Addis Ababa University

College of Business and Economics

Department of Accounting and Finance

The Relationship between Commercial Banks' Development Economic and Growth in Ethiopia

A Thesis Submitted to the Department of Accounting and Finance in Partial Fulfillment of the Requirements for the Degree of Masters of Science in Accounting and Finance

By

Melkamu Dereje

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Signed by the Examining Committee:

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Examiner (Internal) _____Signature _____Date _____

Advisor _____ Signature _____Date _____

Statement of Declaration

I, Melkamu Dereje Alemu, hereby declare that a research entitled ‘’**The Impact Commercial Banks’ Developmet in Ethiopian Economic Growth’’** submitted by me for the award of the degree of Master of Science in Accounting and Finance of Addis Ababa University, is original work and it hasn’t been presented for the award of any other Degree, Diploma, Fellowship or other similar titles of any other university or institution.

Advisor: **Melkamu Dereje**

Signature_____

Date_____

Statement of Certification

This is to certify that thesis entitled, "The Impact of Commercial Banks' Development in Ethiopian Economic Growth", undertaken by Melkamu Dereje for the partial fulfillment of degree of Master of Science in Accounting and Finance at Addis Ababa University, to the best of my knowledge, is an original work and is suitable for submission for the reward of the M.Sc. Degree in Accounting and Finance.

Advisor: **Laxmikantham (PhD)**

Signature_____

Date_____

Abstract

The Impact of Commercial Banks' Development in Ethiopian Economic Growth

Addis Ababa University

Melkamu Dereje

The central objective of the study . to empirically investigate the impact of commercial banks' development in the Ethiopian economic growth. To undertake this study, six explanatory variables were considered namely deposit, loan and advances, assets, government expenditure, export and inflation rate. The first three were indicators of development of commercial banks and considered as main independent variables whereas the last three were control variables. The present research has adopted mixed research approaches. Therefore, the study used both secondary and primary sources of data. The current study considers total population of eighteen commercial banks, which are currently operating in Ethiopian banking industry. Of the total population eight commercial banks were selected using purposive/ deliberate sampling techniques. For this study unit root tests, co integration and granger causality tests were conducted. Thus, the study w used both Augmented Dickey Fuller (ADF) test and Philip Perron (PP) unit root test. The result suggested that except RGDP and ASSET all variables were stationary at level whereas when they are first difference all variables were stationary. The study has conducted Johansson co integration test to know whether variables have long run association ship so the result indicated a long run relationship among variables. Moreover, the study conducted granger causality test to know causality among variables and found that deposit has granger cause economic growth, economic growth granger cause loan and advances and no casual relationship is found among economic growth and asset. The study adopted different analysis techniques include descriptive statistics and multivariate regression analysis. The study found that a positive and significant relationship among economic growth, deposit and loan and advances whereas negative and significant association ship between economic growth and bank size i.e. asset. Furthermore, in relation to control variables both inflation and exports have been positively and significantly associated with economic growth while the study has found negative and significant relationship between economic growth and government expenditures. Finally, to maintain and sustain economic growth all stakeholders to whom concerned should have to pay a paramount attention for commercial banks considering their influence in the overall economic prospects. In addition, wistful government expenditures has to be eradicated, exports has to be encouraged and target inflation need to be maintain in order to realize dramatic economic growth in the country Ethiopia.

Key words: Ethiopia, commercial banks, economic growth, commercial banks' dev

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List of Abbreviations

GDP: Gross Domestic Product

MoFED: Ministry of Finance and Economic Development

NBE: National Bank of Ethiopia

TGE: Transitional Government of Ethiopia

GNP: Gross National Product

ARCH: Autoregressive Conditional Heteroskedasticity

OLS: Ordinary Least Square

VAR: Vector Autoregressive

OECD: Organization for Economic Cooperation and Development

Chapter one

Introduction

As one can understand from the title of the study, the thesis is particularly deals about the impact of commercial banks on economic growth in Ethiopia. Therefore, key points such as definition of commercial bank, economic growth and the theoretical relationship between financial intermediaries (for example commercial banks in this case) and economic growth are briefly stated under the introductory part of the study.

A commercial bank is a profit-seeking business firm, dealing in money and credit. It is a financial institution dealing in money in the sense that it accepts deposits of money from the public to keep them in its custody for safety. So also, it deals in credit, i.e., it creates credit by making advances out of the funds received as deposits to needy people. It thus, functions as a mobiliser of saving in the economy. A bank is, therefore like a reservoir into which flow the savings, the idle surplus money of households and from which loans are given on interest to businessmen and others who need them for investment or productive uses.

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.

The theoretical relationship between financial development and economic growth goes back to the study of Schumpeter (1911) who focuses on the services provided by financial intermediaries

and argues that these are essential for innovation and development. In recent years the relationship between financial development and economic growth has become an issue of extensive analysis. The question is whether financial development precedes or simply follows economic growth. A general proposition states that the development of the financial sector is expected to have a positive impact on economic growth.

Particularly, this chapter introduces about nine sections and each section is sequentially categorized as follows. Section one deals with background of the study followed by over view of Ethiopian banking system and statement of the problem. Section three presents the objectives of the study. The fourth section discusses specific objectives questions followed by research questions and hypotheses. Significance of the study is presented in fifth section. The sixth section also introduces scope followed by limitations of the study. Finally, the structure of the thesis is presented in the seventh section.

1.1. Background of the study

As Alex (2012) noted banks have always been perceived as engine of growth in an economy because they perform a resources allocation function, by mobilizing and channeling resources from surplus economic units to deficit units. They help in stimulating the level of economic activities in various sectors of the economy, thus increasing the level of utility and want to the individual and the community at large. They are the cornerstones, the linchpin of the economy of a country. Economic activity cannot be smooth sailing without the continuing flow of money and credit. The economies of all market-oriented nations depend on the efficient operation of complex and delicately balance systems of money and credit. Banks are an indispensable element in these systems. They provide the bulk of the money supply as well as the primary

means of facilitating the flow of credit. Consequently, it is submitted that the economic well being of a nation is a function of advancement and development of her banking industry (Alex, 2012).

Furthermore, banking occupies one of the most important positions in the modern economic world. It is necessary for trade and industry. Hence it is one of the great agencies of commerce and its presence is very helpful to the economic activity and industrial progress of a country. Particularly, Commercial banking is the most important part of modern banking set up. These days, the function of commercial banks is confined not only to advancing loans to the public and accepting their deposits, their contribution in accelerating the rate of economic development for a nation. In addition, commercial banks play a vital role in economic development through engaging themselves in an intermediary role which enhances investment and growth. Bashir (2007) observed that commercial banks contribute positively to economic growth by channeling surplus funds to their most productive uses. The literature not only showed the greater function of banks in the economy but also stressed that without the existence of a sound and efficient banking system, the economy can't function well. When a bank fails, the whole of a nation's payment system is thrown in to jeopardy (Ikhide, 2000).

As it is stated in the introduction section, economic development is about enhancing the productive capacity of an economy by using available resources to reduce risks, remove impediments which otherwise could lower costs and hinder investment. Therefore, the banking system plays the important role of promoting economic growth and development through the process of financial intermediation. The role of finance in economic development is widely acknowledged in the literature. For example, Schumpeter (1911) put the role of financial intermediation at the center of economic development. He argued that financial intermediation

through the banking system played a pivotal role in economic development by affecting the allocation of savings, thereby improving productivity, technical change and the rate of economic growth. He further believed that efficient allocation of savings through identification and funding of entrepreneurs with the best chances of successfully implementing innovative products and production processes are tools to promote economic growth.

However, the debate regarding the causal relationship between financial development and economic growth has been ongoing since the nineteenth century. Central to the debate is whether it is the growth of the financial sector that drives the growth of the real sector or whether it is the growth of the real sector that leads the development of the financial sector (Odhiambo, 2008). Initially, the theoretical foundation of this debate can be traced back to the work of Schumpeter (1912). In an effort to analyze the importance of technological innovation in economic growth, he emphasised the crucial role of the banking system in facilitating investment in innovation and productive investment. Further, Schumpeter (1911) observed that financial markets (banks in particular) play a significant role in the growth of the real economy by channelling funds from savers to borrowers in an efficient way to facilitate investment in physical capital, spur innovation and the 'creative destruction process'. He contends that entrepreneurs require credit in order to finance the adoption of new production techniques and banks are viewed as key agents in facilitating these financial intermediating activities and promoting economic development. Similarly, Gurley and Shaw (1955) and Goldsmith (1969) they argue that development of a financial system is crucially important in stimulating economic growth and that under-developed financial systems retard economic growth.

In contrast, Robinson (1952) argued that finance does not exert a causal impact on growth; instead, it is financial development that follows economic growth – as a result of higher demand for financial services. Although many studies have investigated the causal relationship between financial development and economic growth, the results are still ambiguous.

"Although conclusions must be stated hesitantly and with ample qualifications, the preponderance of theoretical reasoning and empirical evidence suggests a positive, first-order relationship between financial development and economic growth. […] There is even evidence that the level of financial development is a good predictor of future rates of economic growth, capital accumulation and technological change. Moreover, cross country, case study, industry- and firm-level analyses document extensive periods when financial development - or the lack thereof- crucially affects the speed and pattern of economic development." (R. Levine, 1997)

It is well known that rapid growth in the various sectors of the economy can be brought through efficient, effective and disciplined banking system. Today, the banking sector becomes an important segment of Ethiopian economy for market dynamics. Put simply, in Ethiopia the banking system is considered to be a nerve system with modern technological advancements.

In this regard, this paper would empirically be investigated the impact of commercial banks on economic growth with the use of variables include loan and advances, assets, and deposits in Ethiopia. Generally speaking, the overall goal of this research is was to investigate the relationship between commercial banks' development and economic growth in Ethiopia.

1.2. Overview of banking system in Ethiopia

As Belayneh (2011) noted modern banking in Ethiopia was introduced in 1905. At the time, an agreement was reached between Emperor Menelik II and a representative of the British owned National Bank of Egypt to open a new bank in Ethiopia. February 15, 1906 marked the beginning of banking in Ethiopia history when the first Bank of Abyssinia was inaugurated by Emperor Menelik II. It was a private bank whose shares were sold in Addis Ababa, New York, Paris, London, and Vienna. In 1931, Emperor Haile Selassie introduced reforms into the banking system and the Bank of Abyssinia was liquidated and became the Bank of Ethiopia, a fully government-owned bank providing central and commercial banking services until the Italian invasion of 1936.

During the Italian invasion, Bank of Italy was formed a legal tender in Ethiopia. In 1943, after Ethiopia regains its independence from fascist Italy, the State Bank of Ethiopia was established, with 2 departments performing the separate functions of an issuing bank and a commercial bank. In 1963, these functions were formally separated and the National Bank of Ethiopia (the central and issuing bank) and the Commercial Bank of Ethiopia are formed. In the period up to 1974, several other financial institutions emerged including the state owned as well as private financial institution. After 1974, the banking business could not move further because of the nationalization of private investments by the socialist regime that came into power leaving only three government banks; the National Bank of Ethiopia, the Commercial Bank of Ethiopia and agricultural and Industrial Development Bank (Mortgage Bank) (Belayneh, 2011).

In 1991, the Transitional Government of Ethiopia (TGE) took over and restructured the system to a market-based economy. The government's strategy for financial development is

characterized by gradualism (Alemayehu, 2006). It reformed the financial sector by granting power to the NBE and strengthening its capacity, granting commercial banks with adequate autonomy to operate within the general financial policy framework provided by the NBE and introduce a competitive bank and non-bank financial sector by allowing private sector participation in the sector. In 1994 the private sector was allowed to engage in the banking business. There are two public owned and sixteen private commercial banks which are currently operating throughout the country, Ethiopia.

1.3. Statement of the Problem

From a much earlier time, Schumpeter (1911) argued that efficient financial system plays an important role in helping a nation's economy to grow, and well-functioning banks spur technological innovation by offering funding to entrepreneurs who successfully implement innovative products and production processes, and identify and fund productive investments, and all this stimulate future growth. Nevertheless, more recent economists have been dubious about the role of financial sector in economic growth. For instance, Robinson (1952) stated that economic growth creates demand for financial instruments and that enterprises lead and finance follows, so the relationship starts from growth to finance.

In the late 1980s, the Endogenous Growth Theory emerged and paved the way for new theories exploring the link between economic growth and financial sector development. Under the basic endogenous growth model, the development of financial sector might affect economic growth in three ways. First, it can increase the productivity of investments. Second, an efficient financial sector reduces transaction costs and thus increases the share of savings channelled into productive investments. Third, financial sector development can either promote or decline

savings (Pagano, 1993). A more efficient financial sector is more likely to direct a country's scarce resources to their most productive use. As this occurs, economic growth could reach its full potential. Besides, since the primary task of financial intermediaries is to channel funds to the most profitable investments they identify, then efficient financial markets improve the quality of investments which eventually enhances economic growth. Generally speaking, a well-developed financial system could improve the efficiency of financing decisions and favouring a better allocation of resources and accelerate economic growth.

In the last 30 years, a number of developing countries and economies have experienced severe economic crises begun from the banking sector. Such proliferation of large-scale banking sector problems has raised widespread concern, as crises disrupt the flow of credit to enterprises, reducing investment and consumption. Crises may also jeopardize the confidence in foreign financial institutions. It may cause a decline in domestic saving and a larger scale capital outflow. All of these might cause a downturn of the economy (Zhiren, 2009).

Alex (2012) noted that banks play several vital roles in any economy. And these roles are aimed at ensuring sound financial system and economic stability. It is incontrovertible that the banking system is the engine of growth in any economy, given its function of financial intermediation. Through this function, banks facilitate capital formation, lubricate the production engine turbines and promote economic growth. However, banks' ability to engender economic growth and development depends on the health, soundness and stability of the banking system itself (Alex 2012). Similarly, Abdulsalam (2013) noted that financial intermediation is the process through which financial institutions transfer financial resources from surplus units of the economy to deficit ones. However, for financial institutions to discharge this role effectively, they have to be

developed in terms of their resource mobilization, variety of financial assets and efficient in credit allocation.

Currently, the financial sector in Ethiopia is composed of the banking industry, insurance companies, microfinance institutions, saving and credit cooperatives and the informal financial sector. But the Ethiopian financial system is rudimentary and dominated by banks. Zerayehu *et al* (2013) noted that the banking industry accounts for about 95% of the total financial sector assets. But, he also noted that Ethiopia is still remains a highly under-banked country in the world even though supply of the banking service is growing from year to year but it has not led to an increased outreach of the banking system at large (Roman, 2012). Therefore, it is possible to say that Ethiopia's commercial bank development, as measured by its development indicators such as deposits of commercial banks, loan and advances and asset with respect to GDP needs empirically investigation in the context of Ethiopia just to know whether those indicators are affects the growth of Ethiopian economy .

By and large, the aim of this study was to empirically examine the relationship between commercial banks' development and economic growth in the context of Ethiopia by using the variables that were considered in this study and this is a modest attempt to repair this gap in the literature.

1.4. General Objective of the Study

In the context of the problems highlighted above, the general objective of this study was to investigate the relationship between commercial banks' development and economic growth in Ethiopia.

1.5. Specific objectives of the Study

Based on the general objective, the current study is attempted to achieve the following specific objectives:

1. To identify the indicators of commercial banks' development and to measure the effect of those indicators in the Ethiopian economic growth.
2. To discover other control variables include government expenditure, export and inflation and to determine their impact in the Ethiopian economic growth.
3. To examine the causality between the development of commercial banks and economic growth

1.6. Research questions (RQ)

In line with the broad purpose statement highlighted above, the following specific research questions were formulated as follows.

RQ1. What are the commercial banks' development indicators and how do those indicators influence the economic growth in Ethiopia?

RQ2. What are the control variables and how do those variables influence the economic growth in Ethiopia?

RQ2. Does the development of commercial banks cause economic growth? Or,

RQ3. Does economic growth propel for the development of commercial banks?

