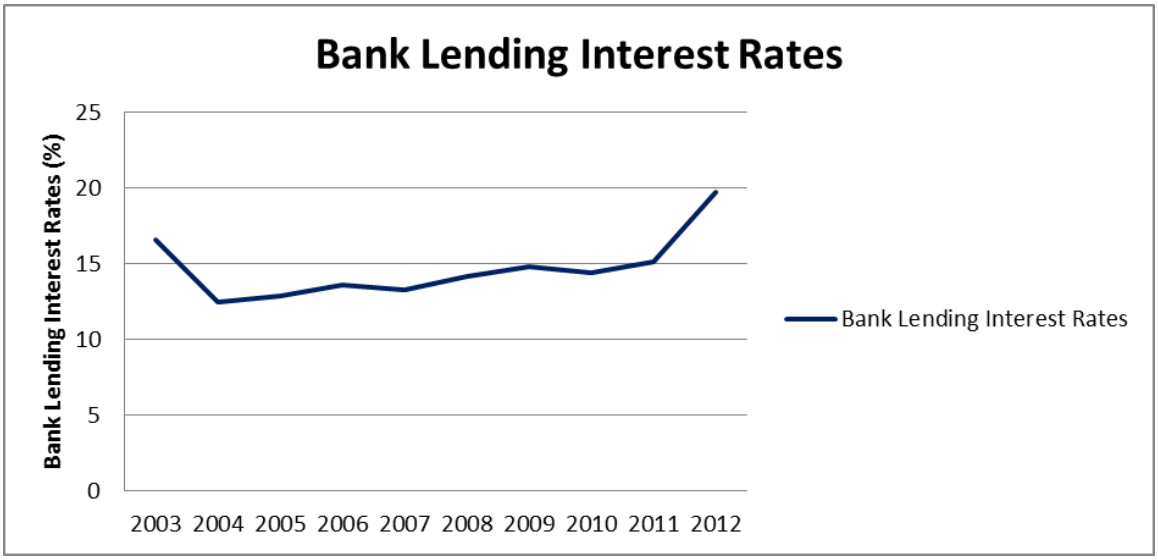
The study findings established that the number of the branch networks as at the inception year 2003 was 512, this increased gradually to 532 in 2004, then to 534 by the year 2005. As at the year 2006, the 2006, the number of branch networks was 575. This increased to 740 in the year 2007. Since the year 2007, the rate at which branch network increased

changed. In 2008, the number of branch network in Kenya was 887, after which it increased to 996 in 2009, then to 1063 in the year 2010. As at the year 2011, the number of branch network in Kenya totaled to 1161 which further increased further to 1201 by the end of the study period 2012.

4.2.5 Bank Lending Interest Rates

The study sought to establish the trend in the lending interest rates over the study period. The data findings are presented in Figure 4.2 below and appendix I.

Figure 4.5: Bank Lending Interest Rates



The study findings established that at the inception year 2003, the lending interest rates were 16.37%. These rates decreased in the year 2004 to 12.53%. Since then the study findings established that the lending interest rates have been on increase. In the year 2005 the lending interest rates were at 12.89% which increased gradually to 13.64% in the year 2006, before a slight decrease to 13.33% in 2007. In the year 2008, the interest rate increased to 14.02%, then to 14.08% in the year 2009 and further increase was recorded in the year 2010 whereby the lending interest rates was 14.36%. By the year

2011, the interest rates had increased to 15.05% after which in the year 2012, there was a rapid increase in lending interest rates whereby the rates increased to 19.65%.

4.2.6 Regression Analysis

In order to establish the relationship between financial inclusion and GDP growth in Kenya, regression analysis was conducted. The analysis applied the statistical package for social sciences (SPSS) to compute the measurements of the multiple regressions for the study. The findings were as shown in the table 4.1 below.

Table 4.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.973[a]	0.946	0.903	56503.96361
a. Predictors: (Constant), Bank lending rates, Branch Networks, Number of Mobile Money users/Accounts, Number of Automated Teller machines in the Country				

In order to explain the percentage of variation in the dependent variable (GDP growth) that is explained by the independent variables, the researcher used coefficient of determination obtained from the model summary in table 4.1. Coefficient of determination explains the extent to which changes in the dependent variable (GDP growth) can be explained by the change in the independent variables or the percentage of variation in the dependent variable that is explained by all the three variables (Branch Networks, Number of Mobile Money users/Accounts, Number of Automated Teller machines in the Country and Bank lending rates). From the analysis, the independent variables (Branch Networks, Number of Mobile Money users/Accounts, Number of Automated Teller machines in the Country and Bank lending rates) in this study

contributed to 94.6% of the variation in GDP growth as explained by adjusted R^2 of 0.946.

