THE RELATIONSHIP BETWEEN FINANCIAL DEEPENING AND ECONOMIC GROWTH IN KENYA

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DECLARATION

This project is my original work and to the best of my knowledge has not been submitted for

examination or award of a degree in any other University.

Signed…………………………………… Date…117th Nov 2021….……………

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This project has been submitted for examination with my approval as the University Supervisor.

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DEDICATION

This project is dedicated to my loving wife Poline, son Samuel, and beautiful daughters Sifa and Neema. You bring joy to my life and I treasure the moral support you have given me in the course of my post graduate studies.

ACKNOWLEDGEMENT

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ACRONYMS AND ABBREVIATIONS

RGDP   Real Gross Domestic Product

CMA   Capital Market Authority

FDI   Foreign Direct Investment

NSE   Nairobi Securities Exchange

MC   Market Capitalization

ML   Market Liquidity

M2   Broad Money Supply

CBK   Central Bank of Kenya

ABSTRACT

Every country aims at achieving economic growth and many policies are formulated with this goal in mind. Financial development is key to improving economic growth. This study sought to determine the relationship between financial deepening and economic growth in Kenya. The study is based on three theories that is Financial Repression Theory, Finance Growth Theory and Financial Intermediation Theory. The study used descriptive research design. This study relied on secondary data sources which included the Central Bank of Kenya, Kenya National Bureau of Statistics and Market Capitalization. Descriptive and inferential statistics were used to analyze quantitative data using the Statistical Package for Social Sciences (SPSS) version 24. Findings showed a positive significant relationship between broad money supply and economic growth (r= 0.711, p-value=0.000);   a negative significant relationship between interest rates and economic growth at (r= -.323, p-value=0.003); a positive significant correlation between credit to private sector and economic growth (r= 0.449, p-value=0.001); significant relationship between foreign direct investments and economic growth (r= 0.349, p-value=0.002) and an insignificant relationship between market capitalization and economy growth (r= 0.7, p-value=0.000). Policymakers should adopt favorable monetary policies that help reduce the exchange rate, to boost foreign direct investment and improving economic growth. To attract and channel foreign direct investment (FDI) to more productive and comparatively advantaged manufacturing for exports, government supply-side strategies such as government subsidies and tax refunds are proposed. This aims to boost domestic producers' productivity and export supply capacity, as well as their efficiency.
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CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Every country aims at achieving economic growth and many policies are formulated with this goal in mind. Financial development is key to improving economic growth and there exists numerous studies on effect of Financial development on economic growth. Research carried out   previously reported increased economic growth rates for nations with stable financial systems. Therefore, financial deepening has become one strategy of enhancing economic growth in third world countries like Kenya.

Studies on financial deepening and economic growth have mostly focused on causes and effects between two concepts. The first concept is the supply-leading concept. This concept considers that fiscal deepening is a key determinant of economic growth. The other concept is demand-leading concept. This concept assumes that a stable financial market causes economic growth. From the argument of these two hypotheses, one can deduce that financial development enhances positive economic development of a country. According to Benston & Smith (1976) and Tobin (1963), well-developed financial systems accrue savings and allot them to the most productive sector, provide liquidity and spread risk. Liberalization and efficiency of financial markets lead to increased financial assets, financial intermediation and monetization of the economy. Studies by Gurley & Shaw (1955) & Goldsmith (1969) show that a country's economic growth largely relies on deepening of its financial system.

The size of a nation's financial sector is measured as a ratio of market capitalization to GDP (King & Levine 1993). Antzoulatos et al (2008) asserted that financial deepening is

measured based on financial sector efficiency whereby turnover ratio and net interest margins or banks overhead costs are used as indicators. Different researchers have used the above indicators of financial sector efficiency to measure financial system development in various nations (Huang, 2005; Antzoulatos et al, 2008).

Empirical studies across different countries show that financial deepening is strongly related to the progression of the economy (Levine and King, 1993). De Gregorio & Guidotti (1995) study suggested an insignificant correlation between financial deepening and economic progression. Thus it is vital to examine the relationship between financial deepening and Kenya's economic growth.

1.1.1 Financial Deepening

The term financial deepening is synonymous with pioneering work of Edward Shaw in 1973 that was titled "Financial Deepening in Economic Development". Financial deepening is increase of financial resources at a higher rate as compared to an increase in non-financial capital and output (Shaw, 1973). Levine (2005) argued that financial deepening results from interactions between financial markets, financial instruments and stakeholders in a manner that reduces the costs of financial transaction. Financial deepening is also referred as a process which improves the value, capacity and success of financial intermediation (Sackey et al, 2012).

The term financial deepening will be used in this study to refer to accumulation of country's financial assets in relation to its GDP. Provision for those under banked and unbanked, financial markets and institutions development and diversifying the financial instruments are different types of financial deepening (King & Levine, 1993). In this study, financial

deepening indicators include broad money, real interest rates, direct investments by foreigners, market capitalization and financial institutions lending to the privately owned organizations.

1.1.2 Economic Growth

A country's economic growth is rise in inflation-adjusted market worth of products manufactured or services offered by a country after a while. It is measured by increase in the total output or GDP of a nation. A positive change in Gross Domestic Product is the utmost suitable gage of economy growth. It considers a country's general economic productivity. The best precise measurement of growth is actual GDP expressed as a percentage. It removes the effects of inflation. The other measures used for evaluating economic growth are Gross National Product (GNP) and Gross National Income (GNI) (Arthur, 1964). According to Kuznets (1955), economic growth in the modern times shows the consistent ability to supply to an ever increasing populace with an increased quantity of goods and services per capita.

1.1.3 Financial Deepening and Economic Growth.

Studies done by early researchers like Schumpeter (1911), McKinnon (1973) and Shaw (1973) recognize that monetary sector growth significantly affects productivity and growth of an economy. Recent research findings indicate that nations with stable financial systems seem to have faster economic growth. Financial deepening is therefore a strategy of stimulating economy growth more so in developing countries (Benston & Smith, 1976; and Tobin, 1963).

Gurley & Shaw (1955) and Goldsmith (1969) argued that a nation's economic development is affected by financial assets growth due to efficient financial markets. Empirical studies

by Levine & King (1993) revealed a significant correlation between fiscal deepening and economy growth. Financial development is therefore a suitable indicator of a nation's economic development. De Gregorio & Guidotti (1995) study however, presents evidence of negative correlation between fiscal deepening and economy growth. It is hence imperative to examine effect of financial deepening on economic growth of a country.

1.1.4 The Kenya Economy

Kenya is a developing country and its economy is amongst the fast-growing economies in sub-Saharan Africa. The economic growth in 2019 averaged at 5.7% due to steady macro-economic condition, positive investors' confidence and strong service sector (World Bank, 2020). Kenya has an advanced financial system which comprise of banks, insurance companies, the capital market, pension funds, SACCOs, Microfinance banks, Development Finance Institutions (DFIs), and Forex bureaus. The banking sector consists of the Central Bank of Kenya (CBK), 42 commercial banks and 1 mortgage finance firm(CBK, 2017).