1.7. Hypotheses of the Study (HP)

In line with the broad purpose statement the following hypotheses were also formulated for investigation purpose. Hypotheses of the study stands on the theories related to a banking sector development and economic growth that has been developed over the years by banking area researchers and past empirical studies. Hence, based on the general objective, the present study seeks to test the following 3 hypotheses:

H1: Deposit has positive relationship impact on Ethiopian economy

H2: Loan and advance has positive relationship on Ethiopian economy

H3: Asset has positive relationship impact on Ethiopian economy

1.8. Significance of the Study

Yet until now, there appeared to be no attempt to investigate the relationship between the development of commercial banks and real output in Ethiopia. Therefore, this study is conducted to provide a comprehensive approach to understand the influence banking sector development on Ethiopian economy.

Further, once the study identified the key commercial banks' development indicators then it would have shown their impact on economic growth in Ethiopia. As a result, it provides a signal to national bank of Ethiopia for better managerial improvements. Besides, since commercial banks are a pillar for economic development, the current study affords an insight for policy makers when they are formulating bank related regulations.

On the other hand, it helps for other researchers as a source of reference and as a stepping stone for those who want to make further study on the area afterwards. Finally, the study gives for all stake holders to gain deep knowledge about the relationship of between commercial banking sector development and economic growth in general.

1.9. Scope of the Study

The scope of the study was restricted to the investigation of commercial banks' development indicators affecting economic growth in Ethiopia within the period of fourteen years (2000-2014). The study includes the two large governments owned commercial banks namely, Commercial Bank of Ethiopia (CBE) and Construction and Business Bank (CBB), and also includes the six leading private commercial banks in the country in terms of both branch network and market share namely, Awash International Bank (AIB), Dashn Bank (DB), Bank of Abyssinia (BoA), Wegagen Bank (WB), United Bank (UB) and Nib International Bank (NIB).

1.10. Organization of the Study

For a systematic and scientific approach, this research work has divided into five chapters. Therefore, chapter one, introduces the research subject briefly and outlines the research background, incorporating the problems and results from past studies. The problem statement is given and research objectives have been clearly described and based on which, hypotheses are formed and model is specified. Apart from this, it also identifies the significance, scope and limitations of the study. In chapter two, both relevant theoretical and empirical literature are discussed. The methodology of the research is presented in chapter three. Chapter four concentrates on the presentation, analysis, and discussions of the data. Part five summarizes the

findings of the study, concludes the results and forwards recommendations based on the findings of the study.

1.11. Limitation of the Study

The study has encountered some sort of problems. In excess of the considered variables, there would be other variables to be included in the model. In fact, the study has considered stochastic error term to capture the effect of unobservable factors. But, the effect of those unobserved variables could not fully be incorporated in the stochastic error terms so this would have little effect on the overall findings of the present study.

Chapter two

Literature review

This chapter discusses the literature concerning the banking sector development and economic growth. This review of literature establishes framework for the study and highlights the previous studies, which in turn, helps in clearly identifying the gap in the literature. The discussion of the literature on banking sector development and economic growth has three sections; the first section considers theoretical framework this is followed by a review of the empirical studies on the relationship between financial developments in general and banking sector development in particular, and economic growth. Finally, both conclusions of the literature review and knowledge gaps are presented in the last section.

2. Theoretical Literature

The objective of this particular section is to provide policy makers, the research community, and academics who wish to conduct research in the field or learn more about it, with an idea of the theoretical relationship between financial development in general, commercial banks and economic growth in particular. It is therefore important to determine how the financial sector and overall economy are related to each other. A review of theory in this regard will guide us to understand the importance of the said relationship from a theoretical perspective.

It is known fact that there are some differences between economic development and economic growth (the most important difference is that while in the former the emphasis is on the qualitative aspects, in the latter, the emphasis is on the quantitative aspects). However, it is also obvious that not only is economic growth an important factor in economic development but it is also a necessary condition for it. Therefore, because of this and because economic growth can be measured, we will focus on economic growth rather than economic development.

2.1. Economic Development

Economic development refers not only to economic growth but also to quality of production. McKinnon (1973) defines economic development as the reduction of the great dispersion in social rates of return on existing and new investments under domestic entrepreneurial control. According to Schumpeter (1983) the concept of development covers several cases as follows:

'' (a) The introduction of new goods which consumers are not yet familiar with or of a new quality of a goods. (b) The introduction of a new method of a new production that is one not yet tested by experience in a branch of manufacture concerned, which need by no means be founded upon a discovery scientifically new, and can also exist in a new way of handling a commodity commercially.(c) The opening of a new market that is a market that into which the particular branch of manufacture of the country in question has not previously entered, whether or not this market existed before.(d) The conquest of a new source of supply of raw materials or half manufactured goods.(e) The carrying out of the new organization of any industry, like the creation of monopoly position (for example through fructification) or the breaking up of a monopoly position''.

Moreover, there are other opinions regarding the definition of economic development. One is that economic development is a fundamental change in the structure of an economy, such as a

change in the share of industry and agriculture in the GDP in favour of industry, moving people from villages and rural areas to live in cities and changing consumption patterns. People no longer spend the majority of their income on necessities; rather, they buy durable consumption goods and have more leisure time. However, another factor in economic development is people‘s participation in the process of change; everyone in a country should benefit from changes including, but not solely or even mainly, foreigners. A key element in economic development is that the people of the country must be major participants in the process that brought about these changes in structure. Foreigners can be and inevitably are involved as well, but they cannot be the all story. Participation in the process of development as well as participation in those benefits but if growth benefits only a tiny wealthy minority, whether domestic or foreign, it is not development (Perkins, *et al*. 2001).

2.2. Economic Growth

Economic growth, which is defined as an increase in Gross National Product (GNP) or increase in Gross Domestic Product (GDP), has been the main purpose of most economic studies and models from Adam Smith (the father of Classical Economics) until the present time.

Today, growth is still an important topic of serious discussion among economists. Transfer from exogenous to endogenous growth models was in fact a progress toward a better explanation of reality. While in exogenous growth models the focus was on the accumulation of capital and innovations and technological changes were determined outside the model, in endogenous growth models they are determined within the model. For example, in Romer‘s model (1987) the technology factor is determined by the knowledge spillover effect. He followed Arrow (1962) who reasoned that every investment unit not only increases physical capital stock but also

increases the technology level of firms via the knowledge spillover effect. Romer (1990) also developed a new growth model which is a combination of the knowledge spillover effect model and the monopoly power model. Furthermore, Romer (1994) compared endogenous and exogenous growth models according to the five realities which every growth model should contain.

2.3. Economic Growth Models

Modern theories of economic growth have been premised on the same assumption about investment and saving as sources of economic growth. There are three economic growth models include the neoclassical model which is proposed by Domar (1946) and Harrod (1939), endogenous growth model introduced by Solow (1956), and financial repression hypothesis modeled by McKinnon (1973) and Shaw (1973). The detail for each of economic growth model is presented here below.

2.3.1. The Neo-Classical Growth Model

Until recently, growth theorizing was dominated by the Solow model, which was first proposed as an alternative to the Harold-Domar model, which holds that various steady state rates of growth are all independent of the rate of savings, even though the levels of the variables are affected by savings. Thus any increase in growth rates resulting from increased saving is only temporary, as under the framework; only through technological progress can continuous economic growth be achieved.

Furthermore, Solow argued that exogenous technological improvement and capital accumulation drive economic growth. Based on his analysis of the American data from 1909 to 1949, he observed that 87.5% of growth of that period was attributable to technological change, and

12.5% to the increased use of capital. The result of the Solow growth model was that many came to believe that financial markets had only minor influence on the rate of investment in physical capital, and the changes in investment were viewed as having only minor effects on economic growth.

2.3.2. Endogenous Growth Models

The body of literature that challenged the assumptions of the Solow model came to be known as endogenous growth model. Though the initial arguments was on "convergence" that is the inability of the Solow model to explain the diversity of the observed growth rates across countries. In an endogenous model of growth, it has been argued that financial development can affect growth in three ways; namely raising the efficiency of financial intermediation, increasing the social marginal productivity of capital and influencing the private savings rate. This makes well functioning financial markets at the core of endogenous technical progress because a well functioning financial system increases the efficiency of the human capital as well as the physical capital. Moreover, productive financial service improves and expands the scope of innovative activity. These have been confirmed by various studies.

Levine (1997) stressed the informational role of financial intermediation in an endogenous growth model and argues that its role is crucially related to productivity growth of capital. In a related study, Bencivenga and Smith (1991) stressed that through its reduction of liquidity risks, efficient financial intermediation stimulates savers to hold their wealth increasingly in productive assets, contributing to productive investment and growth. Levine (1997) followed the same line of thought, but stressed the importance of stock markets in stimulating the financing of investment in less liquid investment projects, as well as the diversification of portfolio risk. In

addition, he explicitly modelled a two-way relationship between financial markets and economic growth. Saint-Paul (1992) also emphasized the development of a well functioning stock market in stimulating economic growth, especially as it affects the sharing of risks of entrepreneurs. The endogenous growth model provides an understanding of the importance of financial development in economic growth; a point often obscured in the neoclassical growth models.

2.3.3. Financial Repression Hypothesis

This theory is usually associated with the works of Cameron et al. (1973), McKinnon (1973) and Shaw (1973), and holds that financial development would contribute most significantly to economic growth if the authorities were not to interfere in the operations of the financial institutions. Poor performance by banks and other financial institutions is thus often attributed to interest rate regulation, ceilings on deposit and loan rates and official guidelines pertaining to lending operations. Such interference results in a low and often negative real rate of return on financial assets and therefore, in deficient savings being mobilized and channeled into investment projects (Agu, 1988).

The proponents of this hypothesis therefore advocate a positive real interest and financial liberalization. Free market forces would then ensure an optimal financial structure for development and eliminate the fragmentation of markets that is financial dualization and all the attendant distortions of the proper operation of the market mechanism. According to the financial repression hypothesis, government legislation and policies may distort the operation of the market mechanism in determining the "prices" of financial resources. As the major effects of such repression are limited savings because of interest ceilings, the hypothesis can be ultimately reduced to official interest rate policies. It is however, recognized that other forms of financial

repression might result from such other factors as portfolio regulation and oligopolistic financial markets (Galbis, 1982). The financial repression hypothesis also focuses attention on the level of interest rates on the savings instruments available to the public in relation to the rate of inflation. If real rates of interest have been positive over a period of time, it may be said that there has been no financial repression, but financial deepening.

2.4. Theory of financial intermediation

Financial intermediation theory was first formalized in the works of McKinnon (1973) and Shaw (1973) they see financial markets as playing a pivotal role in economic development, attributing the differences in economic growth across countries to the quantity and quality of services provided by financial institutions. This contrasts with Robinson (1952), who argued that financial markets are essentially handmaidens to domestic industry, and respond passively to other factors that produced cross-country differences in growth.

The Robinson school of thought therefore believes that economic growth will lead to the expansion of the financial sector. He attributed the positive correlation between financial development and the level of real per capital GNP to the positive effect that financial development has on encouraging more efficient use of the capital stock. In addition, the process of growth has feedback effects on financial markets by creating incentives for further financial development.

McKinnon's (1973) thesis is based on the complimentarily hypothesis, which in contrast to the neo-classical monetary growth theory, argued that there is a complementarily between money and physical capital, which is reflected in money demand. According to McKinnon (1973), complementarily links the demand for money directly and positively with the process of physical

capital accumulation because “the conditions of money supply have a first order impact on decisions to save and invest”. In addition, positive and high interest rates are necessary to encourage agents to accumulate money balances, and complementarily with capital accumulation will exist as long as real interest rate does not exceed the real rate of return on investment. Furthermore, the lumpiness of investment expenditure implies that aggregate demand for money will be greater, the larger the proportion of investment in total expenditures.

Shaw (1973) proposes a debt intermediation hypothesis, whereby expanded financial intermediation between savers and investors resulting from financial liberalization (higher real interest rates) and development, increase the incentive to save and invest, stimulates investments due to an increased supply of credit, and raises the average efficiency of investment. The view stresses the importance of free entry into and competition within the financial markets as pre-requisites for successful financial intermediation.

McKinnon (1973) and Shaw (1973) argued that policies leading to repression of financial markets reduce the incentives, to save. They described the key elements of financial repression as:

(i) High reserve requirements on deposit

(ii) Legal ceilings on bank lending and deposit rates

(iii) Directed credit

(iv) Restriction on foreign currency capital transactions

(v) Restriction on entry into banking activities

Though the McKinnon-Shaw framework informed the design of financial sector reforms in many developing countries, however, country experiences later showed that while the framework explains some of the quantitative changes in savings and investments at the aggregate levels, it glosses over the micro-level interactions in the financial markets and among financial institutions which affect the supply of savings and the demand for credit by economic agents, and the subsequent effect on economic growth.

2.5. Functions of Financial System

There are many channels through which financial institutions affect growth. Banks in particular perform some very important functions for society and, in the process, significantly influence major economic variables. Of these functions two are especially important: one is intermediation between ultimate savers and borrowers and the other is the administration of the payments mechanism. (Iqbal and Ahmad, 2005). So, functions of the financial system are briefly discussed as follows:

(A) Mobilization and Allocation of Savings (Monetary Resources)

The mobilization of savings is perhaps the most obvious and important function of the financial sector. The provision of savings facilities or transaction bank accounts enables households to store their money in a secure place, and allows this money to be put to productive use i.e. lent to individuals or enterprises to finance investment, thus encouraging capital accumulation and promoting private sector development.

Lack of access to secure savings facilities leads people to save in physical assets such as jewellery, or store their savings at home. Bringing these savings instead into the financial sector where they can be utilized productively, would by itself make a significant contribution to

growth. In addition, the returns on investment can create positive expected returns for the savers, which may in turn increase savings.

It can also facilitate the development and adoption of better technologies. McKinnon (1973) explained this with an illustration of a farmer who cannot afford a particular investment out of his own savings – he needs to borrow in order to buy some piece of equipment (i.e. to invest in "new technology") which would increase his productivity, and enable him to earn a higher income thereafter. Thus by mobilizing savings, and hence increasing the availability of credit, financial intermediation facilitates investment in new technologies across the economy, increasing overall productivity.

(B) Risk management

Many projects or enterprises require a medium to long-term commitment of capital, whereas most savers prefer to have the option to draw on their savings, or move them into another investment opportunity, should the need arise i.e. they like their savings to be 'liquid'. Because banks and other financial intermediaries combine many households' savings, and because savers usually won't all want to withdraw their money at the same time, this allows financial intermediaries to simultaneously provide medium to long-term capital for investment, and liquidity for savers (e.g. Levine, 1991). By doing so, they help to ensure that capital is allocated to the best projects, even if they require a long-term financial commitment (Bencivenga & Smith 1991). They can also affect the rate of technological change if long-term commitments of resources to research and development promote technological innovation. As these factors serves to increase the return on savings, they may also increase savings and capital inflows.

Investing in an individual project is riskier than investing in a wide range of projects whose expected returns are unrelated. As savers generally dislike risk, financial intermediaries that facilitate risk diversification – such as banks and stock exchanges - allow investments to be made in riskier projects with higher expected returns in aggregate (Saint-Paul, 1992, and Obstfeld, 1994). This again increases overall investment returns, and improves capital allocation, with a subsequent impact on growth. Risk diversification can also increase technological change. Innovation is risky – many innovations will fail. However, the ability to diversify risk by investing in many different innovation-based enterprises may make investments in otherwise prohibitively risky enterprises possible. So by making more capital available to innovators, financial intermediaries that facilitate diversification may also increase technological change and thus economic growth (King & Levine, 1993).

(C) Acquiring information

Individual savers are unlikely to have the time or capacity to collect process and compare information on many different enterprises, managers and market conditions before choosing where to invest. Thus high information costs may prevent capital from flowing to its highest value use. In addition, they will be less keen to invest in activities about which they have little information. So the creation of financial intermediaries such as banks and fund managers, who will collect this information on behalf of many investors, and share the costs of doing so between them, will improve resource allocation and increase investment (though in developing countries, financial institutions may have only limited information on investment opportunities, as much of the economy is informal). These intermediaries can facilitate selection between projects on the basis of informed judgements about expected returns, thus weeding out the weakest projects and ensuring that capital is allocated optimally (Greenwood & Jovanovic, 1990). They may also

increase the rate of technological progress by identifying and thus allocating capital towards those innovations with the best chances of succeeding (King & Levine, 1993).