The study conducted an Analysis of Variance, in order to test the significance of the model. The findings were as shown below:

Table 4.2: ANOVA

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	$2.795X\ 10^{11}$	4	6.986E10	21.882	.002[a]
	Residual	$1.596X\ 10^{10}$	5	3.193E9		
	Total	$2.954X10^{11}$	9			
a. Predictors: (Constant), Bank lending rates, Branch Networks, Number of Mobile Money users/ Accounts, Number of Automated Teller machines in the Country						
b. Dependent Variable: GDP Growth						

From the ANOVAs results, the probability value of 0.002 was obtained implying that the regression model was significant in predicting the relationship between GDP growth and the predictor variables as it was less than α=0.05.

Table 4.3: Coefficients

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	940326.151	213662.986		4.401	.007
	Number of Automated Teller machines in the Country	-29.360	115.188	-.210	-.255	.809
	Number of Mobile Money users/ Accounts	.008	.011	.315	.741	.092
	Branch Networks	634.022	349.244	.963	1.815	.029
	Bank lending rates	-9884.054	11524.199	-.116	-.858	.030
a. Dependent Variable: GDP growth						

The researcher conducted a regression analysis so as to determine the relationship between financial inclusion and GDP growth in Kenya. The following regression equation was obtained:

$$\mathbf{Y= 940326.151-29.360X_1+ 0.008X_2 + 634.022X_3-9884.054X_4+€}$$

From the regression model obtained above, holding all the other factors constant, the GDP growth measures by GDP would be Ksh. 940326.151 million. A unit change in the number of Automated Teller machines in the Country holding the other factors constant will lead to change the GDP growth by -29.360, a unit change in the number of mobile Money users/ accounts holding the other factors constant will change GDP growth by 634.022 while a unit change in the bank lending rates holding other factors constant will change the GDP growth by -9884.054. This implied that branch Networks had the highest

influence on the GDP growth followed by Number of Mobile Money users/Accounts and Number of Automated Teller machines in the Country then bank lending rates.

The obtained regression equation further implied that there was a strong positive relationship between GDP growth and Branch Networks, a weak positive relationship between GDP growth and Number of Mobile Money users/ Accounts, a weak negative relationship between GDP growth and Number of Automated Teller machines in the Country and a strong negative relationship between GDP growth and bank lending rates.

The analysis was undertaken at 5% significance level. The criteria for comparing whether the predictor variables were significant in the model was through comparing the corresponding probability value obtained and α=0.05. If the probability value was less than α, then the predictor variable was significant otherwise it wasn't.

Number of Mobile Money users/Accounts, lending rates and Branch networks were significant in the model as their corresponding probability values were less that 0.05 while the Number of Automated Teller machines in the Country was insignificant in the model.

4.3 Summary and Interpretation of Findings

The study aimed at establishing the relationship between financial inclusion and GDP growth in Kenya. The independent variable in this study was the GDP growth while the independent variables included; branch networks, number of mobile money users/ accounts, number of automated teller machines in the country and bank lending rates. The study adopted a descriptive research design, used secondary data collected from

various sources for the 2002/2003-2011/2012 financial periods collected annually. Data analysis was performed using Statistical Package for Social Sciences. The study undertook a regression analysis to establish the relationship between the variables of study.

From the study findings, the study established that there was a strong positive relationship between GDP growth and the independent variables under study. These findings are consistent with the findings of Ngugi, Amanja and Maana (2010) who established that financial sector plays a crucial role in economic development. The depth of the financial sector has generally promoted economic growth in Kenya. It was observed that well-functioning capital markets increases economic efficiency, investment and growth. However, their study majored on Kenya's capital market which they described as narrow and shallow. This was largely because the stock market and private bond market have been raising less than 1% of growth financing.

The study findings established that there was a strong positive relationship between GDP growth and Branch Networks which is one of the proxies of financial deepening. These findings are inconsistent with those of Samargandi, Fidrmuc and Sugata (2013) who found that there was no evidence of financial development having a significant linear impact on economic growth in the long or short-run. However, the test for the existence of a non-linearity confirms that the relationship between financial development and economic growth is different from the predominant view. Financial deepening might have a negative effect beyond a certain threshold.