Several reforms in past ten years in financial sector have resulted to increase in financial assets. These reforms were driven by developments and financial innovations in the banking sector. One of the reforms was that the CBK cash reserve ratio was decreased from 6% to 5.25% making loans more affordable to borrowers. The Banking Act Amendment of 2009, allowed banks to recruit agents to assist them in banking their clientele. Innovative financial sector has resulted to innovation of new products like agents banking, M-Pesa, mobile banking, Islamic banking, and use of ATMs. Further, the CBK Act and Banking Act of 2015 have altered regulation mode for commercial banks. The Microfinance Act of

2006 supported financial inclusion initiatives. The Banking (Amendment) Act of 2016, capped the interest rate that banks could charge on loans. Also the Anti-Money Laundering (AML) Act of 2009 was legislated to enhance steadiness and transparency of financial sector. These initiatives have been undertaken to enhance the stability, liquidity and solvency and ensure a proper functioning financial system.

These reforms have contributed to financial deepening in Kenya resulting to expansion and introduction of new financial assets. These financial developments led to money supply increase, greater liquidity and growth of domestic borrowing. Though financial sector is continuously expanding in Kenya, the country is still performing poor economically.

1.2 Research Problem

Empirical literature has put emphasis on nexus between financial deepening and growth of the economy. Liberalized and efficient money markets increase financial assets and liquidity in an economy. Financial deepening broadens the resource base of an economy, stimulates investments through money deposited in the banks and funds to the public and private entities and increases the general production by allocating resources efficiently. Capital market development is a basic pillar of financial sector development. Capital market development results in stock pricing, provision of liquidity, reducing transactions costs, and transferring risk. Developed capital markets facilitate foreign investments in the country (Ngugi et al., 2008). We can therefore conclude that financial deepening is key in determining the rate at which an economy grows.

Despite the robust financial deepening initiatives in Kenya in the past ten years and a strong financial sector in Africa, Kenya still ranks lower in economic growth than a number of countries in Africa. The leading countries in economy growth in Africa are Rwanda (9.4%), Ethiopia (8.3%), Djibouti (7.5%), Cote D' Ivore (6.8%), Uganda (6.5%), Ghana (6.5%), Niger (5.8%), Tanzania (5.8%), Burkina Faso (5.7%), Egypt (5.6%), Sierra Leone (5.5%) and Kenya (5.4%) (World Bank, 2019).

There exist many studies on nexus between financial deepening and economic growth. Gurley & Shaw (1955) and Goldsmith (1969) research work indicate that economy development of a nation is influenced by its fiscal system deepening to a great extent. A nation's financial development level is a suitable measure of growth of the economy, capital increase and advancement in technology (Levine, 1996; Levine 1997; King & Levine, 1993). Sindani (2013) studied nexus between financial deepening and economic growth and recognized that financial deepening is essential for the economy to grow because it increases the savings and investment levels. Omondi (2015) assed effect of financial deepening on economic growth in Kenya and established a significant correlation between financial deepening in capital markets and Kenya's economy growth. Bakang (2015) studied effect of financial deepening on economy growth in Kenya revealed a positive nexus between financial deepening and Kenya' economy development.

Different scholars have covered different periods and therefore time lapse has brought changes in financial deepening and economic growth. In addition variables used vary from one study to another. Although a lot of research has been done on financial deepening and economic growth, existing literature present several gaps in scope of time and context. The current study hence sought to establish relationship between financial deepening and

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economic growth using five key determinants of economic growth, namely: broad money, real interest rate, foreign direct investment, bank credit to private sector and market capitalization.

1.3 Objective of the Study

To examine relationship between financial deepening and economic growth in Kenya.

1.4 Value of the Study

Research findings may benefit monetary as well as fiscal policy makers in Kenya, Kenyan financial institutions, global development partners and academic scholars. For the policy makers, the findings of the study would inform them of the effectiveness of different policies initiated to promote financial deepening and the contribution of these policies in growth of the country's economy. The results may further inform future policy formulations. For the financial institutions, the study findings will inform them of the level of financial deepening achieved through different innovations in the financial sector, how the financial deepening can be improved and its effect on the GDP growth. For scholars, the study findings add to current empirical studies. Results may inform future research and also suggest areas of further research in financial deepening and economic growth.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter covers theoretical framework, a review of empirical literature, conceptual framework, summary of reviewed literature as well as research gaps.

2.2 Theoretical Framework

This study was guided by three theories that is Financial Repression Theory, Finance Growth Theory and Financial Intermediation Theory. These theories helped to enlighten on the relationship between financial deepening and Kenya's economic growth.

2.2.1 Financial Repression Theory

The theory of financial repression as fronted by Shaw &McKinnon (1973) describes how government policies favour internal borrowing with the aim of reducing external debt. Some of the policies used in financial repression are giving loans to the government directly, interest rates capping and regulating funds sharing amongst countries. These policies have been used in less developed countries with the intention of settling external government debt but this has resulted to slow economic growth. Gitau (2015) described financial repression as government policies, rules and non-market restraints which cripple financial intermediation in an economy.

In his study on financial repression, Luintel (1997) concluded that government policies that are repressive in nature affect financial deepening, investment and financial development negatively. Financial repression has been discussed by McKinnon (1973) & Shaw (1973) as affecting economic growth and development of monetary sector negatively particularly in unindustrialized nations. Khalaf and Sanhita (2009) observed that various third world nations have implemented harsh regulations that lower savings and investments levels

hence dampening financial development. After the global financial crisis governments in developed economies have used repressive policies to obtain less charged capital from the financial markets (Reinhart, 2012). Reinhart (2012), however, observed that some republics for instance Japan and South Korea have employed repressive regulations like selective crediting to hasten industrialization as well as economic development.

2.2.2 Financial Growth Theory

Finance growth theory supports stability of the financial intermediation. The theory further stipulates that as people seek for more financial services, the financial markets evolve. Levine (2005) points out that developed financial systems helps to cope up with external financing challenges, hence influencing economic development. Schumpter (1911) observed that provision of efficient markets stimulates a country economic development. Levin and Zervos (1996) emphasized that effective financial systems play a positive part in economic development. Therefore, financial development is an indicator of development in various segments of the economy.

2.2.3 Financial Intermediation Theory

Andries (2009) stated that financial intermediaries are very important in financial deepening by mediating between the lenders and users of finances. Financial intermediation is transferring resources from sectors with adequate funds to sectors with shortage of funds. Andries (2009) concludes that financial intermediation theory focuses on two concepts i.e. informational asymmetry and agency theory. Diamond (1984) in his endeavor to minimize costs of monitoring information between people accessing credit and financiers, developed theory of financial intermediation. He explained that funds intermediaries are better placed to effectively monitor borrowers through a delegated role.

The intermediaries reduce information monitoring costs through diversification. Financial intermediaries have three main roles that include providing access to capital, financial diversification and utilization.

According to Diamond & Dybrig (1983) financial intermediation involves banks transforming illiquid assets into liquid liabilities. He further explains that investors or bank customers are generally risk takers and not sure about the future time when they require their savings back. In the absence of financial intermediation, investors or depositors would be unable to access non-liquid financial resources which produce higher returns.