(D) Monitoring borrowers, and exerting corporate control

Similarly, the ability of financial intermediaries to monitor the performance of enterprises on behalf of many investors – who would not otherwise have the resources to do so individually – and to exercise corporate control (e.g. lenders holding meetings with borrowers to discuss business strategy), helps to ensure that investors receive returns that properly reflect the enterprise's performance (i.e. ensures they are not being defrauded by the firm's managers as a result of their lack of information), and creates the right incentives for the managers of the borrowing enterprises to perform well. Thus financial arrangements that improve corporate control tend to promote faster capital accumulation and growth by improving the allocation of capital (Bencivenga and B. Smith 1991).

(E) Facilitating exchange

Last but not least, the financial sector facilitates transactions in the economy, both physically by providing the mechanisms to make and receive payments, and by reducing information costs in the ways outlined above. So by providing financial intermediation in this way, the financial sector reduces transactions costs, and facilitates the trading of goods and services between businesses and households. In doing this, the financial sector allows greater specialization which in turn facilitates productivity gains and allows more technological innovation and growth. So anything that reduces transactions costs and better facilitates exchange of goods and services whether it be faster payments systems, more bank branches, or improved remittance services will help to promote growth.

This set of ideas dates back to Adam Smith (1776) who argued that workers were much more likely to identify more efficient working methods and processes if they were focused on one particular endeavor, and that the division and specialization of labor was therefore the principal factor underlying productivity improvements. Smith phrased this in terms of the way that money reduces transactions costs compared to barter, but it is equally valid in relation to other mechanisms that reduce transactions costs.

2.6. Banking Sector and Economic Development

Samson and Abass (2013) asserted that the development of banking and growth of modern economies seems inseparable. Until the late seventh century, there had existed no modern banking institution anywhere in the world, and there had no modern developed economy. There are many factors which determine the level and interest rate of development of an economy. These include the natural resources endowment, supply of skilled labour and, of course, capital. Capital is critical factor required in the process of economic development. This includes real capital such as machineries and equipment and financial capital. The quantum of financial capital required before there could be any meaningful economic development also underscores the importance of banks. An individual's savings are not usually large enough to procure all his needed resources for development. The saver may not also possess the ability and the initiative that investment calls for.

The banks therefore, aggregate the small savings of the individuals and hold these, away from the consumption, ready for investment. Consequently; investment in large physical projects is possible because qualified investors have access to the substantial stock of funds in temporary

residence with the banks. This inter-mediation function of the banks facilitates development as it encourages savings and investments both of which are economically very rewarding. Banks also influence the quantum of purchasing power available for the investment and consumption expenditures. The banks do this through their power to expand or contract credit. By their policies, banks also affect (e.g. prices of the various financial claims) the direction of funds to alternative uses. The banks determine whether credit will be available for financing investment in agriculture, industry or consumption. How banks perform this role affects the pace and pattern of development in different sectors of the economy. Banks are very different from other financial intermediaries because of the "high degree of liquidity" of their demand deposits as well as their ability to "create" and "destroy" money. In a modern economy, the greater proportion of the money supply is deposit money created by commercial banks. Banks, as a group, therefore constitute the principal supplier of the medium of exchange (Samson and Abass, 2014).

2.7. Indicators of Commercial Banking Sector Development

To assess the development of the commercial banking sector their development indicators has been employed to find the relationship between commercial banks and economic growth. These indicators are discussed hereunder.

2.7.1. Deposit

As Depti and Mamta (2014) noted the saving rate of any country is an important indicator of economic development since the domestic saving rate is directly related with the investment rate and the lending capacity of the banking system. Banks use the deposited money by the public and other depositors (Companies, other banks, Government, other financial institution etc.) for credit creation in the economy which results in increasing GDP. Banks further use the deposited

money by the public and other depositors (Companies, other banks, Government, other financial institution etc.) for credit creation in the economy which results in increasing GDP. Saving and investment are two key macro variables with micro foundations, which play a significant role in economic growth (Depti and Mamta, 2014). Giving further support to this line of argument, the endogenous growth theory argues that a higher savings rate leads to higher economic growth.

Moreover, mobilization of savings is one of the major functions of financial institutions. By mobilizing the savings of millions of savers in an economy and the channelling of same to the deficit spending units, the funds or capital needed for economic growth and development is enhanced (Samson and Abass, 2013).

Crockett (1970) noted that the activities of commercial banks as engine of growth of the economy could better be seen through the performance of their main function which include taking of deposits from the general public, providing account keeping and money transmission services. Indeed, in an efficiently functioning financial system, the size of a bank's business, or that of any other financial intermediary, depends on its ability to attract funds in competition with other institutions. This ability will depend on the attractiveness to depositors of the package of services it offers. This package will consist of the interest rate paid, security offered, convenience in account management facilities, financial advice etc. (Crockett, 1970).

2.7.2. Loan and Advances

As Facilia (2011) noted commercial banks are the most important savings, mobilization and financial resource allocation institutions. Consequently, these roles make them an important phenomenon in economic growth and development.

Lending practices in the world could be traced to the period of industrial revolution which increase the pace of commercial and production activities thereby bringing about the need for large capital outlays for projects Many captains of industry at this period were unable to meet up with the sudden upturn in the financial requirements and therefore turn to the banks for assistance.

Therefore, lending which may be on short, medium or long-term basis is one of the services that commercial banks do render to their customers. In other words, banks do grant loans and advances to individuals, business organizations as well as government in order to enable them embark on investment and development activities as a mean of aiding their growth in particular or contributing toward the economic development of a country in general (Facilia , 2011). With similar line of argument, Ibru (2008) highlighted the contributions of banks to the economy. She said that the intervention of banks in the provision of funds for different stages of business pursuits is a boost for the economy.

According to Bhosale (2014) just as capital is one important factor that must grow if the economy is to develop, enterprise is another important factor that must grow and help the economy to develop. This requires the expansion of the entrepreneurial class which is willing to accept risks and challenges. Many times, it so happens that there are people who have the qualities of a promising entrepreneur, but they do not have the money or capital to put their plans into practice. Hence, banks have an important function to perform. They can scrutinize and select the plans of enthusiastic entrepreneurs and make finance available to them. Thus, by promoting enterprise, banks can help rapid economic development.

Banking industry is among the most important financial institutions in the economy of any nation. According to Rose (1999), they are the principal source of credit (loanable funds) for millions of households (individuals and families) and for most local unit of government (school districts, cities, countries, etc). She further maintained that for small local businesses ranging from grocery stores to automobile dealers, banks are often the major source of credit to stock them with merchandise or to fill a dealer's show room with new cars.

Samson and Abass (2013) noted that Principal amongst the functions performed by the commercial banks are to ensure the adequacy of the stock of money to service the needs of the economy and facilitate the transfer of money between economic units. This transfer is usually from areas of surplus to areas of deficits/needs.

2.7.3. Size of Banking Sector (Assets)

There is common agreement that the ultimate purpose of the financial sector should be to serve the real economy. A country's financial sector is important for real economic activity as the size of an efficient financial sector not only affects the level of output by allocating productive capital more efficiently but may also contribute to economic growth (Levine, 2005; King & Levine, 1993). Since the size of the bank is related to the size of firms and households that need finance.

In contrast, Arcand *et al* (2012) state that more finance is not always better and there might be (negative) side effects when the financial sector becomes too large. These authors indicate that there may be a threshold above which financial development no longer has a positive effect on economic growth and may harm the economy and society as a whole (Arcand *et al*., 2012). For example, when the financial sector grows too large, it might lead to a misallocation of resources and cause costly crises (Arcand *et al*, 2012).

2.8. Supply-Leading Vs Demand Following Hypothesis

One question which has remained unanswered in the literature is whether the policy-makers should first pursue financial development, or economic growth, or whether they should pursue both financial development and economic growth at the same time. In other words, between financial development and economic growth, which sector leads and which one lags in the dynamic process of economic development? There are two views exist in the literature. The first view argues that financial development, which results from financial liberalization leads to economic growth (i.e. McKinnon, 1973; Patrick, 1966; Fry, 1973). The second view maintains that it is economic growth that leads to financial development and that where there is economic growth financial development follows (i.e. Robinson, 1952).

The proponents of supply leading hypothesis believe that the activities of the financial institutions serve as a useful tool for increasing the productive capacity of the economy. They opine that countries with better developed financial system tend to grow faster. Early economists like Schumpeter (1911) have strongly supported the view of finance led causal relationship between finance and economic growth. He observed that financial markets (banks in particular) play a significant role in the growth of the real economy by channeling funds from savers to borrowers in an efficient way to facilitate investment in physical capital, spur innovation and the 'creative destruction process'. He further contends that entrepreneurs require credit in order to finance the adoption of new production techniques and banks are viewed as key agents in facilitating these financial intermediating activities and promoting economic development.

In contrast to the supply leading thesis, the demand following thesis argues that financial development primarily follows economic growth and that the engines of growth must be sought elsewhere. Rising incomes from the agricultural or rural sector provide funds for which the financial intermediaries exist to service. Economic growth provides the demand which the finance sector fulfills.

The proponents of this hypothesis believe that postulate that economic growth is a causal factor for financial development. According to them, as the real sector grows, the increasing demand for financial services stimulates the financial sector (Gurley & Shaw 1967). Robinson (1952) was of the opinion that economic activity propels banks to finance enterprises. Thus where enterprises lead, finance follows.

Following the same line of argument was Goldsmith (1969) who used an alternative view of emphasizing the role of capital accumulation in economic growth. According to him, overall financial development matter for economic success as it lowers market friction which increases the domestic savings rate and attracts foreign capital. To him, financial policies such as direction of credit to sectors itself do not seem to matter much. He is of the opinion that policy makers may achieve greater returns by focusing less on the extent to which their country is bank based or market based and more on legal, regulatory and policy reforms that boost the functioning of the markets and banks. Similarly, Lucas (1988) believed that economists have badly overstressed the role of financial factors in economic growth. In essence, banks only respond passively to industrialization and economic growth.

Moreover, Gurley and Shaw (1955) contend that if income grows at a warranted pace, then the demand for financial assets also grows at a specifiable pace. In addition, there is a transactions

demand for money to keep up with growing income. The accumulation of assets and rise in income stimulate demand by spending units for financial services in increasing variety. Financial development therefore follows economic development. Economic growth causes financial institutions to change and develop, and financial as well as credit markets to grow. Financial development is thus demand-driven. As the growing scale of economic activities requires more and more capital (liquid and fixed), institutional raising and pooling of funds for industry are substituted for individual fortunes to start up enterprises, and for retained profits for economic expansion (Gurley and Shaw 1955).

2.9. Selected Macroeconomic Indicators

For this study, three macroeconomic variables are considered as a control variable and these variables were considered as a control variable by Jordan (2013) in his study entitled with banking sector development and economic growth in central and southern Europe countries thus for each variable related theoretical issues with respect to economic growth has been examined as follows.

2.9.1. Government Expenditures

This section discusses relevant literature and theoretical framework on the linkage between government expenditure and economic growth. In the Keynesian model, increase in government expenditure (on infrastructures) leads to higher economic growth. Contrary to this view, the neo-classical growth models argue that government fiscal policy does not have any effect on the growth of national output. However, it has been argued that government fiscal policy (intervention) helps to improve failure that might arise from the inefficiencies of the market. The seminal work of Barro(1990) opened new ground for the investigation of the impact of fiscal

policy (government expenditure) on economic growth. In line with this, Barro and Sala (1992), Easterly and Rebelo (1993) and Brona et al. (1999), emphasized that government activity influences the direction of economic growth. Similarly, Dar and Amirkhakhali (2002) pointed out that in the endogenous growth models, fiscal policy is very crucial in predicting future economic growth.

2.9.2. Exports

The argument concerning the role of exports as one of the main deterministic factors of economic growth is not new. It goes back to the classical economic theories by Adam Smith and David Ricardo, who argued that international trade plays an important role in economic growth, and that there are economic gains from specialization. It was also recognized that exports provide the economy with foreign exchange needed for imports that cannot be produced domestically. There are several influential studies that provide a useful framework for analyzing the relationship between exports and economic growth, i.e., Rivera Batiz and Romer (1991). The basic idea of this literature is that exports increase total factor productivity because of their impact on economics of scale and other externalities such as technology transfer, improving skills of workers, improving managerial skills, and increasing productive capacity of the economy. Another advantage of export-led growth is that it allows for a better utilization of resources, which reflects the true opportunity cost of limited resources and does not discriminate against the domestic market.

2.9.3. Inflation

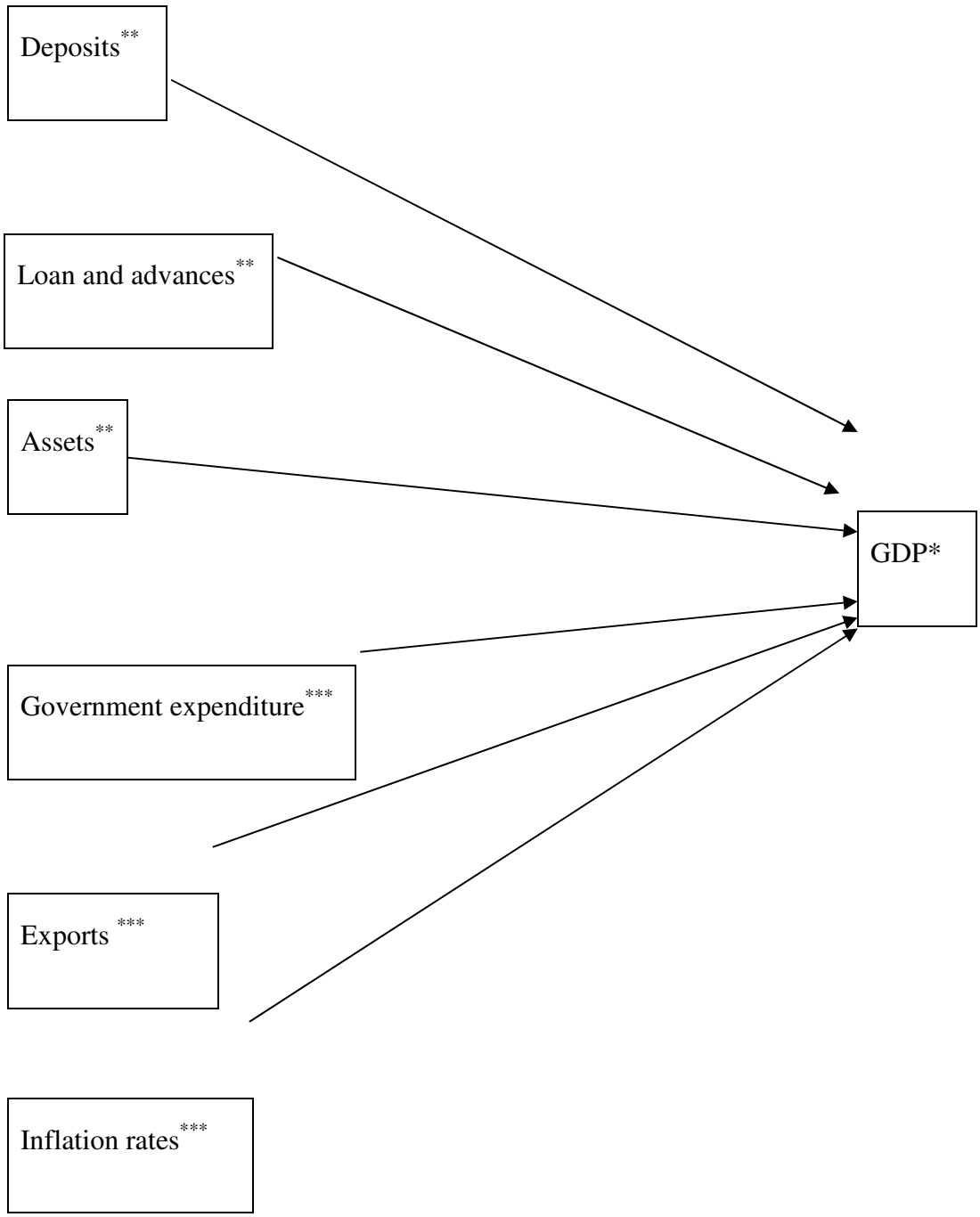
The first controversial issue about economic growth and inflation is the relationship between them. Theories and previous studies about the relationship between inflation and economic

growth have shown that there might be no relationship (Sidrauski, 1967), negative relationship (Fisher, 1993) or positive relationship (Mallik and Chowdhury, 2001) between these two variables. Today the question is not only the simple relationship but also the level of inflation that can affect economic growth. The structuralists' view that inflation has a positive effect on economic growth, where as monetarists sees inflation as detrimental to economic growth. Both views have their own explanation for why inflation has a positive or a negative impact on economic growth. For instance in neo classical views, inflation increases economic growth by shifting the income distribution in favor of higher saving capitalists. This increases saving and thus economic growth. Moreover, Keynesians also said that inflation may increase growth by raising the rate of profit, thus increasing private investment. Gultekin (1983) also explained why inflation and economic growth have a negative relationship as growth rate is depended on rate of return but rate of return is decreased by inflation and hence economic growth is negatively related to inflation.