The study findings established that there was a weak positive relationship between GDP growth and the number of Mobile Money users/ Accounts. The relationship between GDP growth and Number of Automated Teller machines in the Country was a weak negative and the relationship between GDP Growth and bank lending rates was a strong negative. Branch Networks had the highest influence on the GDP growth followed by number of mobile money users/ accounts, number of automated teller machines and banking lending rates. Ang and McKibbin (2007) argue that the advantage of this measure is that commercial banks make more efficient use of funds than central banks by channeling savings to profitable investment opportunities. This measures the relative importance of a specific type of financial institutions (commercial banks) in the financial system.

The study findings further established that GDP growth over the study period was increasing as well as number of automated teller machines, number of mobile money users/accounts and branch networks. The study further established that all the independent variables in the study were significant with the exception of the number of automated teller machines.

The study also established that number of mobile money users/ accounts and number of automated teller machines in the country did not have a significant relationship with GDP growth. This was inferred from significance values which were above 0.05. Branch networks and bank lending rates were significant variables in measuring GDP growth rate in Kenya in as far as financial deepening was concerned. These findings are consistent with the argument by several economists (Kaminsky and Reinhart, 1999; Deidda and

Fattouh, 2002; Wachtel, 2003) that there is a positive link between financial development and economic growth is positive.

CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The study aimed at establishing the relationship between between financial inclusion and GDP growth in Kenya. The independent variable in this study was the GDP growth while the independent variables included; branch networks, number of mobile money users/ accounts, bank lending rates and number of automated teller machines in the country. The study adopted a descriptive research design, used secondary data collected from various sources for the 2002/2003-2011/2012 financial periods collected annually. Data analysis was performed using Statistical Package for Social Sciences. The study undertook a regression analysis to establish the relationship between the variables of study.

From the study findings, the study established that there was a strong positive relationship between GDP growth and the independent variables under study. The depth of the financial sector has generally promoted economic growth in Kenya. It was observed that well functioning capital markets increases economic efficiency, investment and growth. The study findings established that there was a direct relationship between GDP growth and Branch Networks which is one of the proxies of financial deepening. However, the test for the existence of a non-linearity confirms that the relationship between financial development and economic growth is different from the predominant view. Financial deepening might have a negative effect beyond a certain threshold.

The study findings established that there was a strong positive relationship between GDP growth and the branch networks, a weak positive relationship between GDP growth and the number of Mobile Money users/ Accounts. The relationship between GDP growth the Number of Automated Teller machines in the Country was a weak negative and the relationship between GDP growth and bank lending rates was a strong negative. Branch Networks had the highest influence on the GDP growth followed by number of mobile money users/ accounts, number of automated teller machines in the country and bank lending rates. The study findings further established that GDP growth over the study period was increasing as well as number of automated teller machines, number of mobile money users/accounts and branch networks. The study also established that number of mobile money users/ accounts and number of automated teller machines in the country did not have a significant relationship with GDP growth. This was inferred from significance values which were above 0.05. Branch networks and bank lending rates were significant variables in measuring GDP growth rate in Kenya in as far as financial deepening was concerned.

The study findings established that there was a direct relationship between GDP growth and Branch Networks as well as Number of Mobile Money users/ Accounts while the relationship between GDP growth and Number of Automated Teller machines in as well as bank lending rates was the Country was negative and that branch Networks had the highest influence on the GDP growth followed by number of mobile money users/ accounts and number of automated teller machines in the country. The study findings further established that GDP growth over the study period was increasing as well as number of automated teller machines, number of mobile money users/accounts and

branch networks. The study further established that all the independent variables in the study were significant with the exception of the number of automated teller machines.

5.2 Conclusion

This study concludes that GDP growth in Kenya is has a strong positive relation with financial inclusion. The study further concludes that GDP growth has a strong positive relationship with the branch networks and a weak positive relationship with the number of mobile money users/accounts while the relationship between GDP growth and number of automated teller machines is a weak negative and the relationship between GDP growth and bank lending rates in the country a strong negative. The study concludes that branch networks has the highest influence on the GDP growth followed by number of mobile money users/accounts, number of automated teller machines in the country and then bank lending rates. The study findings conclude that there is continuous GDP growth in Kenya and that the GDP growth and that the number of automated teller machines, number of mobile money users as well branch networks is on increase.