2.3 Determinants of Economic Growth

2.3.1 Broad Money Supply (M2)

Broad Money Supply is an indicator of how monetized an economy is and can be calculated from Narrow Money (i.e. hard currency and liquid assets), one-day money market funds and short term deposits in banks. Dingela et al (2017) carried research to analyze impact of broad funds supply (M2) on economy growth (GDP) in South Africa. The researchers utilized panel data of 36 years (1980 – 2016). They established a significant correlation between broad money supply and economic growth. Adan (2017) study showed a negative correlation between broad money supply and economy development. His study showed that as broad money reduces, economic growth increases. In reality, however, an increase in money supply during deflationary times is expected to result in development in the economy. Onwumere et al (2012) study revealed that both velocity of broad money and market liquidity promotes growth of the economy.

2.3.2 Real Interest Rate

Real Interest Rate refer to inflation-adjusted interest rate. It gives the actual cost of credit to a borrower and the actual earnings to the financier. The actual interest rates of investments refer to excess of nominal interest rates above inflation rates. According to studies by McKinnon (1973) and Shaw (1973), controlling interest rates adversely affect economic growth of a nation. Both researchers recommended removal of interest rate ceilings to stop selective credit allocation. McKinnon (1973) further argued that high interest rates coupled with financial deepening spurred economic growth.

A study by Odhiambo (2009) demonstrated that changes in interest rates eventually affect fiscal deepness and economic growth. Through their regression as well as correlation analysis Mutinda (2014) and Omondi (2015) revealed that Kenya's economic growth is adversely impacted by increase in interest rates. Omondi (2015) further observed that interest rate liberalization in Kenya has influenced financial depth hence accelerating economic growth. Gitau (2015) revealed a negative correlation between interest rate ceilings and credit risk. He therefore concluded that restrictive interest rates result in reduced market efficiency hence less efficiently allocated capital.

2.3.3 Bank Credit to Private Sector

This refers to loans and advances that have been extended to the private enterprises in a country presented as a ratio of Nominal GDP. This measure uses private organizations because they are more efficient in capital utilization. Nzotta & Okereke (2009) established that financial intermediaries had not played their intermediation role effectively particularly in ensuring efficient distribution of credit and in the monetization of the economy. Adan (2017) concluded that as allocation of funds to the privatized

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organizations increases, economic growth is also realized in Kenya. He further observed that increase of money to the private sector spurs creation of jobs, improved quality of products produced in Kenya and services offered ultimately resulting to economic growth. Adegboyega & Odusanya (2014) study on correlation between economic improvement and economy progression in Nigeria established a positive correlation between lending to privately owned entities and GDP.

2.3.4 Foreign Direct Investment

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

Though the focus of their study was not established, Hansen & Rand (2006) established a significant correlation concerning FDI and growth of the economy. Eller et al (2006) research aimed at determining effect of monetary sector deepening and foreigners' direct investments on developing the economy. Findings established that quality and FDI level affects the financial sector eventually resulting to positive changes in the economy especially in third world nations. Shuaibu & Salisu (2013) established that FDI, financial depth and economic development have a lasting relationship. Abala (2014) views FDI

provides capital, increases competition and provides efficient technology all which spur economic growth.

2.3.5 Market Capitalization

Market capitalization is sum of all shares listed with Nairobi Securities Exchange. Singh (1997) defined role of the stock markets as provision of savings from the domestic market and increment of the quantity and value of funds invested which would ultimately accelerate economic growth. Utilizing Granger test, Osomwanyi and Kasimu (2013) carried out studies in Kenya, Nigeria and Ghana to determine correlation between money market and economy progression. Findings showed no link between money market development and economy development in Ghana. Results, however, indicated a bi-directional link between money market improvement and progression of Kenya and Nigeria economies. In a study that they carried out on 43 countries Mishra and Narayan (2015), established that money market stability significantly affected growth of the economy.

Ikikii & Nzomoi (2013) conducted a study to investigate how money market improvement affected economic development in Kenya. Findings established that money market improvement and economic progression are positively correlated. Muriithi (2016) used co-integration where he established that market capitalization had a long time negative and notable influence on economic growth.

2.4 Empirical Review

Within the last two decades, there exists many studies on diverse aspects of financial deepening and economic growth. Okafor et al (2016) explored effect of fiscal developing indicators on trade and industry development in Nigeria. He applied Johansen Co-

integration Test to show presence of a lasting correlation between economic growth, general cash supply and private sector funds allocation. Mohd (2012) carried out time series analysis of data in Malaysia from 1974-2004 to determine how NBFI development affected economic growth. He used bound testing method to examine whether there exists equilibrium correlation between NBFIs improvement and economy development. Study results reveal that NBFI's improvement had significant positive influence on per capita income in Malaysia.

Akinlo & Egbetunde (2010) conducted research on correlation between fiscal development and economy improvement in 10 Sub-Saharan Republics. Vector error correction model was used. Findings established a significant correlation and co-integration between fiscal development and economy improvement. Levine (2001) asserted that changes in financial deepening do not promote growth in the economy rather economic growth ensures upsurge in financial intermediaries.

Ndebbio (2004) used ordinary least squares (OLS) procedure to investigate correlation between fiscal development and growth of economy of some African nations. Regression was done for 34 nations in Sub-Saharan. M2 to GDP and actual financial balances progression rates were used to assess financial development. Findings also established that financial sector improvement contributes to economic growth. Chistopoulos & Tsionas (2004) analyzed correlation between fiscal deepness and economic growth in ten third world nations. The relationship was assessed using Ordinary Least Squares. For the ten third world nations, the research implied financial depth affects economic growth.

Ogola (2016) studied impact of fiscal development on Kenya's economic development. He used Granger Causality Test and descriptive statistics to examine relationship between fiscal development and development of Kenya's economy. Findings suggested that improvement in money markets fosters progress of the economy. Nevertheless, development of the economy affect fiscal development indirectly. Bakang (2015) studied relationship between financial depth and Kenya's economic growth. This study panel data was 2000- 2013. Four models of co-integration tests were used to evaluate long term and temporary effects. Findings established that Kenyan financial institutions helps to achieve positive growth in the economy.

Omondi (2015) study examined effect of financial depth on Kenya's economy progression. Secondary data was collected from 1995 to 2014. Descriptive statistics were used for analysis. Findings established that different variables of financial deepening were positively correlated to GDP. An empirical study was done by Onuonga (2014) to investigate correlation between economy growth and Kenya's fiscal development from 1980 to 2011. Findings showed a stable correlation between fiscal improvement and positive changes in the economy of Kenya. Findings further established that fiscal development contributed significantly to growth of the economy. The Granger tests established that correlation concerning fiscal improvement and progression of the economy in Kenya is bi-directional. This shows that fiscal improvement hastens and enhances the growth of economy in Kenya. Furthermore, economy growth contributes to fiscal sector growth. Odhiambo (2008) carried out research on correlation between fiscal deepness, savings and economy development in Kenya. The study included investments as a moderating variable hence forming a simple tri-variate relationship model. This study used

co-integration and error-correction methods. Findings established different uni-directional connection from economy to fiscal sector development. Findings further established that economy development Granger enhances investments leading to financial sector growth in Kenya.

2.5 Conceptual Framework

A conceptual framework is a brief depiction of a concept studied accompanied by a graphic representation of main study variables (Mugenda, 2008).