2.10. Conceptual Frame Work

In excess of theoretical and empirical discussions it is deemed appropriate to provide a diagrammatic representation that links those variables that are employed for this study. As a result of this, the conceptual framework for this study is outlined by the below Figure 2.1.

Figure 2.1: Schematic Diagram showing the relationship between variables



Note:

* Dependant variable

** Major independent variables

*** Control variables

2.11. Empirical Literature

Having reviewed the salient theories underlying the impact of commercial banks on economic growth, it is important for this study to review some significant research that has been conducted in the field. This is in order to determine if the theory reflects the reality - in other words, to determine if the importance of commercial banks for economic growth, as suggested by the theory, can be verified in practice when examining the situation in developing and developed countries.

To start with the empirical discussions from the work of King and Levine (1993) they have been used an endogenous growth model to examine how financial systems affect economic growth. According to the findings of their study, better financial systems improve the possibility of successful innovation, and thereby accelerate economic growth. With same line of argument, De Gregorio and Guidotti (1995) examined the empirical relationship between financial development and economic growth; conclude that, by and large, financial development leads to improved growth. In contrast, financial sector distortions reduce the rate of economic growth by reducing the rate of innovation. The study, therefore, concludes that financial systems are important for productivity, growth, and economic development (King and Levine, 1993).

Furthermore, Rajan and Zingales (1998) have been investigated whether financial development facilitates economic growth by scrutinizing the rationale that financial development reduces the

cost of external finance to firms. The result of their study suggests that financial development has a substantial supportive influence on the rate of economic growth. Specifically, the results indicate that industrial sectors that have relatively greater need for external finance develop disproportionately faster in countries with more developed financial markets.

Regarding supply-leading hypothesis, Choe and Moosa (1999), studied the relationship between the development of financial systems and economic growth in Korea, conclude that financial development generally leads to economic growth, and that financial intermediaries are more important than capital markets in this relationship. Other empirical studies, which conclude that financial development provides a significant contribution to growth, include Xu (2000), amongst others. Xu (2000) finds sufficient evidence for the finance-led growth hypothesis (supply-leading response) while using a multivariate VAR model. Similarly, Habibullah and Eng (2006), examined the causal relationship between financial development and economic growth in Asian countries and the study result support for the finance-led growth, thus giving support to the old Schumpeterian hypothesis and Patrick's supply-leading hypothesis. Moreover, Crichton and De Silva (1989), while examining the progress of financial intermediation resulting from economic growth in Trinidad and Tobago, find that there is a definite positive correlation between economic growth and financial development, at least during the period 1973–82. However, the study concludes that 'whilevchanges in the real sector clearly impacted on the financial system, it is not clear to what extent financial intermediaries may have in turn aided the growth process through their ability to allocate savings efficiently to the most productive sectors of the economy. Shan *et al.* (2001) has been also examined the relationship between financial development and economic growth in nine OECD countries and China, using the VAR framework, find little

support for the hypothesis that finance 'leads' economic growth, and cautions against such a general conclusion

In relation to demand-following hypothesis, Favara (2003) conducted the panel estimation technique and reported that relationship between financial development and economic growth is at best weak. To him, there is no indication that finance spurs economic growth, rather for some specifications, the relationship is puzzlingly negative. Therefore, the effect of financial development on economic growth is ambiguous and not robust to alternative dynamic specifications. This he attributed to the fact that financial development does not have a first order effect on economic growth; the link between them is not linear and if the dynamic specification and slope heterogeneity across countries are taken into account, the effect is negative. Consistent with this, Mushin & Eric (2000) conducted a research on Turkey they further lends credence to this postulation. According to their study, when bank deposit, private sector credit or domestic credit ratios are alternatively used as proxy for financial development; causality runs from economic growth to financial development. They therefore concluded that growth seems to lead financial sector development. In similar manner, Waqabaca (2004), whereas examined the relationship between financial development and economic growth in Fiji, finds a positive relationship between financial development and economic growth — but with the causation running from economic growth to financial development. Also, Güryay and Şafakli (2007) examines the relationship between financial development and economic growth in Northern Cyprus from 1986 to 2004 by employing Ordinary Least Square Estimation Method (OLS). The result showed that there is a negligible positive effect of financial development on economic growth. On the other hand Granger causality test showed that financial development does not

cause economic growth, whereas economic growth was found to cause development of financial intermediaries.

More specifically, related empirical evidences regarding the variables are included in the current study will be discussed as follows. Aurangzeb (2012) studied the contributions of banking sectors on the economic growth in Pakistan, he used deposit, investment, advances, profitability and interest earning of the commercial banks for the period of 2001 to 2010. The statistical result of his study shows that deposit, investment, loan and advances, profitability and interest earning were all significant with positive impact on the economic growth of the Pakistan. Moreover, the granger causality test of his study confirmed the bidirectional causal relationship of profitability, deposit and loan and advance with economic growth of the country, while unidirectional causal relationship of investment and interest earning was found with economic growth. He therefore, recommended in his study to support the commercial banks by the policy maker because the banking industry was contributing to the economic development of the country. Similarly, Fadare (2010) empirically identifies the effect of banking sector reforms on economic growth in Nigeria by using the data 1999 - 2009. Variables used for the study are interest rate margins, parallel market premiums, total banking sector credit to the private sector, inflation rate, inflation rate lagged by one year, size of banking sector capital and cash reserve ratios. Results indicate that the relationship between economic growth and other exogenous variables of interest rate margins, parallel market premiums, total banking sector credit to the private sector, inflation rate and cash reserve ratio show the negative and insignificant.

What is more, Ali (2012) empirically investigates the relationship between Banking Sector Development and Economic Growth in Lebanon over the period of 1992-2011. The variables being used for the study were deposits, banking sector size (i.e. assets), interest rate spread,

credit to local private sector, and concentration. The statistical result of his study shows that both deposit growth and credit to local private sector impact significantly economic growth. Conversely, conversely, the banking sector size (i.e. Assets), efficiency (interest rate spread), and concentration do not impact significantly economic growth. Moreover, the results provide support for the demand-following hypothesis regarding the link between financial sector and economic development in Lebanon. As well, Jaiyeoba et Al (2013) studied the impact of commercial banks on Malaysian economic development, the study covered 10 commercial banks and for the period of six years, from 2007 to 2012. Variables used for the study are profitability, loan and advances, assets and deposits. The statistical result of their study shows that the profitability and loan and advances have positive and significant contributions to the Malaysian economic development, while commercial banks deposit and asset does not have significant contribution to the Malaysian economic development.

While, Alex Ehimare (2012) investigated the role of banks in capital formation and economic growth and found that the commercial banks have significant role to play in capital formation in the Nigerian economy. This implies that commercial banks have the potential to increase the nation's capital formation through their activities. The commercial banks also have vital roles to play in the nation's economic growth. The results also show that commercial banks deposit liabilities only have immediate impact on capital formation and not on economic growth. However, the research findings support the notion that commercial banks are agents of both capital formation and economic growth of the country. Similarly, Khan, Quyyum et al. (2005) investigated the relationship between financial development and economic growth in Pakistan over the period of 1971-2004 and found positive relationship between deposit and economic

growth. Majid (2008) conducted a study in Malaysia to explore the relationship between financial developments where he found that deposit has positively related with economic growth.

Suman, Bahadur, Khatri (2008) examined the relationship of financial development and economic growth in her project entitled "Financial Institutions and Economic Growth: The case of Nepal". The relevant ratios of commercial banks such as deposit, investment, and profitability are found to be in increasing trend. The growth rate of GDP/Capita is however volatile in the study period, the regression result of Deposit/GDP is weakly significant under the study period (0. 06). The investment growth rate is not significant at all possibly due to the time lag of the effect of investment on the economic development. It is also revealed from the study that the Growth rate of GDP and investment over GDP is positive related. In the same way, Ghali (1999) investigated the question of whether finance contributes to economic growth in Tunisia. The paper has used two measures of financial development; the ratio of bank deposit liabilities to GDP and the ratio of bank claims on the private sector to nominal GDP. The dynamic relationship between finance and growth has been investigated using the Granger-causality test and the results indicate the existence of a long-term stable relationship between financial development and per capita real output.

In Ethiopian context, Roman (2012) examined whether a long-run relationship between financial development and economic growth exist in Ethiopia. Co-integrated Vector Autoregressive (CVAR) approach has been employed to assess how the financial sector contributes to growth. The study further used the granger causality test so as to find the direction of causality between financial development and economic growth. So, the findings supported that the existence of a uni-directional causality from economic growth to financial development. The empirical

evidence, in addition, shows the presence of positive and significant long-run relationship between financial development and economic growth and an insignificant effect in the short-run.

2.12. Conclusion and Knowledge Gap

All in all, economic development is about enhancing the productive capacity of an economy by using available resources to reduce risks, remove impediments which otherwise could lower costs and hinder investment. The banking system plays the important role of promoting economic growth and development through the process of financial intermediation. Many economists have acknowledged that the financial system, with banks as its major component, provide linkages for the different sectors of the economy and encourage high level of specialization, expertise, economies of scale and a conducive environment for the implementation of various economic policies of government intended to achieve non-inflationary growth, exchange rate stability, balance of payments equilibrium and high levels of employment.

From the preceding review, while conclusions must be drawn with caution and only with ample justification, it is clear that financial sector development plays a significant role in explaining economic growth. In particular, Schumpeter (1911) put the role of financial intermediation at the center of economic development. He argued that financial intermediation through the banking system played a pivotal role in economic development by affecting the allocation of savings, thereby improving productivity, technical change and the rate of economic growth. He believed that efficient allocation of savings through identification and funding of entrepreneurs with the best chances of successfully implementing innovative products and production processes are tools to achieve this objective.

From the growth theory proposed by Solow (1956) and the endogenous growth model, one can note that financial development (materialized as saving) was always considered as source of economic growth. The endogenous growth supports the argument that financial development has a positive impact on growth. Well functioning financial systems are able to mobilize household savings, allocate resources efficiently, diversify risk, and enhance the flow of liquidity, reduce information asymmetry and transaction cost and provide an alternative to raising funds through individual savings and retained earnings. These functions suggest that financial development has a positive impact on growth.

With regard to finance-led growth, the finance-led growth hypothesis postulates a supply-leading relationship between financial development and economic growth. A number of studies have suggested that financial sector development is not only a good predictor, but also a leading factor in economic growth.

However, Robinson (1952) does not share this view, suggesting that it is economic growth that stimulates financial development. According to them, financial development is the result of growth in the real economy. Economic development creates a demand for particular types of financial arrangements, and the financial system responds automatically to these demands.

Apart from the theoretical facts, empirical studies have shown evidence and have provided different results across countries. According to these studies, the difference in the level of financial sector development may have very important implications for the correlation and direction of causality between financial sector development and economic growth.

In summarizing, in developing countries there has been a relatively limited number of evidence on the relationship between commercial banks and economic growth development including

Nigeria, India, Pakistan and Lebanon. Finally to the knowledge of the researcher, in Ethiopian context there appear to be no attempt to examine the impact of commercial banks on economic growth in Ethiopia.

Based on these gaps in the literature together with the problems stated in section 1.2, the following grand research question is established i.e. *''How is the development of commercial banks influence the economic growth in Ethiopia?''*. What is more, the present study would have tested whether there is a relationship and or causality between commercial banks development and economic growth in the country, Ethiopia. Having said this, this study intends to take a fresh look at this.

Chapter Three

Research Methodology

Methodology means understanding or studying appropriate methods of research. Researchers usually aim to solve problems or to find new phenomena. As Sekaran (2003) states that research is a somewhat intimidating term for some, is simply the process of finding the solution to a problem after a thorough study and analysis of the situational factors. Similarly, Sekaran (2003) also defines research as an organized investigation into a specific problem, undertaken with the purpose of finding answers or solutions to it. In essence, research provides the needed information that guides managers to make informed decisions to successfully deal with problems. Asutay (2007) defines research as how one will go about studying a phenomenon.

In every research, researchers should use a method or a set of methods which enables them to reach the answer to their question or a new hypothesis. This set of methods is the methodology. Methodology has been defined as ‘’a set of methods and principles used to perform a particular activity (Wehmeier and Ashby, 2000). It has also been defined by Miller and Brewer (2003) as ‘’a set of rules and procedures to guide a researcher and against which his/her claim can be evaluated. It is therefore fundamental to the construction of all forms of knowledge’’.

Particularly this chapter deals about research approaches, research method was being adopted, source of data, population of the study, sampling technique, sample size, data collection instruments, description of variables, measurement and expected relationship between variables and empirical model to be employed and data analysis techniques. The detail for each of the element will be presented as follows.

3.12. Research Approaches

This section introduces the fundamental elements of research approaches. There are three common approaches to conducting research these are include quantitative, qualitative, and mixed methods. Researchers typically select the quantitative approach to respond to research questions requiring numerical data, the qualitative approach for research questions requiring textural data, and the mixed methods approach for research questions requiring both numerical and textural data (Carrie, 2007). The subsequent discussions present the basic features of quantitative, qualitative and mixed methods research approaches in an orderly manner.

3.12.1. Quantitative Research Approach

Quantitative research places the emphasis on measurement when collecting and analyzing data. Quantitative research is defined, not just by its use of numerical measures but also that it

generally follows a natural science model of the research process measurement to establish objective knowledge (that is, knowledge that exists independently of the views and values of the people involved). Quantitative research can be used in response to relational questions of variables within the research (Carrie, 2007).

Well designed and implemented quantitative research has the advantage of making generalizations to a wider population from the sample. To enhance the generalization of findings, quantitative research approach follow standardized procedures in sample selection, instrument design, implementation and analysis. Standardization in turn enhances the reliability of findings and alleviates the impact of investigator and subjects biases. Despite these advantages, quantitative research design has a number of limitations: lack flexibility in design, standardization can cause bias or hinder exploitation of new ideas, and lack interpretive and exploratory examination of a research problem (Creswell, 2003).

3.12.2. Qualitative Research Approach

Qualitative research approach is the one in which the investigator often makes knowledge claims based on the multiple meanings of individual experiences, socially and historically constructed meanings, participation in issues, collaboration or change oriented with an intent of developing a theory or pattern. In contrast to quantitative research design, qualitative approach is rooted on the philosophy constructivist. Constructivists contend that only through the subjective interpretation of and intervention in reality can that reality is fully understood (Mertens, 1998).

A qualitative research approach uses strategies of inquiry including narratives, ethnographies, case studies, observations, interviews, and the findings are communicated subjectively through descriptions using words rather than numbers (Creswell, 2003). Qualitative research design has

its own advantages and disadvantages. The advantage of a qualitative research design is that it is flexible and emergent without being constrained by standardized procedures that the investigator to explore and understand phenomena entirely in their natural setting (Creswell, 2003).