The depth of the financial sector has generally promoted economic growth in Kenya. It was observed that well functioning capital markets increases economic efficiency, investment and growth. There was a direct relationship between GDP growth and the number of branch networks and Mobile Money users/ Accounts while the relationship between GDP growth and Number of Automated Teller machines and bank lending rates in the Country was negative and that branch Networks had the highest influence on the GDP growth followed by number of mobile money users/ accounts, number of automated teller machines in the country and bank lending rates. The number of mobile money

users/ accounts, number of automated teller machines in the country did not have a significant relationship with GDP growth. This was inferred from significance values which were above 0.05. Branch networks and bank lending rates were significant variables in measuring GDP growth rate in Kenya in as far as financial deepening was concerned.

5.3 Policy Recommendations

The study findings established that the rate of GDP growth over the 2007/2008 and 2008/2009 financial years declined, this could be attributed to the post-election violence. This study therefore recommends that the policy makers need to come up with legislation that will prevents such occurrences in the future. Policies need to be enacted to ensure peaceful elections in the country as well.

The study recommends that the Government promotes financial sector deepening by licensing more microfinance institutions, SACCOs and Youth development fund to promote accessibility to finance among its populous. This will increase their ability to save, borrow thereby contribute positively to economic development.

The study findings established that branch networks had a direct relationship with GDP growth as well as number the number of branch networks and number of mobile money users. This study therefore recommends that policy makers need to enact policies that to promote establishments of branch networks in Kenya. This is through enacting policies that enhance security.

The study recommends that mobile banking be extended to offer other services as those offered by M-Shwari which enables customers to borrow money based on their savings in the account. This has eliminated need for collateral and eased ability of the citizens to access loans on short notice.

5.4 Limitations of the Study

A limitation in this study included any situation that was present in the processing of completing it that could have influenced the results obtained. This study experienced several limitations. First, the data used in the analysis was secondary data meant for other purposes and was subject to various macroeconomic variables which may have influenced their construction. This may however limit the applicability of the data in other circumstances.

Under the study period, there have been massive fluctuations in the rate of inflation which led to adjustment of goods used in the computation of consumer price index. This may have tampered with the prevailing rates of interest which was a component in this study.

The data used in this study could also have been affected by different regulatory adjustments imposed by the regulators. For example, in the year 2011, the capital requirements for banks were adjusted leading to mergers and acquisitions. These could have affected the level of financial deepening in the country.

Lastly we could not obtain sufficient data to make up 30 data points due in unavailability of various data sets.

5.5 Suggestions for Further Studies

The study suggests that further research be conducted on the relationship between financial sector deepening and accessibility to credit among small and medium enterprises. This is because financial sector deepening has been promoted to a large extent by Microfinance institutions which were not considered in this study. This will help generalize the findings to the whole population.

The study further recommends that another study be conducted in Kenya on the relationship between financial sector deepening and GDP growth after five years to compare with the findings in this study so as to assess the contributions of financial sector deepening and economic development.

The study also suggests that further studies be carried out on the influence of macroeconomic policies on economic growth in Kenya. This study will help explain the various stances taken by the monetary committee on the living standards of Kenyan citizens. This will help establish the effects of various steps taken by the Monetary Committee on economic growth of the country.

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Appendix I: Data Set

Year	GDP Growth (Million)	Number of Automated Teller machines in the Country	Percentage Growth	Branch Networks	Percentage Growth	Bank lending rates (%)	Number of Mobile Money users/ Accounts (Million)	Percentage Growth
2003	1055658	125	1.000	512	1.00000	16.6		
2004	1109541	185	1.480	532	1.03906	12.5		
2005	1175133	401	3.208	534	1.04297	12.9		
2006	1249470	617	4.936	575	1.12305	13.6		
2007	1336846	833	6.664	740	1.44531	13.3	0.42	1
2008	1357263	1187	9.496	887	1.73242	14.2	3.26	7.7619
2009	1394387	1753	14.024	996	1.94531	14.8	7.26	17.2857
2010	1474763	2927	23.416	1063	2.07617	14.4	12.69	30.2143
2011	1539306	3263	26.104	1161	2.26758	15.1	18.21	43.3571
2012	1597198	3435	27.480	1201	2.34570	19.7	19.66	46.8095

Source: (Central Bank of Kenya, 2013)