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Independent variables                          Dependent variable

┌─────────────────────┐
│ Broad Money Supply  │──────────────→
│ (M2)                │
└─────────────────────┘
                                          ┌──────────────────┐
┌─────────────────────┐                   │                  │
│ Real Interest Rates │──────────────→    │                  │
│                     │                   │                  │
└─────────────────────┘                   │                  │
                                          │                  │
┌─────────────────────┐                   │ Economic Growth  │
│ Bank Credit to      │──────────────→    │                  │
│ Private Sector      │                   │ (RGDP)           │
└─────────────────────┘                   │                  │
                                          │                  │
┌─────────────────────┐                   │                  │
│ Foreign     Direct  │──────────────→    │                  │
│ Investment (FDI)    │                   │                  │
└─────────────────────┘                   └──────────────────┘

┌─────────────────────┐
│ Market              │──────────────→
│ Capitalization      │
└─────────────────────┘
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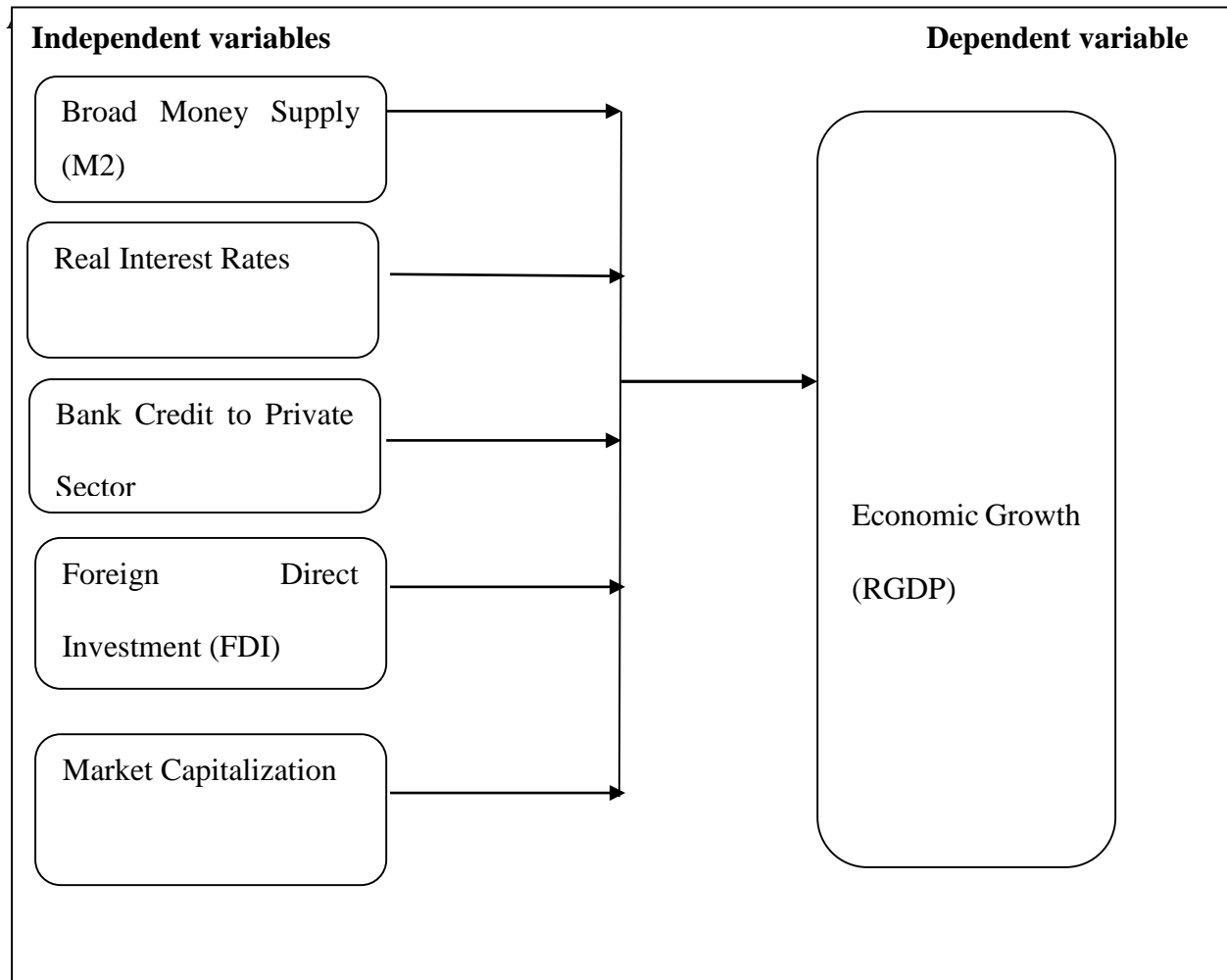
Figure 2.1: Conceptual Framework

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This study sought to establish the relationship between financial deepening and the Kenyan economic growth. Specific variables that were investigated alongside economic growth (Real GDP) are market capitalization, FDI, bank loan to privately owned entities, real interest rates and broad money supply (M2) from 2000 to 2019. Three major sources of secondary data were the CBK bulletins, Kenya National Bureau of Statistics (KNBS), Nairobi Securities Exchange bulletins and newsletters.

3.2 Research Design

A research design is an approach applied while carrying out an inquiry into a research problem (Creswell, 2007). This study used the time series analysis approach and descriptive design for data collected over a period of ten years from 2010 to 2019. Descriptive survey designs aids to answer the questions of who, what, when, where and how a phenomena is related to a particular study problem. Descriptive research also helps to get information on the existing problem under study and to describe "what exists" with regards to the study variables. The reason for this design is that the research used secondary data which is hard to manipulate unlike primary data that can be manipulated easily.

3.3 Data Collection

The research utilized secondary data collected from various sources; Market capitalization data from Capital Market Authority, Foreign Direct Investment, Bank Credit to Private Sector, Real Interest Rates, Broad Money Supply and GDP from Central Bank of Kenya and Kenya National Bureau of Statistics (KNBS). Data collected was summarized and tabulated as shown in Appendix 1.0

3.4 Data Analysis

Both descriptive and inferential statistics were used for analysis. Statistical package for social science (SPSS) version 24 aided in data analysis. Descriptive statistics specifically mean and standard deviation for every variable were calculated and presented in tables.

3.4.1 Analytical Model

A multivariate regression model was used to establish relationship between financial deepening and economic growth. In this analytical model dependent and independent variables were determined. The model expresses the multivariate regression equation which occurs between dependent and independent variables. The regression equation is expressed as below;

$$Y = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \alpha_3 X_3 + \alpha_4 X_4 + \alpha_5 X_5 + \varepsilon$$

Where   y = Gross Domestic Product (GDP Growth Rate).

         X_1 = Broad Money Supply to Real GDP.

         X_2 = Ratio of Real Interest Rate to Real GDP.

         X_3 = Ratio of Bank Credit to Private Sector to Real GDP

         X_4 = Ratio of Foreign Direct Investment to Real GDP.

         X_5 = Ratio of Market Capitalization to Real GDP.

         α_0 = Constant

The independent variables X1, X2, X3, X4 and X5 are measures of financial deepening as recommended in the work of Shaw &McKinnon (1973). Onwumere et al., (2012), Aduda et al., (2014) and Omondi (2015) adopted a similar analytical model in their work.