In spite of the above advantage, qualitative research design has its own limitations: lack of standardized rules reduces the objectivity of the findings, the personal view and stand of the researcher may induce bias in the interpretation of the data, and the findings cannot be statistically generalized for a broader population under investigation (Creswell, 2003).

3.12.3. Mixed Methods Approach

As indicated in the above discussion, both quantitative and qualitative research approaches have limitations. According to Sale et al. (2002) the advantage of a quantitative research approach may be limitations for a qualitative approach and vice versa.

Mixed research design, which is supposed to alleviate the limitations of quantitative and qualitative approaches, bases on pragmatic knowledge claims. Pragmatists contend that knowledge claims arise out of actions, situations, and consequences rather than antecedent conditions. There is a concern with applications and solutions to problems. Instead of methods being important, the problem is most important, and researchers use all (mixed method studies) approaches to understand the problems (Creswell, 2003).

3.13. Types of Interviews

Singleton and Straits (2005) and Rager and Petre (2007) argue that there are three main types of interview methods: structured, unstructured and semi-structured interviews.

3.13.1. Unstructured Interviews

In unstructured interviews, there is no predetermined question. Sekaran (2003:225) states that ―unstructured interviews are so labelled because the interviewer does not enter the interview setting with a planned sequence of questions to be asked of the respondent. The objective of the unstructured interview is to bring some preliminary issues to the surface so that the researcher can determine what variables need further in-depth investigation. Some of its characteristics are that flexibility is high and interviewers are neutral. Punch (2005) states that ―flexibility and variation are minimized, while standardization is maximised. In this sort of interview, the interviewer attempts to play a neutral role and a neutral manner and demeanor are encouraged in executing that role.

3.13.2. Structured interviews

In contrast, in structured interviews, there are several predetermined questions asked of all interviewees. Sekaran (2003) states that structured interviews are those conducted when it is known at the outset what information is needed. The interviewer has a list of predetermined questions to be asked of the respondents. The questions are likely to focus on factors that had surfaced during the unstructured interviews and are considered relevant to the problem. As the respondents express their views, the researcher would note them down. The same questions will be asked of everybody in the same manner.

3.13.3. Semi-Structured Interviews

The semi-structured interviews are somewhere between structured and unstructured interviews. While flexibility in the semi-structured interviews is lower than in the unstructured interviews, their flexibility is higher than in the structured interview. There are some predetermined

questions in this kind of interview, but there is an opportunity to ask new questions which may arise during the interview.

3.14. Research Methods Use

Scientific problems can be solved only on the basis of data and a major responsibility of the investigator is to set-up a research design capable of providing the data necessary for the solution of the study problem. Research methods are the techniques used to collect the necessary data.

Thus, in this study, the researcher adopted mixed methods approach, as discussed in the previous section, which is employed concurrently in collecting and analyzing data. There are different tools available to the researcher to collect the required data including questionnaires, observation, interview, and document analysis. For this study, applied both quantitative (through document analysis i.e. annual financial reports) and qualitative (structured interview). Therefore, the combination provides an expanded understanding of the research problems. It utilizes the strengths and overcomes the weaknesses of the two continuum approaches.

3.15. Source of Data

For this study, both primary and secondary source of data were employed panel data for the total number of 8 commercial banks covering from 2000 to 2013 (i.e. for about 14 years).

3.16. 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, events, group of things or households that are being investigated. Therefore, the population of this study consists of all commercial banks which are operating in the Ethiopian banking industry. There

are 18 commercial banks in Ethiopia. Of which 2 are public owned banks and 16 are private owned banks. Of the 18 commercial banks, there are 8 banks with above 10 years work experience include Commercial bank of Ethiopia, Construction & business bank, Awash International bank, Dashen bank, Bank of Abyssinia, United bank, Wegagen bank and Nib international bank.

Table 3.1: number of the population

S.N.	Name of bank	Year of establishment	Ownership
1.	Commercial Bank of Ethiopia (CBE)	1963	Public
2.	Construction & Business Bank (CBB)	1983	Public
3.	Awash International Bank S.C (AIB)	1994	Private
4.	Dashen Bank S.C (DB)	1995	Private
5.	Bank of Abyssinia S.C (BoA)	1996	Private
6.	Wegagen Bank S.C (WB)	1997	Private
7.	United Bank S.C (UB)	1998	Private
8.	Nib International Bank S.C (NIB)	1999	Private
9.	Cooperative Bank of Oromia S.C (CBO)	2005	Private
10.	Lion International Bank S.C (LIB)	2006	Private
11.	Oromia International Bank S.C (OIB)	2008	Private
12.	Zemen Bank S.C (ZB)	2009	Private
13.	Bunna International Bank S.C (BIB)	2009	Private
14.	Berhan International Bank S.C (BBI)	2010	Private

15. Abay Bank S.C. (AB)	2010	Private
16. Addis international Bank SC. (AdIB)	2011	Private
17. Debub Global Bank S.C. (DGB)	2012	Private
18. Enat Bank S.C. (EB)	2013	Private

Source: NBE

3.17. Sampling Technique

Base upon the nature and objective of the study, the study has adopted purposive/deliberate sampling to address the research questions properly because the study seeks to know the impact of commercial banks on economic growth in Ethiopia those which have 14 years operational experience in the banking industry. As Kotari (2004) noted in this type of sampling, items for the sample are selected deliberately by the researcher; his choice concerning the items remains supreme. In other words, under deliberate sampling the organizers of the inquiry purposively choose the particular units of the universe for constituting a sample on the basis that the small mass that they so select out of a huge one will be typical or representative of the whole. Therefore, by using this sampling technique eight commercial banks were selected since they are expected to be fulfilling the needed data from the period 2000-2013.

3.18. Sample Size

A sample is a representative of the population. From the above population, the study would have selected eight commercial banks include (CBE, CBB, AIB, DB, WB, BoA, UB and NIB). Those banks are selected since they have above 10 years operational experience and they are fulfilled date requirements for study from the period starting from 2000-2013 (i.e. for about 14 years). The researcher believes that the sample size is sufficient too to make sound conclusion about the

population as far as it covers around 44% of the total population. Because, Mugenda and Mugenda (2003) state that a sample size of 10-30% of the population is considered enough for the generalization of the findings to the whole study.

3.19. Data Collection Instruments

In order to analyze the effect of commercial banks on economic growth in Ethiopia audited financial statements of eight banks (CBE, CBB, AIB, DB, WB, BoA, UB and NIB) for 14 consecutive years .i.e., from 2000-2014 has been collected. The secondary data were collected through structured document review from the records held by NBE, MoFED and the banks themselves. Moreover, other macro economic data had been taken from NBE and MoFED through structured document review. Consistent and reliable research indicates that research conducted by using appropriate data collection instruments increase the credibility and value of the research findings (Koul 2006). On top of this, the study has been conducted interview with banks managers/officials.

3.20. Description of Variables

The present study has one dependent variable (i.e. GDP), three major independent variables namely deposits, loan and advances and assets while it has three control variables include government expenditure, exports and inflation rate. Therefore, they are briefly described as follows.

3.20.1. Dependent Variable

Gross Domestic Product (GDP): which is a measure of a nation's economic performance – economic growth in this instance.

3.20.2. Independent Variables

Deposits: deposits are the sum of demand deposit, savings and time deposits; it provides an alternative to the broad money ratio especially when dealing with developing countries. The ratio measures the degree of monetization in the economy as well as the depth of the financial sector while it also shows an expansion of payment and saving functions.

Loans and advances: De Gregorio and Guidotti (1995) state that loan and advances as percent of GDP has an advantage over monetary aggregates measures, because it represents more accurately the actual volume of funds channeled into the private sector and thus, is more directly linked to investment and economic growth. A higher ratio is an indication of greater financial intermediation development. This ratio indicates the importance of the role played by the financial sector, especially the deposit money banks, in the financing of the economy (Levine, 2003); it also measures the activity of financial intermediaries in one of their primary function of channeling savings to investors. These indicators are commonly referred to and used in the literature (e.g. Aziakpono, 2003; King and Levine, 1993; Hakeem, 2009); this informed the choice of these measures in this study.

The Size of commercial banks (assets): this particular variable is considered to assess the impact of the size of banking sector on economic growth, and if this large size represents an added value (or burden?) for economic development. To measure the size of the banking system, in order to assess whether a country's banking system is too big, a country's banking assets divided by the country's GDP is commonly applied as a general yardstick (Levine, 2005).

3.20.3. Control variables

Exports: As a measure of exports, the study uses the exports of goods and services in relation to GDP. Export is one of the factors, considered even in the traditional Keynesian theory that can facilitate economic growth. Empirical studies have confirmed that export positively affects economic growth (Marin 1992; Vohra 2001).

Government expenditure: The government has an important role for the establishment of framework for private sector development in every economy. However, numerous theoretical and empirical researches suggest that the larger government consumption the less developed will be the financial system. Therefore, general government consumption is usually used as a control variable when depicting economic growth (Levine 1998; Berthelemy and Varoudakis 1996; Ahlin and Pang 2008). The study measures government expenditure as a ratio of general government expenditures to GDP.

Inflation rate: The next variable used to control for other influences on economic growth is the inflation rate. It is expressed by the GDP deflator (annual percentage). A number of studies have found significant effects of inflation and reforms on economic growth in transition countries (De Melo et al. 1996; Havrylyshyn et al. 1998; Berg et al. 1999).

Table 3.2: Definition and expected sign of variables

Variable	Measurement	Expected sign
Bank Deposits	Total deposit liabilities of commercial banks to GDP	+
Loan and Advances	Total loan and advances to GDP	+
Assets	Total assets to GDP	+
Export	Export to GDP	+
Government expenditure	Government expenditure to GDP	+/-
Inflation rate	As a percentage	-

3.21. Model Specification

The major dependent variable i.e. economic performance/growth indicator is gross domestic product (GDP). The major determinants (independent variables) are bank deposit liabilities, loan and advances, banking sector assets and interest rate spread. In this study the following baseline model was adopted:

$$GDP_t = \beta_{0+} \beta_1 DEP_{jt} + \beta_2 LAD_{jt} + \beta_3 ASSETS_{jt} + \beta_4 EX_{jt} + \beta_5 GOVC_{jt} + \beta_6 INF_{jt} + \varepsilon_t$$

Where:

GDP= Gross domestic product i.e. an indicator of economic growth at time *t,* β_0: Intercept**,** **DEPt**: commercial banks' deposit liabilities at time *t*, LAD_t: commercial banks' Loan and

advances at time *t*, $ASSETS_t$: commercial banks' asset at time *t*, EX_t: Export at time *t*, GOVC*t*: Government consumption/expenditure at time *t*, INF_t: Inflation rate at time *t*, β_1- β_6= Coefficients parameters, ε_t= Error term at time *t.*

3.22. Data Analysis Procedures

The data collected with the use of secondary method of data collection are subjected to statistical analysis with the use of both inferential and descriptive statistics. The Econometric Views (Eviews) version 8 would have been used in analyzing the data obtained. Based on this, descriptive analysis, unit root, Granger Causality tests and ordinary least squares regression (OLS) analyses were performed for this study to examine the impact of commercial banks on economic development in Ethiopia.

3.22.1. Unit Root Tests

According to Okwo et al (2012) a time series is considered to be stationary if it's mean and variable are independent of time. If the time series is non-stationary, that is, having a mean and or variance changing over time, it is said to have a unit root. If a time series is non-stationary, the regression analysis carried out in a conventional way will produce spurious results. A spurious regression occurs when after regression is made the time series variable on others, the test statistics show a positive relationship between these variables even though no such relationship exists. A non-stationary time series can be converted into a stationary time series by differencing. If a time series becomes stationary after differencing one time, then the time series is said to be integrated of other one and denoted by (i). Similarly, if a time series has to be differenced a time to make it stationary, then it is called integrated of order d and written as i(d). As the stationary

time series needs not to be differenced, it is denoted i(o). The study will test for the order of integration using the augmented dickey-fuller test (ADF) (Okwo et al ,2012).

3.22.2. Granger Causality Test

Granger (1969) defines causality between two variables y and x as follows: y causes x if the predictability of x increases when y is taken into consideration. This study, therefore, is conducted Granger Causality to find out if the variables can be predicted from others, more specifically to know whether asset, deposits, and loans and advances of the commercial banks in Ethiopia are used to predict the GDP and vice- versa.

In conclusion, documentary analysis (documents held by commercial banks, NBE and MoFED), are separately held to gather data for the quest of the research objective. The results from these methods of inquiry will be separately presented and jointly analyzed to address the stated research questions and to empirically test the hypothesis. The analysis is based on the results obtained and literature guide.

Chapter four

Data Analysis and Discussions

This Chapter presents the results of the regression model and their corresponding discussions. Prior to the analysis of regression model, test of CLRM assumptions have been made followed by the descriptive statistics, unit root test, co integration test and granger causality tests. It also

presents the analysis of the collected empirical data, portrays the results, and explains the impacts of commercial banks' development in Ethiopian economic growth.

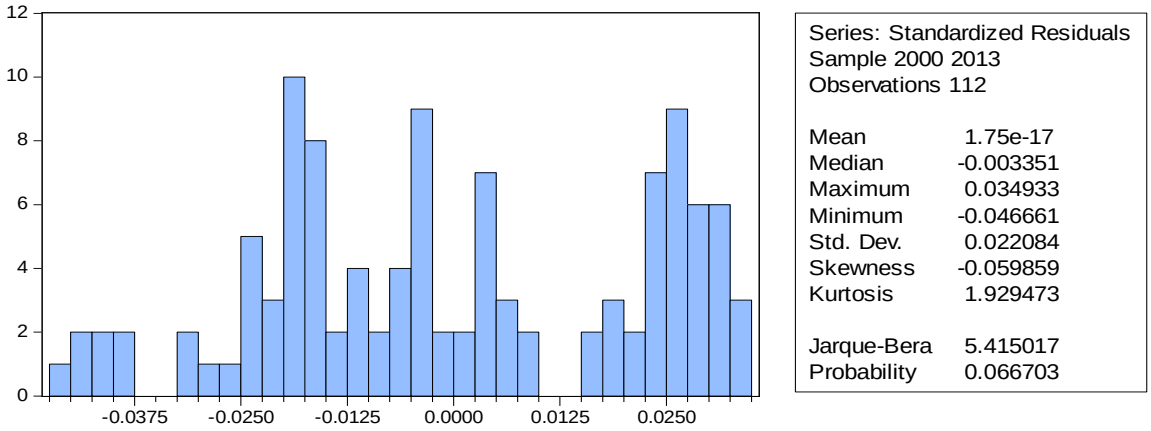
4.4. Data Testing

The most critical classical linear regression model CLRM assumptions and other relevant tests include unit root tests, co integration tests, and granger tests were tested in the following sub-sections. These are Normality, multicollinearity, heteroskedasticity, and model specification tests have been made to make the data available give reliable result and make the model fit the data. These assumptions were required to be tested because the estimation technique, Multivariate Ordinary Least Squares (OLS), has a number of desirable properties. Hence, the hypothesis testing regarding the coefficient estimates could validly be conducted.

4.4.1. Test of Normality

Normality test of data is applied to determine whether a data is well-modeled by a normal distribution or not, and to compute how likely an underlying random variable is to be normally distributed.

Graph 4.1: Jarque-Bera test for normality



Source: *Researcher's own computation based on the financial statements*

The histogram presented in graph 4.1 provides useful graphical representation of the data. It can be seen that there are few outliers that have insignificant difference from the standard normal curve. But, Jarque-Bera is statistically in significant because its corresponding p-value, 0.06, is greater than the standard p-value 0.05. Therefore, it is possible to generalize in the way that the residuals are normally distributed and do not have potential problems on the specified model.

4.4.2. Test of Multi Co Linearity

Multicollinearity means that there is linear relationship between explanatory variables which may cause the regression model biased (Gujarati, 2003, pp342).

Table 4.1: pair-wise correlation matrix between explanatory variables

	DEP	LAD	ASSET	GOVEXP	EXPT	IFR
DEP	1.000000	0.327208	0.338233	-0.075578	-0.087606	-0.058522
LAD	0.327208	1.000000	0.764974	-0.090414	-0.017555	-0.001589
ASSET	0.338233	0.764974	1.000000	0.038625	0.045539	-0.037916
GOVEXP	-0.075578	-0.090414	0.038625	1.000000	0.625508	-0.423926
EXPT	-0.087606	-0.017555	0.045539	0.625508	1.000000	-0.567781
IFR	-0.058522	-0.001589	-0.037916	-0.423926	-0.567781	1.000000

Source: *Researcher's own computation based on the financial statements*

In the correlation matrices results, it can be seen that there is no strong pair-wise correlation between the explanatory variables (DEP, LAD, ASSET, GOVEXP, EXPT and IFR). As a rule of thumb, inter-correlation among the independents above 0.80 signals a possible multicollinearity problem (Gujatati, 2003). As concluding analysis, almost all variables have low correlation power and this implies no multicollinearity problem in the explanatory variables being selected to determine the impact of commercial banks' development in Ethiopian economic growth.

4.4.3. Tests for Heteroskedasticity

Heteroskedasticity is a systematic pattern in the errors where the variances of the errors are not constant (Gujarati, 2003). Heteroskedasticity makes ordinary least square estimators not efficient because the estimated variances and covariance of the coefficients (βi) are biased and inconsistent and thus, the tests of hypotheses are no longer valid.

Table 4.2: ARCH test for Heteroskedasticity

Heteroskedasticity Test: ARCH

F-statistic	1.570863	Prob. F(1,109)	0.2128
Obs*R-squared	1.576959	Prob. Chi-Square(1)	0.2092

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 04/29/15 Time: 23:12

Sample (adjusted): 2001 2013

Included observations: 111 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.000429	6.42E-05	6.680664	0.0000
RESID^2(-1)	0.119272	0.095163	1.253341	0.2128

R-squared	0.014207	Mean dependent var	0.000487
Adjusted R-squared	0.005163	S.D. dependent var	0.000469
S.E. of regression	0.000468	Akaike info criterion	-12.48048
Sum squared resid	2.38E-05	Schwarz criterion	-12.43166
Log likelihood	694.6668	Hannan-Quinn criter.	-12.46068
F-statistic	1.570863	Durbin-Watson stat	1.971699
Prob(F-statistic)	0.212764		

Source: *Researcher's own computation based on the financial statements*

Ever since the development of the Autoregressive Conditional Heteroskedasticity (ARCH) model, testing for the presence of ARCH has become a routine diagnostic. One popular method of testing for ARCH is T times the R^2 from a regression of the squared residuals on a constant

and p of its lags. This test inherently assumes that the conditional mean is correctly specified. Underlying this test is the assumption of a correctly specified conditional mean. In this paper, the researcher considers the properties of the ARCH test when there is a possibly misspecified conditional mean. Examples of misspecification include omitted variables, structural change, and parameter instability. In general, misspecification will lead to over rejection of the null hypothesis of conditional homoskedasticity.

Furthermore, heteroskedasticity is a systematic pattern in errors not constant and it makes ordinary least square estimators not efficient because the estimate variance and covariance of the coefficients (β_j) are biased and inconsistent thus it means that the tests of hypotheses are no longer valid. In this study, ARCH's test of test of testing heteroskedasticity has been used and the results are presented in the table 4.2.

ARCH's test tests the null hypothesis that the variance of the residual is homoskedasticity; this can be true if and only if the p-value is greater than 0.05 this indicates that we would have to not rejecting the null hypothesis of no heteroskedasticity problem. As it is presented in the table above the test results of ARCH is statistically insignificant, this implies that the regression of the residuals on the predicted values in significant heteroskedasticity because it's corresponding p-value is strongly greater than 0.05.

4.4.4. Test of Unit Root

The table above shows the results for the unit root tests conducted for the variables under this study. The null hypothesis proposes that a certain variable has a unit root test. This means that the error terms of the variable in question is serially correlated. If the data has unit root test, it is

none stationary as opposed to stationary which is free from unit roots. None stationary process is when the error term of the variables are serially correlated, the mean is not zero and variance is not constant. It is the opposite of stationary process where the data must satisfy the assumptions underlying the classical regression model. The stationarity of data is important because it affects the long run relationship of the variables and model in general. The none stationarity of the variables causes previous values of the error terms yt-1 to have none declining effect on the current value of yt as time progresses which in turn leads to spurious regression.

Table 4.3: Stationarity Tests of all the variables at their levels and first difference

	Levels				**First differences**			
Variable	ADF		PP		ADF		PP	
	Statistic	Prob.	Statistic	Prob.	Statistic	Prob.	Statistic	Prob.
RGDP	40.2192	0.0007*	19.1309	0.2619	84.4408	0.0000*	80.6403	0.0000*
DEP	11.7498	0.7610	16.5800	0.4133	58.9703	0.0000*	90.4471	0.0000*
LAD	14.2788	0.3678	21.2292	0.1699	69.2643	0.0000*	93.1212	0.0000*

ASSET	38.4193	0.0013**	29.0768	0.0234*	73.4038	0.0000*	105.482	0.0000*
GOVEXP	10.3240	0.8492	10.4995	0.8393	73.2717	0.0000*	72.9062	0.0000*
EXPT	3.6608	0.9994	3.6608	0.9994	46.3963	0.0000*	45.9505	0.0000*
IFR	34.8144	0.0042**	32.8672	0.0077*	89.5807	0.0000*	117.938	0.0000*

*And ** denotes rejection of null hypothesis at 1% and 5% significance level respectively.

Source: *Researcher's own computation based on the financial statements*

The result of the stationary test on level based on augmented Dickey–Fuller (ADF) and Phillip-Perron (PP) techniques are presented in 4.3. While, It must also be mentioned that the maximum lag length has been chosen using the akakie information criterion. Thus these tables show that, all the variables failed to pass both the ADF and Phillip-Perron tests when they are in levels except the RGDP and ASSET. Having established that other variables (apart from both RGDP and ASSET real) are non stationary at levels, the next step is to difference them once. Thus, the result of the stationary test on first level is presented in same table 4.3. These tables show that after being differenced once, all the variables are confirmed to be stationary. The ADF and Phillip-Perron tests have both rejected the hypothesis of non-stationarity of variables, and the study can thus conclude that the variables used are integrated in the same order. Once the stationarity status of the variables has been determined, one can then move on to the next step, which is the test of co-integration

between variables.

4.4.5. Test of Granger Causality

The Granger Causality approach to the problem of whether ‘x’ causes ‘y’ is to see how much of the current ‘y’ can be explained by past values of ‘y’ and then to see whether adding lagged values of ‘x’ can improve the explanation. ‘Y’ is said to Granger-Caused by ‘x’ if ‘x’ helps in the prediction of ‘y’ or equivalently, if the coefficients on the lagged x’s are statistically significant.

Table 4.5 : pair -wise test for granger causality

Pairwise Granger Causality Tests

Date: 04/29/15 Time: 04:43

Sample: 2000 2013

Lags: 4

Null Hypothesis:	F-Statistic	Prob.
DEP does not Granger Cause RGDP	2.57183	0.0450
RGDP does not Granger Cause DEP	1.32220	0.2701
LAD does not Granger Cause RGDP	0.27973	0.8902
RGDP does not Granger Cause LAD	4.59792	0.0023
ASSET does not Granger Cause RGDP	0.78097	0.5413

RGDP does not Granger Cause ASSET	0.76464	0.5518

Source: *Researcher's own computation based on the financial statements*

Table above showed that study adopted Pair wise Granger Causality test to mainly examine the causal relations between real gross domestic product, deposit, loan and advances, and asset. Therefore, the pair wise granger causality results indicates deposit (DEP) is significant at 5 per cent level, suggesting that unidirectional causal relationship of deposit (DEP) with economic growth (RGDP) runs from deposit (DEP) to economic growth (RGDP). On the other hand, in the causal relationship between loan and advances (LAD), and economic growth (RGDP), RGDP was significant at 5 per cent showing that the causality exist in between the two variables runs from RGDP to LAD. In addition as it is indicated from the results the study found that there is no causal relationship between economic growth (RGDP) and ASSET with referring to their respective P-values, which is greater than 5 per cent in both cases.

4.5. Descriptive Statistics

Table 4.6 demonstrates the summary of descriptive statistics for the variable values used in the sample. The summary of descriptive statistics includes the mean, standard deviation, minimum and maximum of one dependent variable (RGDP) and six explanatory variables (DEP, LAD, ASSET, GOVEXP, EXPT and IFR). The data contain sample of eight commercial banks in Ethiopia for the past fourteen years (2000 – 2013).

The descriptive statistics summarized in Table 4.6 are a collection of measurements of two things: location and variability. Location tells one the central value of the variables (the mean is the most

common measure of this). Variability refers to the spread of the data from the center value (i.e. variance, standard deviation).

The mean is the sum of the observations divided by the total number of observations. The median is the middle value of the total observation. The standard deviation is the squared root of the variance and indicates how close the data is to the mean. The variance measures the dispersion of the data from the mean. It is the simple mean of the squared distance from the mean. Range is also another measure of dispersion. It is the difference between the largest and smallest values, max minus min. Min is the lowest value in the variable. Max is the largest value in the variable.

Table 4.6: summary of descriptive statistics

	RGDP	DEP	LAD	ASSET	GOVEXP	EXPT	IFR
Mean	0.090357	0.013161	0.016014	0.045430	0.244868	0.274913	0.127269
Median	0.103000	0.010727	0.008642	0.013994	0.240367	0.276965	0.107504
Maximum	0.126000	0.091852	0.112392	0.329652	0.305041	0.434210	0.364000
Minimum	-0.021000	0.002017	0.000100	0.001161	0.201262	0.129127	-0.105722
Std. Dev.	0.040558	0.009810	0.021546	0.083644	0.027993	0.126908	0.123856
Skewness	-1.828994	4.825231	2.790735	2.481937	0.502884	0.016959	0.334695
Kurtosis	5.093941	38.14538	10.38206	7.623584	2.841491	1.093841	2.736377
Jarque-Bera	82.90553	6198.869	399.6889	214.7487	4.837910	16.96144	2.415379

Probability	0.000000	0.000000	0.000000	0.000000	0.089015	0.000207	0.298887
Sum	10.12000	1.474020	1.793584	5.088133	27.42519	30.79022	14.25418
Sum Sq. Dev.	0.182586	0.010683	0.051531	0.776587	0.086980	1.787733	1.702777
Observations	112	112	112	112	112	112	112

Source: *Researcher's own computation based on the financial statements*

As it is mentioned earlier, the study have used the RGDP as a measure of economic growth in Ethiopia whereas the study has considered three major independent variables as an indicators of development of commercial banks and these are taken just to know the impact of commercial banks in Ethiopian economic growth. Additionally, the study has considered three control variables namely government expenditure, exports and inflation rate since all are affecting the RGDP either negatively or positively.

As it vividly depicted in the descriptive statistics results the RGDP has a mean of 9 per cent and its minimum and maximum value, respectively is -2.1 and 10.3 per cent. With regard to explanatory variables the mean of deposit is found to be 1.3 percent, indicating that on average the sampled commercial banks has a DEP –to- RGDP ratio of 1.3 percent per annum. Further, deposits which can be mobilized by each commercial bank, as measure by the ratio of DEP – to- RGDP fall in between 0.02 per cent to 9 percent. Regarding loan and advances (LAD), the mean of LAD composition found out 1.6 per cent, meaning that the sampled cross section units on average has a LAD –to- RGDP ratio of 1.6 percent. Again, the ratio of LAD –to- RGDP has a minimum of 0.001 percent with a maximum of 11 percent, so for each of the sampled bank a ratio of LAD -to- RGDP fall in between 0.001% and 11%. In the descriptive we could have looked that the statistical

descriptions of the other major independent variable that is asset, the mean of asset of commercial banks make up 4.5% per annum, showing that the asset held by the sampled commercial banks, as measured by ASSET- to RGDP is about 4.5 per cent per year. The ASSET- to RGDP ratio for each commercial bank lies in between 1.1% to 32%.

And, as it is shown in the descriptive statistics results of control variables, on average the ratio of GOVEXP –to RGDP is about 24% while in each year the government has spent a minimum of 20 per cent with a maximum of 30 percent. With regard to export, the ratio of EXPT –to- RGDP has a mean of 27 percent but the minimum and maximum value of EXPT –to RGDP is 12 percent and 42 per cent respectively. In relation to inflation rate on average the mean value of inflation rate is with a minimum and maximum value of -10% and 36.4% respectively.

Following descriptive statistics, reviews regression results are generated based on the specified model. Therefore, results of the regression analysis are discussed in relation to each of the independent variables in Table 4.7 and forthcoming paragraphs.

4.6. Empirical Analysis and Discussions of Results

To identify the appropriate methodology, the study performed Hausman test. It is used to test the fixed-effect model versus the random effect model. Therefore, the test results show that random effect model is appropriate **(see appendix 5).**

Table 4.7: Regression results of RGDP and the explanatory variables

Dependent Variable: RGDP

Method: Panel EGLS (Cross-section random effects)

Date: 04/24/15 Time: 22:49

Sample: 2000 2013

Periods included: 14

Cross-sections included: 8

Total panel (balanced) observations: 112

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.361745	0.023883	15.14637	0.0000
DEP	0.505605	0.236104	2.141454	0.0346
LAD	0.485936	0.205025	2.370134	0.0196
ASSET	-0.117003	0.052978	-2.208497	0.0294
GOVEXP	-1.368352	0.101355	-13.50053	0.0000
EXPT	0.169930	0.024129	7.042568	0.0000
IFR	0.061609	0.021339	2.887173	0.0047

Effects Specification		
	S.D.	Rho

Cross-section random		0.000000	0.0000
Idiosyncratic random		0.022560	1.0000

Weighted Statistics

R-squared	0.703518	Mean dependent var	0.090357
Adjusted R-squared	0.686576	S.D. dependent var	0.040558
S.E. of regression	0.022706	Sum squared resid	0.054133
F-statistic	41.52542	Durbin-Watson stat	1.588944
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.703518	Mean dependent var	0.090357
Sum squared resid	0.054133	Durbin-Watson stat	1.588944

Source: *Researcher's own computation based on the financial statements*

From the LOS regression results, one can be observed that the analysis of variable of the variable and this analysis have been made with the use of, respectively, F-statistics, adjusted R^2 and Durbin-Watson statistics. F-value of 41.5 (Sign. 0.000) for RGDP as economy proxies, it clearly shows that there is strong relationship between dependent and independent variables which are being modeled in this study. R^2 is called the coefficient determination and it gives the adequacy of the model in

general. The numerical value of adjusted R^2 is 68 per cent. This indicates that on an adjusted basis, the independent variables are collectively 68 per cent related to the dependent variable RGDP. Put another way, that of changes that occur in the dependent variable, 68% are attributable to the independent variables.

According to Chris Brooks (2008) *DW* has 2 critical values: an upper critical value (*dU=1.57*) and a lower critical value (*dL=1.42)*, and there is also an intermediate region where the null hypothesis of no autocorrelation can neither be rejected nor not rejected. So, to reiterate, the null hypothesis is rejected and the existence of positive autocorrelation presumed if *DW* is less than the lower critical value; the null hypothesis is rejected and the existence of negative autocorrelation presumed if *DW* is greater than 4 minus the lower critical value (i.e. 4- *dL*); the null hypothesis is not rejected and no significant residual autocorrelation is presumed if *DW* is between the upper and 4 minus the upper limits (i.e. 4- *dU*).

So, in this case, the value of Durbin-Watson statistics for dependent variable is 1.58 which is lies in between 1.52 and 2.43 to 2.00 and suggested that there is no autocorrelation exists in this study and also the regression model assume that the error terms are uncorrelated. On top this; The discussion of each variable is presented as follows.