CHAPTER FOUR: DATA ANALYSIS AND PRESENTATION

4.1 Introduction

The section focuses on data analysis, interpretation, presentation and discussion of findings. This research aimed at determining relationship between financial deepening and economic growth in Kenya. The study was based on 20 years quarterly data from 2000 to 2019. This data incorporated published annual reports from Central Bank of Kenya, Kenya National Bureau of Statistics and Capital Market Authority. Data collected is presented in Appendix I. The data was then subjected to the study dependent variable which is economic growth as measured by GDP growth. Findings are presented in Tables 4.1, 4.2, 4.3, 4.4, and 4.5.

4.2 Descriptive Statistics

This section presents the summary descriptive statistics of the variables of this study: Table 4.1 presents descriptive statistics on GDP growth, Broad money supply, Interest rate, credit to private sector, foreign direct investments and market capitalization.

Table 4.1: Descriptive Statistics

Variables m	Minimum(min)	Maximum (max)	Median (med)	Mean (m)	Standard deviation (std)
GDP growth	-2.50	8.80	5.2000	4.8350	2.08558
M2/GDP	1.09	2.30	1.6200	1.6878	0.37984
Interest rate/GDP	1.00	9.96	2.3900	3.7586	2.56705
Credit to private sector/GDP	0.95	3.61	1.3800	1.5151	0.46208
FDI/GDP	1.12	4.38	1.9850	2.2483	0.77014
Market capitalization/GDP	1.745	17.41	5.2600	6.8664	4.1332

Source: Study Data (2020)

The average GDP growth for the study period was 4.8 percent. This is lower than the government projection of 6 percent per year as required in Kenya Development plan, 2007. The maximum value is 8.80% and a minimum of -2.20. The negative value shows that there was decline in GPD growth of less than 0% for some years. The mean value M2/GDP ratio was 1.68 for the period under study, a minimum ratio of 1.09 and a maximum ratio of 2.30. The standard deviation was 0.37984 which indicates a dispersion of money supply from the mean. The mean value of interest rate/GDP was 3.7, variation was 2.56705 while the minimum ratio was 1.00 and the maximum 9.96.

From the findings on Table 4.1, credit to private sector /GDP(m=1.51 ,max = 3.61, min= 0.95, std=0.46208), foreign direct investment/GDP (m=2.24, max=4.38, min=1.12), market capitalization/GDP (m= 6.8, std=4.13325, max= 17.41, min= 1.74). This means that all the sector variables data are clustered closely as represented by small standard deviation therefore the rise/reduction from one period to another is small.

4.3 Inferential Statistics

Inferential statistics were analyzed to establish nexus between the study variable. The inferential statistics involved were Correlation coefficient and regression analysis.

4.3.1 Correlation Coefficient

The study utilized the Karl Pearson's coefficient of correlation (r) to portray relationship between the study variables. Correlation coefficient (r) from 0.10-0.29 shows weak correlation, 0.30 - 0.49 medium and 0.50- 1.0 is strong correlation (Wong & Hiew, 2005). The variables were significant as per the 0.05 level of significance used for this study.

Table 4.2: Correlation Coefficient

Variables		GDP	Broad money supply	Interest rate	Credit to private sector	FDI	Market capitalization
GDP	Pearson Correlation	1					
	Sig. (2-tailed)						
Broad money supply	Pearson Correlation	.711	1				
	Sig. (2-tailed)	.000					
Interest rate	Pearson Correlation	-.323[**]	-.328	1			
	Sig. (2-tailed)	.000	.003				
Credit to private sector	Pearson Correlation	.449[**]	.881	.300	1		
	Sig. (2-tailed)	.001	.000	.007			
FDI	Pearson Correlation	.349	.827	.160	.691	1	
	Sig. (2-tailed)	.002	.002	.156	.000		
Market capitalization	Pearson Correlation	.019	.218	.186	.197	.117	1
	Sig. (2-tailed)	.870	.052	.098	.080	.300	

**. Correlation is significant at the 0.05 level (2-tailed).
Source: Study Data (2020)

Findings in Table 4.2 show that Pearson correlation coefficient for broad money supply (M2) and GDP was (r= 0.711, p-value=0.000), that of interest rate and GDP was (r= -.323, p-value=0.000), correlation between credit to private sector and GDP was (r = 0.449, p-value=0.001), correlation between foreign direct investments and GDP was (r = 0.349, p-value=0.002) and correlation between market capitalization and GDP (r = 0.019, p-value=0.870). This shows that the correlation between broad money supply (M2) and GDP was strong and significant, that of interest rates and GDP was medium and had a negative significance, correlation between credit to private sector and

GDP was medium and had a positive significance, correlation between FDI and GDP was also medium and positive while correlation between market capitalization and GDP was weak and insignificant. Based on this statistical analysis result, there is satisfactory prove to warrant the claim that there is significant relationship between broad money supply, interest rates, credit to private sector, FDI and economic growth and an insignificant relationship between market capitalization and economic growth in Kenya.

4.3.2 Analysis of Variance

From Table 4.3 below, the model was significant (p-value = 0.001) at 0.05 level in clarifying the linear relationship between the study variables. Furthermore, the F-statistic is 4.419 which shows that the model is suitable to assess the relationship between the study variables.

Table 4.3: Analysis of Variance

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	79.013	5	15.803	4.419	.001[b]
	Residual	264.609	74	3.576		
	Total	343.622	79			

Predicators: (constant) broad money supply, interest rates, credit to private sector, FDI and market capitalization
Dependent variable: Economic growth
Source: Study Data (2020)

4.3.3 Coefficient of Determination

The coefficient of determination helps to determine suitability of the model in predicting future results. The Model summary is presented in Table 4.4

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Table 4.4: Model Summary.

Model	R	r^2	Adjusted r^2	Std. Error of the Estimate
1	0.866	0.833	0.829	1.89

Predicators: (constant) broad money supply, interest rates, credit to private sector, FDI and market capitalization

Source: Study Data (2020)

Adjusted R squared shows changes in independent variables caused by changes in dependent variables. Findings shows that the independent variables (broad money supply, interest rates, credit to private sector, FDI and market capitalization), contribute 83.3% of economic growth as represented by (r^2). This implies that other financial deepening variables excluded from the study account for to 16.7% of economic growth.