(A) Deposit

Beta coefficient shows the tendency of an independent variable to respond against the dependent variable. Therefore the greater value of beta indicates a larger impact on dependent variable and vice versa. Thus, in this case, the ratio of deposit -to- GDP has positive and statistically significant relationship with RGDP at 5% significance level. This outcome is consistent with the previous

studies of Aurangzeb (2012), so the result suggested that when the amount of commercial bank's deposit increases the economic growth also increase. Per the regression results the coefficient of this variable is 0.505605 meaning that a one percent rise in DEP causes the RGDP to increase by 0.505605% this signifies Increase in deposit accounts indicate that the commercial banks are able to collect deposits from a wider customer base hence increasing the amounts available to commercial banks for lending. With increased lending levels in the country, more funds will be invested in different sectors hence positively impacting on the economic growth registered.

On the other hand, it implies the degree of monetization in the economy as well as the expansion of payments and saving functions which are performed by commercial banks in the development process of Ethiopia.

The opinion of interviewees with regard to the effect of resource mobilization of resources (deposits), they stressed that deposit has positive effect in the Ethiopian economic growth. Also, they have explained their opinion in the way that commercial banks' ability to grant further loan and advances is checked in the available cash in their vault. Moreover, in their opinion they further emphasized that since customer's drawing are paid in two ways: either in cash or bank accounts and since cheques have to be meet in cash many cases, commercial banks, therefore, have to stock reasonable quantity of cash to meet customers' demands. Generally speaking, commercial banks have indispensable role in facilitating transactions using their mobilized resources in the economic activities as a whole. Generally, from the above analysis of the betas, it can be inferred that total deposit accounts contributes a lot on the economic growth in Ethiopia followed by loan and advances

(B) Loan and advances

Loan and advances are statistically significant at 5% level, showing that the Ethiopian economic growth is significantly affected by the loan and advances that has been facilitated by commercial banks which are operating in Ethiopian banking industry. As it is depicted in the OLS regression results, this variable has a positive coefficient of 0.485936, portraying that a 1% increase in LAD result to about 0.485936% increase in economic growth in Ethiopia. Empirical studies also found a positive and significant association ship between RGDP and LAD includes Jaiyeoba ***et al*** (2013) ***and*** Aurangzeb (2012). This can be explained in such a way that the development of commercial banks can act as a catalyst to economic growth by allocating resources. In addition, the result reflects the extent to which commercial banks allocate society's savings and as well as firm's use of credit in addition to internal funds.

Many times, it so happens that there are people who have the qualities of a promising entrepreneur, but they do not have the money or capital to put their plans into practice. Hence, commercial banks have an important function to perform. They can scrutinize and select the plans of enthusiastic entrepreneurs and make finance available to them. Thus, by promoting enterprise, banks can help rapid economic development. Schumpeter (1911) was the most famous theorist who strongly supported the idea that there is a positive relationship between well functioning banks and economic growth by providing credit to the entrepreneurs for the best projects which leads to technological innovation via mobilizing savings, evaluating projects, managing risk, monitoring managers, and facilitating transactions.

Apart from the quantitative aspects, the researcher has also been conducted an interview to know the effect of allocation of resources on economic growth in Ethiopia. Thus, the opinion of the interviewees shows the more resource allocated to firms, the more rapid will be economic growth. They also stressed that it clear that better functioning commercial banks ease, the external finance

constraints that impede firm and industrial expansion. Therefore, access to external capital is one channel through which commercial banks matters for growth because it allows financial constrained firms to expand.

(C) Assets

The estimate coefficient of ASSET -0.117003 with t- value of -2.208497 and P-value of 0.02294 and it is, therefore, the variable is statistically significant at 5% level. The OLS regression results also shows that ASSET has negative influence in the Ethiopian economic growth.

(D) Government expenditure

Government expenditure proved to be a robust determinant of economic growth in Ethiopia. The coefficient of this variable is strongly negative and statistically significant. As it is presented in the OLS regression results its estimate of coefficient is -1.368352, the t-statistics is -13.50053 and corresponding p-value is 0.0000 which is statistically significant since the p-value is less than at 5% even at1% significance level. To deal further, by looking at the sign of the coefficient there is a negative relationship between the GOVEXP and RGDP this means that when the government expenditure is increased by 1% the RGDP will be decreased by 1.368352% ,showing that higher government expenditure may slowdown overall performance of the economy. For instance, in an attempt to finance rising expenditure, government may increase taxes and/or borrowing. Higher income tax discourages individual from working for long hours or even searching for jobs. This in turn reduces income and aggregate demand. In the same vein, higher profit tax tends to increase production costs and reduce investment expenditure as well as profitability of firms. Moreover, if government increases borrowing (especially from the banks) in order to finance its expenditure, it will compete (crowds-out) away the private sector, thus reducing private investment. Furthermore,

in a bid to score cheap popularity and ensure that they continue to remain in power, politicians and governments officials sometimes increase expenditure and investment in unproductive projects or in goods that the private sector can produce more efficiently. Thus, government activity sometimes produces misallocation of resources and impedes the growth of national output.

(E) Export

Per the OLS regression results the variable export has a coefficient of 0.169930, t-value of 07.02368 and p-value of 0. 0000. This means that export has positive and statistically significant relationship with RGDP at 5% level. The numerical value of its coefficient showing that when a one percentage rise in the EXPT causes the RGDP increase by 0.169930%, therefore experiences of Ethiopia provide good examples of the export sector to economic growth because exports of goods and services represent one of the most important sources of foreign exchange income that ease the pressure on the balance of payments and create employment opportunities. An export led growth strategy aims to provide producers with incentives to export their goods through various economic and governmental policies. It also aims to increase the capability of producing goods and services that are able to compete in the world market, to use advanced technology, and to provide foreign exchange needed to import capital goods. Exports can increase intra-industry trade, help the country to integrate in the world economy and reduce the impact of external shocks on the domestic economy.

(F) Inflation rate

The regression results suggested that inflation has positive and significant influence on economic growth in Ethiopia. The coefficient of this variable is 0.061609, showing that negative relationship between inflation and RGDP, and the estimates of the coefficient signifies that when the inflation is increased by 1% the RGDP will be raised by 0.061609% where as the t-value is 2.887173 with the

p-value of 0.0047 which is less than 0.05 and it is significant at 5% level. Ethiopia experienced an average of 9% economic growth between the periods of 2000 -2013 in the same period the average inflation rate was 12.7%, as it can also be seen from the result there is a positive and significant relationship between inflation rate and economic growth as measured by real GDP. This result is consistent with a study took place on Bangladesh, India, Pakistan, and Srilanka by Mallik and Chowdhury (2001) found a positive relationship between inflation and economic growth. Likewise, Ghosh and Phillips (1998) studied about the relationship between inflation and economic growth for 145 countries and concluded that there is a positive relationship between inflation and economic growth when inflation is low but the relation becomes negative for high inflation. In this case somebody may ask how high economic growth associated with high inflation. Actually the nature of economic growth would influence the impact of inflation in economic growth of a given nation like Ethiopia. Today, Ethiopia is the fastest growing country in the world with double digit economic growth. Therefore, the rationale behind the positive association ship between RGDP and inflation is due to the existence of rapid economic growth in Ethiopia. For instance, now a day, politician of some SSA countries also argued that high inflation is the consequence of the country's economic growth. Similarly, David (1999) explained this issue as "for the last few years, the claim that an increase in economic growth leads to an increase in inflation and that decreased growth reduces inflation has been mantra."

Generally, in a world without friction caused by transaction, information and monitoring costs, no financial intermediaries needed in general. But, if those costs are sufficiently high, no exchange among economic agents will take place. The need to reduce those costs led to the emergence of financial intermediaries, commercial banks in particular provides critical services to reduce those costs and increase the efficiency of intermediation.

It is well known that, Growth rate of GDP is one of the main aims of the all economic activities so the main aim of the every banking system should be to increase GDP. In order to know the effect of commercial banking in Ethiopia the researcher interviewed some bank managers. Therefore the interview results are discussed as follows.

With regard to information asymmetry, the opinions of the interviewees ascertained that financial intermediaries such as commercial banks can help reduce problems associated with asymmetric information or moral hazard by offering financial contracts that are not available in the market and providing economies of scale in monitoring and control.

This means that individual savers may not have the time, capacity or means to collect and process information on a wide array of enterprises, managers and economic conditions. What happens in most financial contracts is that borrowers have more information than lenders concerning the borrowers' projects, resulting in information asymmetry, which creates the problems of adverse selection and moral hazards. Savers will be reluctant to invest in activities about which there is little reliable information. Consequently, high information costs may prevent capital from flowing to its optimal use. Financial intermediaries can reduce information costs by acquiring and comparing information about many competing investment opportunities, in the interest of all their savers, thus ensuring that capital is efficiently allocated to the best projects. Thus, intermediaries enhance economic efficiency and ultimately growth because they help capital to its best possible use. Similarly they have been put their opinion regarding the effect of commercial banks in the overall economic growth and they ascertained that Efficiency of commercial banks is associated with the overall economic performance. That means if commercial banks are efficient in their intermediation process, economic growth will be realized.

0Employment is a very important issue regarding both economic growth and income distribution so it is necessary to choose a banking system which is able to increase employment over other systems. The financial facilities of commercial banking are used mainly for the production of goods and services leading to increased employment. Therefore, all most all of the interviewees who answered the question on this issue believed that Commercial banking in Ethiopia not only increases employment but also encourages entrepreneurs.

In fact, trade is a topic under consideration in economic literature regarding economic growth. It is so important that it has become centre for division of developmental strategies. So, it is important for this research to know the role of commercial banking in Ethiopia in this regard. Therefore, The interviewees believed that commercial banks of Ethiopia have had a positive effect on trade. They had been explained their opinion in the way that Just as the creation of money as a unit of exchange greatly simplified trade compared to the barter system, so too do financial markets facilitate trade. Financial markets support individuals as they "buy now and pay later", which adds tremendous efficiency to the economy.

Chapter Five

Conclusions and Recommendations

2.13. Conclusions

This chapter presents a conclusion of the study by summarizing the study's findings including policy implications. Indeed, keeping all other things are constant, in the relationship between commercial banking development and economic growth there are financial development indicators that can influence economic growth of a country like Ethiopia. Therefore, as it was mentioned before, this study was conducted to investigate the impact of commercial banks' development in the Ethiopian economic growth over the period of fourteen years from 2000 to 2013.

For that matter, for investigation purpose the study has used deposits, loan and advances, assets, government expenditures, exports, and inflation rate are selected as explanatory variable while RGDP is taken as dependent variable. For this study, Augmented Dickey Fuller (ADF) and Philip Perron unit root test, granger causality test, Cointegration test and ordinary least square have been used. Therefore, Unit root test confirms non stationarity of all variables except ASSET and RGDP whereas the stationary of all variables at first difference. Coinegration test confirms long term association ship between variables. The Granger-Causality test confirms unidirectional causal relationship of deposit with economic growth runs from deposit to economic growth. On the other side the study also found unidirectional causal relationship of economic growth with loan and advances runs from economic growth to loan and advances. And, no causal relationship is found among asset and economic growth.

Regression results revealed that among development indicators of development of commercial banks deposits and loan and advances are most important factors that positively and significantly influence the economic growth in Ethiopia. The size of commercial banks that was measured by their assets had negative and significant association ship with the RGDP. With regard to control variables, both government and exports has, respectively, negative and positive significant relationship with RGDP in Ethiopia whereas inflation rate has also positive and significant

relationship with that of RGDP in the country Ethiopia. Also, from the interview the study found that commercial banks crucial for Ethiopian economy since they can mitigate information asymmetry, increase employment, facilitate trade.

2.14. Recommendations

Based on the findings of this research which have been above stated and implications emanating

there from, the researcher therefore proffers the following matching recommendations put down hereunder for urgent policy action:

1. As per the findings of the study, deposits of commercial banks found have to a positive and significant association ship with economic growth. Following this, the researcher recommends that adequate efforts be made by commercial banks to increase their level of deposits as that will help in increasing the nation's capital formation in turn economic growth will be enhanced. This could be realized by fulfilling the necessary conditions include accessibility, and attractive terms of operations, perfect knowledge on their existence including their usefulness and finally trust people have on them.

2. A variable loan and advances positively influences output has major policy implications. To fully realize the growth potentials of the Ethiopian economy, it is necessary to remove all obstacles that could undermine the provisions of credit to the domestic economy. Among other measures, the establishment of the proposed Asset Management Corporation should be hastened to free from non-performing loans, and thereby, enhance their ability to extend credit to the economy.

   Furthermore, capital and entrepreneurs are most important factors of production for a given economy. Thus, commercial banks act as a bridge to connect those factors of production. Therefore, to create safe environment in the provisions of credit for various economic units, commercial banks should develop well organized credit procedures, policies and analytical capabilities. And, commercial banks should strategize on how to attract and retain more deposits so as to further improve on their lending performance to meet the financial needs of economic units.

3. Based on the findings of causal relationship between commercial banks' development and economic growth, both supply leading and demand following hypotheses are supported. Therefore, bank regulatory bodies should give much attention to enable commercial banks more influential in the Ethiopian economic growth by establishing convenient rules and regulations and they should also pay great attention for the real sector development process to increase demands of finance for commercial banks at the time.
4. To reduce unnecessary government expenditures, the government of Ethiopia should encourage and increase funding of anti-corruption agencies.
5. Regarding exports, the policy implication of the positive association between exports and economic growth could be made in the way that government should encourage trade liberalization, avoid tariff barriers, and modernize the necessary export related infrastructures.
6. The policy implications in the relationship between economic growth and inflation is efforts has to be done by monetary authority in inflation targeting, inflexion point or, threshold because which suggest an acceptable level of inflation or, which output growth becomes costly.
7. Finally, this research found negative relationship between asset and GDP hence further research has to be undertaken in order to see again the effect of the relationship between assets of commercial banks and economic growth

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Appendix 1: data converted into ratio

Years	Name of Banks	RGDP	DEP	LAD	ASSET	GOVEXP	EXPT	IFR
2000	AIB	0.0830	0.0125	0.0070	0.0122	0.2500	0.3811	-0.0035
2001	AIB	0.0150	0.0124	0.0069	0.0119	0.2901	0.3803	-0.1057
2002	AIB	-0.0210	0.0101	0.0001	0.0106	0.3050	0.3800	0.1092
2003	AIB	0.1170	0.0149	0.0097	0.0180	0.2603	0.4275	0.0735
2004	AIB	0.1260	0.0165	0.0105	0.0184	0.2570	0.4342	0.0613
2005	AIB	0.1150	0.0164	0.0103	0.0181	0.2595	0.3934	0.1058
2006	AIB	0.1170	0.0163	0.0113	0.0188	0.2266	0.4022	0.1582
2007	AIB	0.1100	0.0139	0.0106	0.0168	0.2267	0.1739	0.2530
2008	AIB	0.0980	0.0124	0.0084	0.0155	0.2268	0.1291	0.3640
2009	AIB	0.1030	0.0142	0.0094	0.0184	0.2046	0.1658	0.0280
2010	AIB	0.1140	0.0146			0.2013	0.1670	0.1810

				0.0098	0.0187			
2011	AIB	0.0870	0.0141	0.0074	0.0186	0.2406	0.1380	0.3410
2012	AIB	0.0980	0.0162	0.0094	0.0210	0.2401	0.1381	0.1350
2013	AIB	0.1030	0.0200	0.0120	0.0237	0.2396	0.1382	0.0810
2000	BoA	0.0830	0.0078	0.0183	0.0116	0.2500	0.3811	-0.0035
2001	BoA	0.0150	0.0107	0.0110	0.0152	0.2901	0.3803	-0.1057
2002	BoA	-0.0210	0.0094	0.0070	0.0106	0.3050	0.3800	0.1092
2003	BoA	0.1170	0.0096	0.0171	0.0130	0.2603	0.4275	0.0735
2004	BoA	0.1260	0.0099	0.0174	0.0135	0.2570	0.4342	0.0613
2005	BoA	0.1150	0.0098	0.0172	0.0136	0.2595	0.3934	0.1058
2006	BoA	0.1170	0.0121	0.0180	0.0139	0.2266	0.4022	0.1582
2007	BoA	0.1100	0.0096	0.0149	0.0119	0.2267	0.1739	0.2530
2008	BoA	0.0980	0.0083	0.0081	0.0112	0.2268	0.1291	0.3640
2009	BoA	0.1030	0.0089	0.0083	0.0129	0.2046	0.1658	0.0280
2010	BoA	0.1140	0.0093	0.0086	0.0130	0.2013	0.1670	0.1810
2011	BoA	0.0870	0.0062	0.0062	0.0118	0.2406	0.1380	0.3410
2012	BoA	0.0980	0.0067	0.0067	0.0119	0.2401	0.1381	0.1350
2013	BoA	0.1030	0.0074			0.2396	0.1382	0.0810