4.3.4 Multiple Regression

Multiple regression analysis aims at providing an in-depth understanding of relationship between study variables. In this study, multiple regression was applied to examine how a change in financial deepening causes a change in the economy growth. Findings are presented in Table 4.5

Table 4.5: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant/Y Intercept	1.782	1.402		1.272	
M2	1.890	1.597	.344	1.184	.000
Interest Rate	-.194	.090	.239	2.148	.002
Credit to private sector	.637	.982	.053	.241	.003
FD1	.211	.510	.078	.414	.000
Market capitalization	.069	.053	.137	1.295	.870

Dependent variable: Economic growth

Source: Study Data (2020)

As per the SPSS generated in Table 4. 5, the equation,

$$Y = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \alpha_3 X_3 + \alpha_4 X_4 + \alpha_5 X_5 + \varepsilon$$

becomes;

Economic growth $= 1.782 + 1.890 M2 - 0.194$ Interest rate $+ 0.637$ Credit to private sector $+ 0.211$ FDI $+ 0.069$ Market capitalization

Findings show that from the above regression model, holding broad money supply, interest rates, credit to private sector, FDI and market capitalization at constant zero, economic growth would be at 1.782 (constant). A unit change in broad money supply may result to a changes in economic growth by 1.890, a change in interest rates may result to a change in economic growth by -0.194, a change in credit to private sector may result to a change in economic growth by 0.637, a change in FDI may result to a change in economic growth by 0.211 and a unit change in market capitalization may result to a change in economic growth by 0.069. Findings also supports a significant relationship between broad money supply (p-value=0.000), interest rates (p-

value=0.002), credit to private sector (p-value=0.003), FDI (p-value=0.000) and economic growth while there is an insignificant relationship between market capitalization and economic growth (p-value=0.870).

4.4 Interpretation of the Findings

The study variables (holding broad money supply, interest rates, credit to private sector, FDI and market capitalization) account for 83.3% of GPD. This implies that other financial deepening indicators excluded in this study account for 16.7% of GDP. The regression model was statistically significant and suitable for determine the nexus between study variables (p-value = 0.001, F= 4.419). From table 4.5 holding broad money supply, interest rates, credit to private sector, FDI and market capitalization at constant zero, economic growth would be at 1.782 (constant) according to our research model. The study revealed that change in broad money supply may result to changes in GDP by 1.890, a change in interest rates may result to changes in GDP by -0.194, a change in credit to private sector may result to a change in GDP 0.637, a change in FDI may result to a change in GDP by 0.211 and a unit change in market capitalization may result to a change in GDP by 0.069. The study independent variables (broad money supply, interest rates, credit to private sector, FDI and market capitalization) have 0.000, 0.002, 0.003, 0.000 and 0.870 levels of significance. This shows that GDP is significantly related to broad money supply, interest rates, credit to private sector, FDI and insignificant relationship with market capitalization.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of findings, conclusion, recommendations, and recommendations for further research;

5.2 Summary of Findings

The main objective was to find out or determine the relationship between financial deepening and economic growth in Kenya. Findings showed a positive significant relationship between broad money supply and economic growth (r= 0.711, p-value=0.000). Increasing money supply may increase consumer spending. When people have money at their disposal, they tend to shop more and money circulates in almost every sector of the economy. The findings concur with Dingela et al (2017) study which established a significant positive correlation between broad money supply and economic growth.

Findings further showed a negative significant relationship between interest rates and economic growth at (r= -.323, p-value=0.000). With high interest rates, borrowing costs increases automatically hence reducing disposable income which hinders consumer spending. Low interest rates on the other hand encourages people to borrow, make more investments, pay more taxes resulting to economic growth. The finding is in agreement with Gitau (2015) who found a negative correlation between interest rate ceilings and credit risk.

The study also reveals a positive significant correlation between credit to private sector and economic growth (r= 0.449, p-value=0.001). Private sector is the engine of growth in an economy through job creation and taxes remittance that finance public services and investments. Kenya's private sector accounts for 60% of investments providing approximately 80% of government financial sources. The financial sector, as the basic lender for the private sector, is a key financial intermediation conduit via which financial resources can be mobilized for productive investments. Findings concur with Adegboyega and Odusanya (2014) who established a positive correlation between lending to privately owned entities and GDP.

Findings established a positive and significant relationship between foreign direct investments and economic growth (r= 0.349, p-value=0.002). FDI provides a gate path to global markets and its also a channel for host nation to participate in global business. FDI allows for technology transfer, competition in the export market, and human resources development, and earnings generated by FDI contribute to the host country's corporate tax revenue. FDI boost manufacturing and the services sector which helps to create employment amongst citizen. The finding is in agreement with Shuaibu and Salisu (2013) who established that FDI and economic development have a strong relationship. The study further reveals an insignificant relationship between market capitalization and economy growth (r= 0.019, p-value=0.870). Capital Market improves an economy's capability to source for capital and spread risks hence prompting growth. The finding concurs with Osomwanyi and Kasimu (2013) who found no relationship between money market development and economy development.

5.3 Conclusion

The study objectives were achieved through revealing the relationship between financial deepening and economic growth. Four study variables (broad money supply, interest rates, credit to private sector and FDI) have a significant relationship with economic growth while market capitalization has an insignificant relationship with economic growth. Money supply increases purchasing power hence ensuring money circulation in the country. Interest rates have a negative significant relationship on economic growth since higher interest rates discourages people from borrowing and possible expansion of businesses and investments.

Credit to the private sector has the potential for boosting economic growth. The financial sector, as the primary source of credit for the private sector, is an important route of financial intermediation through which financial resources can be mobilized for productive investment, which is required to achieve the high economic development path envisioned in Vision 2030. Foreign direct investment (FDI) was shown to play a significant impact in Kenya's economic growth. Foreign investment is an important portion of Kenya's manufactured exports, so creating a favorable climate for it is beneficial to the country's economy. As a result, increasing investment is critical because it has shown a strong and positive association with GDP in the short term.

5.4 Recommendations

The government should ensure that there is enough money in circulation to stimulate purchasing power amongst consumers. In order to control interest rates, policy makers should address the domestic borrowing policy. The country should control the interest rates through reduced domestic borrowing. This will ensure that commercial banks offer commercial loans to private sectors at affordable interest rates. Policy makers should design favorable financial policies that helps in

stabilizing exchange rate hence inspiring foreign direct investments and improve growth of the economy. Government supply-side policies, like government subsidies and tax rebates, are recommended for attracting and channeling foreign direct investment (FDI) to more productive and comparative advantaged manufactured exports sectors, in order to increase domestic producers' productive and exports supply capacity and efficiency. To support exports and encourage outward-oriented growth, market-friendly regulatory measures, stronger property rights and contract enforcement, and an improved trade policy framework are all highly recommended. Policymakers should devise a strategy to ensure that greater effort is put into enhancing efficiency, cutting transaction costs, and expanding liquidity in the Nairobi Securities Market, with the goal of increasing equity turnover. Due to the simplicity of transactions inside the market, the NSE will become more vibrant in its operation and volume of transactions.

5.5 Limitations of the Study

The study used time series data updated after every three months for 20 years. The study results are hence limited to analysis of 20 years data. This research concentrated on five variables only whereas other important areas such as money markets, bond markets, inflation rates and exchange rates which play a significant role in economic development were not covered.

5.6 Suggestions for Further of Study

Out of the five financial deepening variables studied, four were significant and one was insignificant. The five independent variables that were studied contribute 83.3% of economic growth hence gap of 16.7% is not accounted for. Therefore, future researchers may fill this research gap by including the other firm specific variables like inflation and exchange rates. The study would recommend a more detailed study on the role of FDI and financial markets in driving the economic growth of Kenya. Different variables such as stock market, bond market, and money

market turnover should be used. A similar study ought to be conducted in other East African countries for comparison purposes.

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APPENDICES

APPENDIX I: DATA COLLECTION SHEET

Year	Quarter	GDP (Million Kshs)	M2 (Million Kshs)	Interest rate (%)	Bank credit to private sector (Million Kshs)	FDI (Million Kshs)	Market capitalization (Million Kshs)
2019	1st	1,238,676.00	2,781,535.00	12.49	2,509,599.00	505,200.00	229,800.43
	2nd	1,252,195.00	2,869,161.00	12.48	2,571,324.00	511,700.00	230,000.29
	3rd	1,270,658.00	2,871,974.00	12.44	2,645,416.00	520,300.00	222,003.31
	4th	1,289,558.00	2,881,984.00	12.35	2,664,383.00	565,400.00	246,200.80
2018	1st	1,173,594.00	2,555,289.00	12.35	2,399,811.00	422,000.00	271,800.55
	2nd	1,187,857.00	2,633,816.00	13.60	2,423,216.00	453,600.00	259,000.01
	3rd	1,206,907.00	2,696,301.00	13.23	2,452,862.00	4681,00.00	240,300.75
	4th	1,224,612.00	2,725,063.00	12.84	2,487,623.00	465,000.00	213,900.54
2017	1st	1,104,388.00	2,380,704.00	12.55	2,341,122.00	302,000.00	295,600.26
	2nd	1,120,019.00	2,477,942.00	13.65	2,329,666.00	322,800.00	340,001.94
	3rd	1,131,278.00	2,518,443.00	13.66	2,349,042.00	361,400.00	385,800.70
	4th	1,152,360.00	2,538,439.00	13.68	2,396,916.00	301,400.00	374,800.75
2016	1st	1,049,182.00	2,277,296.00	13.67	2,238,162.00	2003,00.00	387,200.50
	2nd	1,072,502.00	2,352,640.00	17.92	2,259,910.00	230,600.00	382,500.89
	3rd	1,081,509.00	2,357,406.00	18.14	2,285,597.00	213,100.00	330,300.57
	4th	1,099,024.00	2,375,823.00	16.54	2,321,560.00	245,700.00	322,800.27
2015	1st	998,735.00	2,036,195.00	13.68	1,909,281.00	235,005.30	534,009.67
	2nd	1,011,690.00	2,120,967.00	15.62	2,010,128.00	250,007.30	492,008.33
	3rd	1,026,597.00	2,161,244.00	15.57	2,131,389.00	250,031.90	425,100.33
	4th	1,026,512.00	2,142,344.00	16.08	2,208,167.00	250,040.27	397,500.07
2014	1st	939,421.00	1,746,803.00	17.34	1,599,141.00	199,004.00	490,800.83
	2nd	959,131.00	1,827,803.00	17.00	1,691,096.00	211,008.10	490,500.33

	3rd	970,431.00	1,890,371.00	16.67	1,789,768.00	218,000.90	510,000.33
	4th	977,060.00	1,965,251.00	16.40	1,871,027.00	226,800.10	515,400.00
2013	1st	899,423.00	1,479,424.00	15.97	1,315,531.00	175,001.30	459,900.00
	2nd	908,648.00	1,557,144.00	17.90	1,353,518.00	180,001.90	478,900.67
	3rd	919,529.00	1,598,954.00	17.43	1,432,436.00	185,005.40	475,900.67
	4th	927,229.00	1,664,385.00	16.94	1,523,825.00	192,500.05	498,800.00
2012	1st	844,810.00	1,255,047.00	16.96	1,175,781.00	150,200.10	329,800.33
	2nd	848,021.00	1,314,226.00	20.05	1,218,950.00	157,100.10	363,400.00
	3rd	862,288.00	1,386,145.00	20.21	1,239,253.00	165,800.90	389,000.00
	4th	885,777.00	1,456,090.00	20.00	1,277,735.00	170,500.10	412,100.00
2011	1st	840,308.00	1,129,632.00	18.32	936,875.00	165,800.90	419,700.39
	2nd	850,185.00	1,164,449.00	13.95	1,015,925.00	157,001.10	402,500.00
	3rd	869,176.00	1,211,263.00	13.90	1,113,031.00	150,200.10	349,500.67
	4th	893,293.00	1,243,905.00	14.40	1,168,786.00	145,700.40	328,700.00
2010	1st	739,896.00	938,003.00	17.90	760,008.00	143,006.20	370,900.00
	2nd	761,606.00	1,000,393.00	14.92	792,679.00	130,000.00	427,100.33
	3rd	790,837.00	1,055,491.00	14.47	835,344.00	143,600.10	450,700.67
	4th	809,998.00	1,091,455.00	14.15	883,492.00	145,700.40	449,500.78
2009	1st	702,855.00	770,784.00	13.89	668,935.00	118,000.34	294,800.35
	2nd	711,723.00	800,321.00	14.77	685,073.00	121,500.75	297,500.26
	3rd	722,388.00	836,937.00	14.88	697,934.00	129,000.00	310,002.33
	4th	726,699.00	883,108.00	14.76	730,191.00	124,300.38	317,300.54
2008	1st	328,746.00	690,580.00	14.79	530,446.00	105,800.72	487,600.09
	2nd	341,548.00	723,174.00	13.89	579,182.00	109,000.48	543,200.47
	3rd	346,238.00	726,331.00	13.99	612,869.00	112,300.20	456,500.82
	4th	343,147.00	757,129.00	13.74	655,790.00	115,700.20	341,600.43
2007	1st	326,882.00	564,606.00	14.44	457,033.00	85,400.78	543,100.74

	2nd	335,788.00	591,196.00	13.66	467,952.00	91,400.61	511,500.98
	3rd	338,458.00	624,289.00	13.28	467,546.00	97,800.63	528,600.09
	4th	334,036.00	649,189.00	13.06	495,803.00	100,018.00	521,600.80
2006	1st	302,537.00	484,957.00	13.31	406,648.00	67,000.85	411,000.02
	2nd	309,082.00	514,172.00	13.26	423,359.00	71,700.81	421,100.82
	3rd	318,956.00	533,743.00	13.75	424,766.00	67,000.85	454,100.49
	4th	317,239.00	551,037.00	13.63	438,709.00	59,300.42	552,500.07
2005	1st	284,404.00	430,812.00	13.89	371,745.00	61,700.16	314,400.42
	2nd	291,937.00	438,428.00	12.43	379,349.00	65,400.19	356,008.38
	3rd	295,610.00	450,648.00	13.10	384,331.00	65,700.70	391,700.79
	4th	300,667.00	469,715.00	12.98	395,449.00	55,200.20	396,200.20
2004	1st	271,820.00	393,516.00	13.02	307,571.00	50,300.37	303,400.61
	2nd	272,500.00	402,946.00	13.20	317,112.00	51,300.44	267,008.83
	3rd	274,332.00	415,522.00	12.46	333,095.00	53,300.97	269,500.86
	4th	283,717.00	426,402.00	12.25	356,764.00	55,400.60	289,700.86
2003	1st	258,603.00	351,544.00	12.20	285,961.00	48,400.00	155,800.90
	2nd	259,367.00	355,533.00	18.78	285,359.00	51,400.00	195,200.09
	3rd	267,228.00	370,209.00	17.60	289,900.00	53,300.00	216,400.14
	4th	269,316.00	386,624.00	14.97	298,298.00	55,100.00	264,300.93
2002	1st	259,366.00	319,249.00	14.09	269,058.00	39,300.00	128,000.03
	2nd	257,953.00	327,608.00	19.11	273,929.00	40,200.00	109,500.67
	3rd	251,650.00	335,949.00	18.53	279,358.00	41,500.00	106,100.50
	4th	256,316.00	344,656.00	18.12	285,384.00	42,600.00	121,300.44
2001	1st	248,733.00	308,811.00	18.24	289,763.00	29,600.00	188,600.95
	2nd	257,079.00	308,253.00	20.19	291,746.00	31,000.00	168,700.17
	3rd	258,558.00	307,224.00	19.34	282,632.00	31,700.00	150,900.02
	4th	255,414.00	318,590.00	19.56	273,588.00	31,800.00	141,600.14

2000	1st	243,742.00	309,355.00	24.76	276,568.00	27,500.00	227,800.86
	2nd	241,632.00	311,881.00	23.32	280,870.00	28,100.00	207,200.73
	3rd	243,012.00	311,530.00	21.40	282,591.00	31,700.00	197,500.60
	4th	247,673.00	309,670.00	19.87	288,906.00	29,700.00	196,200.16

Source: KNBS, CBK, CMA (2020)

APPENDIX II: CALCULATED RATIOS

Year	Quarter	GDP growth	M2/GDP ratio	Interest rate/GDP ratio	Bank credit to private sector/ GDP ratio	FDI/ GDP ratio	Market capitalization/ GDP ratio
2019	1st	5.50	2.24	1.00	2.02	4.07	1.85
	2nd	5.30	2.29	9.96	2.05	4.08	1.83
	3rd	5.20	2.26	9.79	2.08	4.09	1.74
	4th	5.50	2.23	9.57	2.06	4.38	1.90
2018	1st	6.20	2.17	1.05	2.04	3.59	2.31
	2nd	6.00	2.22	1.14	2.03	3.81	2.18
	3rd	6.50	2.23	1.09	2.03	3.87	1.99
	4th	5.20	2.22	1.04	2.03	3.79	1.74
2017	1st	4.40	2.15	1.13	2.11	2.73	2.67
	2nd	4.40	2.21	1.21	2.08	2.88	3.03
	3rd	5.10	2.22	1.20	2.07	3.19	3.41
	4th	5.00	2.20	1.18	2.08	2.61	3.25
2016	1st	6.10	2.17	1.30	2.13	1.90	3.69
	2nd	5.20	2.19	1.67	2.10	2.14	3.05
	3rd	7.20	2.18	1.67	2.11	1.97	2.93
	4th	5.70	2.16	1.50	2.11	2.23	5.35
2015	1st	5.60	2.04	1.38	1.91	2.35	4.87
	2nd	6.10	2.10	1.54	1.98	2.47	4.14
	3rd	6.50	2.10	1.52	2.07	2.46	3.87
	4th	5.20	2.08	1.56	2.15	2.47	5.22
2014	1st	6.00	1.86	1.84	1.70	2.12	5.11
	2nd	4.60	1.94	1.77	1.76	2.20	5.25
	3rd	5.60	1.90	1.71	1.86	2.46	5.27
	4th	5.20	1.94	1.67	1.91	2.58	5.11
2013	1st	4.60	1.64	1.77	1.46	1.94	5.27
	2nd	4.90	1.71	1.96	1.49	1.98	5.17
	3rd	4.10	1.74	1.89	1.55	2.01	5.38
	4th	3.80	1.79	1.82	1.64	2.07	3.90
2012	1st	4.50	1.48	2.00	1.39	1.77	4.28

	2nd	4.70	1.55	2.36	1.43	1.85	4.51
	3rd	5.20	1.60	2.34	1.43	1.92	4.65
	4th	5.00	1.64	2.25	1.44	1.92	4.99
2011	1st	3.40	1.34	2.18	1.11	1.97	4.73
	2nd	4.00	1.37	1.64	1.19	1.84	4.02
	3rd	5.20	1.39	1.60	1.28	1.72	3.67
	4th	1.40	1.26	1.61	1.30	1.63	5.60
2010	1st	6.10	1.35	2.42	1.02	1.94	5.69
	2nd	7.20	1.31	1.95	1.04	1.70	5.54
	3rd	8.30	1.33	1.83	1.05	1.81	4.19
	4th	8.60	1.34	1.74	1.09	1.79	4.18
2009	1st	5.90	1.09	1.97	.95	1.67	4.36
	2nd	4.80	1.12	2.07	.96	1.70	14.80
	3rd	4.20	1.16	2.06	.96	1.78	15.90
	4th	3.30	1.21	2.03	1.00	1.71	13.18
2008	1st	7.50	2.10	4.50	3.61	3.21	16.62
	2nd	8.80	2.30	4.03	1.70	3.19	15.23
	3rd	6.70	2.09	4.04	1.77	3.24	15.61
	4th	5.60	2.20	4.00	1.91	3.37	13.58
2007	1st	5.80	1.72	4.41	1.40	2.61	13.62
	2nd	6.00	1.76	4.06	1.40	2.72	14.23
	3rd	8.20	1.84	3.90	1.38	2.88	17.41
	4th	5.20	1.94	3.91	1.48	3.04	11.05
2006	1st	2.00	1.60	4.40	1.34	2.21	12.23
	2nd	7.40	1.66	4.30	1.37	2.32	13.25
	3rd	8.40	1.67	4.31	1.33	2.10	13.17
	4th	5.90	1.73	4.29	1.38	1.87	11.16
2005	1st	6.90	1.51	4.88	1.30	2.17	8.82
	2nd	5.00	1.50	4.25	1.30	2.24	9.82
	3rd	3.20	1.52	4.43	1.30	2.22	10.21
	4th	5.30	1.56	4.31	1.31	1.83	10.40
2004	1st	-.50	1.44	4.78	1.31	1.85	8.09
	2nd	.40	1.48	4.84	1.16	1.88	9.81
	3rd	6.50	1.51	4.54	1.21	1.94	4.93
	4th	5.20	1.50	4.31	1.25	1.95	4.24
2003	1st	4.10	1.36	4.71	1.10	1.87	6.02

	2nd	.20	1.37	7.24	1.10	1.98	7.52
	3rd	-2.50	1.38	6.58	1.08	1.99	8.09
	4th	.50	1.44	5.55	1.10	2.04	9.81
2002	1st	2.10	1.23	5.43	1.03	1.51	4.93
	2nd	6.30	1.27	7.40	1.06	1.55	4.24
	3rd	6.50	1.33	7.36	1.11	1.64	4.21
	4th	3.20	1.34	7.06	1.11	1.66	4.73
2001	1st	3.00	1.24	7.33	1.16	1.19	7.68
	2nd	2.40	1.20	7.85	1.13	1.20	6.56
	3rd	2.60	1.18	7.42	1.09	1.22	5.83
	4th	4.30	1.24	7.65	1.07	1.24	5.54
2000	1st	2.50	1.27	8.24	1.13	1.12	9.34
	2nd	3.60	1.29	9.60	1.16	1.16	8.57
	3rd	3.80	1.28	8.80	1.16	1.30	8.44
	4th	2.20	1.25	8.00	1.16	1.19	8.32