				0.0074	0.0136			
2000	CBB	0.0830	0.0079	0.0185	0.0121	0.2500	0.3811	-0.0035
2001	CBB	0.0150	0.0069	0.0097	0.0114	0.2901	0.3803	-0.1057
2002	CBB	-0.0210	0.0062	0.0091	0.0104	0.3050	0.3800	0.1092
2003	CBB	0.1170	0.0088	0.0097	0.0136	0.2603	0.4275	0.0735
2004	CBB	0.1260	0.0110	0.0100	0.0190	0.2570	0.4342	0.0613
2005	CBB	0.1150	0.0081	0.0087	0.0150	0.2595	0.3934	0.1058
2006	CBB	0.1170	0.0082	0.0089	0.0170	0.2266	0.4022	0.1582
2007	CBB	0.1100	0.0065	0.0053	0.0105	0.2267	0.1739	0.2530
2008	CBB	0.0980	0.0059	0.0045	0.0083	0.2268	0.1291	0.3640
2009	CBB	0.1030	0.0068	0.0047	0.0091	0.2046	0.1658	0.0280
2010	CBB	0.1140	0.0074	0.0049	0.0085	0.2013	0.1670	0.1810
2011	CBB	0.0870	0.0068	0.0033	0.0990	0.2406	0.1380	0.3410
2012	CBB	0.0980	0.0070	0.0145	0.0119	0.2401	0.1381	0.1350
2013	CBB	0.1030	0.0073	0.0146	0.0216	0.2396	0.1382	0.0810
2000	CBE	0.0830	0.2533	0.0436	0.3297	0.2500	0.3811	-0.0035
2001	CBE	0.0150	0.2475	0.0432	0.3137	0.2901	0.3803	-0.1057
2002	CBE	-0.0210	0.2262			0.3050	0.3800	0.1092

				0.0097	0.3001			
2003	CBE	0.1170	0.2537	0.0780	0.3107	0.2603	0.4275	0.0735
2004	CBE	0.1260	0.2548	0.0853	0.3202	0.2570	0.4342	0.0613
2005	CBE	0.1150	0.2115	0.0628	0.2766	0.2595	0.3934	0.1058
2006	CBE	0.1170	0.1800	0.0887	0.2881	0.2266	0.4022	0.1582
2007	CBE	0.1100	0.1444	0.0668	0.1908	0.2267	0.1739	0.2530
2008	CBE	0.0980	0.1210	0.0523	0.1621	0.2268	0.1291	0.3640
2009	CBE	0.1030	0.1247	0.0581	0.1704	0.2046	0.1658	0.0280
2010	CBE	0.1140	0.1272	0.0586	0.1891	0.2013	0.1670	0.1810
2011	CBE	0.0870	0.1140	0.0579	0.1710	0.2406	0.1380	0.3410
2012	CBE	0.0980	0.2053	0.1073	0.2797	0.2401	0.1381	0.1350
2013	CBE	0.1030	0.3439	0.1124	0.2883	0.2396	0.1382	0.0810
2000	DB	0.0830	0.0198	0.0183	0.0139	0.2500	0.3811	-0.0035
2001	DB	0.0150	0.0146	0.0114	0.0129	0.2901	0.3803	-0.1057
2002	DB	-0.0210	0.0118	0.0113	0.0122	0.3050	0.3800	0.1092
2003	DB	0.1170	0.0208	0.0156	0.0256	0.2603	0.4275	0.0735
2004	DB	0.1260	0.0226	0.0169	0.0278	0.2570	0.4342	0.0613
2005	DB	0.1150	0.0216			0.2595	0.3934	0.1058

				0.0168	0.0277			
2006	DB	0.1170	0.0235	0.0196	0.0289	0.2266	0.4022	0.1582
2007	DB	0.1100	0.0213	0.0171	0.0265	0.2267	0.1739	0.2530
2008	DB	0.0980	0.0208	0.0138	0.0252	0.2268	0.1291	0.3640
2009	DB	0.1030	0.0227	0.0140	0.0279	0.2046	0.1658	0.0280
2010	DB	0.1140	0.0238	0.0146	0.0285	0.2013	0.1670	0.1810
2011	DB	0.0870	0.0229	0.0118	0.0284	0.2406	0.1380	0.3410
2012	DB	0.0980	0.0248	0.0140	0.0309	0.2401	0.1381	0.1350
2013	DB	0.1030	0.0253	0.0148	0.0315	0.2396	0.1382	0.0810
2000	NIB	0.0830	0.0053	0.0040	0.0025	0.2500	0.3811	-0.0035
2001	NIB	0.0150	0.0044	0.0035	0.0015	0.2901	0.3803	-0.1057
2002	NIB	-0.0210	0.0036	0.0028	0.0012	0.3050	0.3800	0.1092
2003	NIB	0.1170	0.0076	0.0068	0.0114	0.2603	0.4275	0.0735
2004	NIB	0.1260	0.0086	0.0078	0.0139	0.2570	0.4342	0.0613
2005	NIB	0.1150	0.0073	0.0079	0.0134	0.2595	0.3934	0.1058
2006	NIB	0.1170	0.0092	0.0090	0.0139	0.2266	0.4022	0.1582
2007	NIB	0.1100	0.0083	0.0077	0.0114	0.2267	0.1739	0.2530
2008	NIB	0.0980	0.0079			0.2268	0.1291	0.3640

				0.0065	0.0117			
2009	NIB	0.1030	0.0095	0.0067	0.0138	0.2046	0.1658	0.0280
2010	NIB	0.1140	0.0089	0.0068	0.0148	0.2013	0.1670	0.1810
2011	NIB	0.0870	0.0085	0.0051	0.0138	0.2406	0.1380	0.3410
2012	NIB	0.0980	0.0103	0.0064	0.0146	0.2401	0.1381	0.1350
2013	NIB	0.1030	0.0106	0.0071	0.0149	0.2396	0.1382	0.0810
2000	UB	0.0830	0.0032	0.0014	0.0028	0.2500	0.3811	-0.0035
2001	UB	0.0150	0.0021	0.0012	0.0025	0.2901	0.3803	-0.1057
2002	UB	-0.0210	0.0020	0.0001	0.0017	0.3050	0.3800	0.1092
2003	UB	0.1170	0.0037	0.0036	0.0060	0.2603	0.4275	0.0735
2004	UB	0.1260	0.0075	0.0038	0.0090	0.2570	0.4342	0.0613
2005	UB	0.1150	0.0072	0.0037	0.0089	0.2595	0.3934	0.1058
2006	UB	0.1170	0.0078	0.0062	0.0102	0.2266	0.4022	0.1582
2007	UB	0.1100	0.0068	0.0060	0.0096	0.2267	0.1739	0.2530
2008	UB	0.0980	0.0059	0.0058	0.0094	0.2268	0.1291	0.3640
2009	UB	0.1030	0.0104	0.0060	0.0133	0.2046	0.1658	0.0280
2010	UB	0.1140	0.0121	0.0064	0.0146	0.2013	0.1670	0.1810
2011	UB	0.0870	0.0117			0.2406	0.1380	0.3410

				0.0062	0.0140			
2012	UB	0.0980	0.0119	0.0070	0.0155	0.2401	0.1381	0.1350
2013	UB	0.1030	0.0129	0.0074	0.0159	0.2396	0.1382	0.0810
2000	WB	0.0830	0.0080	0.0037	0.0083	0.2500	0.3811	-0.0035
2001	WB	0.0150	0.0074	0.0034	0.0082	0.2901	0.3803	-0.1057
2002	WB	-0.0210	0.0067	0.0031	0.0076	0.3050	0.3800	0.1092
2003	WB	0.1170	0.0090	0.0070	0.0114	0.2603	0.4275	0.0735
2004	WB	0.1260	0.0191	0.0072	0.0128	0.2570	0.4342	0.0613
2005	WB	0.1150	0.0107	0.0070	0.0115	0.2595	0.3934	0.1058
2006	WB	0.1170	0.0113	0.0096	0.0144	0.2266	0.4022	0.1582
2007	WB	0.1100	0.0111	0.0090	0.0144	0.2267	0.1739	0.2530
2008	WB	0.0980	0.0095	0.0071	0.0133	0.2268	0.1291	0.3640
2009	WB	0.1030	0.0107	0.0073	0.0147	0.2046	0.1658	0.0280
2010	WB	0.1140	0.0184	0.0075	0.0152	0.2013	0.1670	0.1810
2011	WB	0.0870	0.0115	0.0054	0.0145	0.2406	0.1380	0.3410
2012	WB	0.0980	0.0101	0.0061	0.0147	0.2401	0.1381	0.1350
2013	WB	0.1030	0.0919	0.0073	0.0166	0.2396	0.1382	0.0810

Appendix 2: Panel unit root test results for each variable at level

Panel unit root test: Summary

Series: RGDP

Date: 05/24/15 Time: 08:53

Sample: 2000 2013

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-7.59931	0.0000	8	96
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-3.55573	0.0002	8	96
ADF - Fisher Chi-square	40.2192	0.0007	8	96
PP - Fisher Chi-square	19.1309	0.2619	8	104

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: DEP

Date: 05/24/15 Time: 08:54

Sample: 2000 2013

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 0 to 2

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-3.75502	0.0001	8	101
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-1.16529	0.1220	8	101
ADF - Fisher Chi-square	25.7464	0.0577	8	101
PP - Fisher Chi-square	16.5800	0.4133	8	104

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: LAD

Date: 05/24/15 Time: 08:55

Sample: 2000 2013

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 0 to 2

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-6.58963	0.0000	8	102
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-2.72126	0.0033	8	102
ADF - Fisher Chi-square	31.6309	0.0112	8	102
PP - Fisher Chi-square	21.2292	0.1699	8	104

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: ASSET

Date: 05/24/15 Time: 08:56

Sample: 2000 2013

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 0 to 2

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-5.87564	0.0000	8	102
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-2.97570	0.0015	8	102
ADF - Fisher Chi-square	38.4193	0.0013	8	102

PP - Fisher Chi-square	29.0768	0.0234	8	104

** Probabilities for Fisher tests are computed using an asymptotic Chi
-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: GOVEXP

Date: 05/24/15 Time: 08:57

Sample: 2000 2013

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 0

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-2.61607	0.0044	8	104
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	0.16422	0.5652	8	104
ADF - Fisher Chi-square	10.3240	0.8492	8	104
PP - Fisher Chi-square	10.4995	0.8393	8	104

** Probabilities for Fisher tests are computed using an asymptotic Chi
-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: EXPT

Date: 05/24/15 Time: 08:57

Sample: 2000 2013

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 0

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	0.56793	0.7150	8	104
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	2.13002	0.9834	8	104
ADF - Fisher Chi-square	3.66086	0.9994	8	104
PP - Fisher Chi-square	3.66086	0.9994	8	104

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: IFR

Date: 05/24/15 Time: 08:58

Sample: 2000 2013

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 0

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-5.50944	0.0000	8	104
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-3.17535	0.0007	8	104
ADF - Fisher Chi-square	34.8144	0.0042	8	104
PP - Fisher Chi-square	32.8672	0.0077	8	104

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Appendix 3: Panel unit root test results for each variable at 1st difference

Panel unit root test: Summary

Series: D(RGDP)

Date: 05/24/15 Time: 09:02

Sample: 2000 2013

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Cross-

Method	Statistic	Prob.**	sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-12.1392	0.0000	8	88
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-8.11801	0.0000	8	88
ADF - Fisher Chi-square	84.4408	0.0000	8	88
PP - Fisher Chi-square	80.6403	0.0000	8	96

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: D(DEP)

Date: 05/24/15 Time: 09:03

Sample: 2000 2013

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 0 to 1

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-6.10689	0.0000	8	92
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-5.19899	0.0000	8	92
ADF - Fisher Chi-square	58.9703	0.0000	8	92

PP - Fisher Chi-square	90.4471	0.0000	8	96

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: D(LAD)

Date: 05/24/15 Time: 09:04

Sample: 2000 2013

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 0 to 1

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-9.34593	0.0000	8	92
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-6.71354	0.0000	8	92
ADF - Fisher Chi-square	69.2643	0.0000	8	92
PP - Fisher Chi-square	93.1212	0.0000	8	96

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: D(ASSET)

Date: 05/24/15 Time: 09:04

Sample: 2000 2013

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 0 to 1

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-10.0566	0.0000	8	93
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-7.22605	0.0000	8	93
ADF - Fisher Chi-square	73.4038	0.0000	8	93
PP - Fisher Chi-square	105.482	0.0000	8	96

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: D(GOVEXP)

Date: 05/24/15 Time: 09:05

Sample: 2000 2013

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-9.28536	0.0000	8	88
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-6.93332	0.0000	8	88
ADF - Fisher Chi-square	73.2717	0.0000	8	88
PP - Fisher Chi-square	72.9062	0.0000	8	96

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: D(EXPT)

Date: 05/24/15 Time: 09:06

Sample: 2000 2013

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 0

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs

Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-7.89132	0.0000	8	96
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-4.44003	0.0000	8	96
ADF - Fisher Chi-square	46.3963	0.0001	8	96
PP - Fisher Chi-square	45.9505	0.0001	8	96

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

Panel unit root test: Summary

Series: D(IFR)

Date: 05/24/15 Time: 09:07

Sample: 2000 2013

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-9.95731	0.0000	8	88
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-8.68389	0.0000	8	88
ADF - Fisher Chi-square	89.5807	0.0000	8	88
PP - Fisher Chi-square	117.938	0.0000	8	96

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

Appendix 4: Results of granger causality test

Pairwise Granger Causality Tests

Date: 05/23/15 Time: 23:50

Sample: 2000 2013

Lags: 4

Null Hypothesis:	Obs	F-Statistic	Prob.
DEP does not Granger Cause RGDP	80	2.57183	0.0450
RGDP does not Granger Cause DEP		1.32220	0.2701
LAD does not Granger Cause RGDP	80	0.27973	0.8902
RGDP does not Granger Cause LAD		4.59792	0.0023
ASSET does not Granger Cause RGDP	80	0.78097	0.5413
RGDP does not Granger Cause ASSET		0.76464	0.5518
GOVEXP does not Granger Cause RGDP	80	2283.76	4.E-74
RGDP does not Granger Cause GOVEXP		108.049	2.E-29
EXPT does not Granger Cause RGDP	80	231.600	6.E-40
RGDP does not Granger Cause EXPT		1347.79	4.E-66
IFR does not Granger Cause RGDP	80	415.317	2.E-48
RGDP does not Granger Cause IFR		38.8837	3.E-17
LAD does not Granger Cause DEP	80	0.31282	0.8685
DEP does not Granger Cause LAD		1.26831	0.2906

ASSET does not Granger Cause DEP	80	0.52531	0.7174
DEP does not Granger Cause ASSET		0.90829	0.4639
GOVEXP does not Granger Cause DEP	80	2.42142	0.0562
DEP does not Granger Cause GOVEXP		4.38555	0.0032
EXPT does not Granger Cause DEP	80	1.23545	0.3037
DEP does not Granger Cause EXPT		2.49817	0.0502
IFR does not Granger Cause DEP	80	1.21979	0.3101
DEP does not Granger Cause IFR		2.24444	0.0728
ASSET does not Granger Cause LAD	80	4.94302	0.0014
LAD does not Granger Cause ASSET		3.06255	0.0219
GOVEXP does not Granger Cause LAD	80	3.26331	0.0163
LAD does not Granger Cause GOVEXP		1.16818	0.3322
EXPT does not Granger Cause LAD	80	2.17393	0.0806
LAD does not Granger Cause EXPT		0.44612	0.7749
IFR does not Granger Cause LAD	80	2.77680	0.0333
LAD does not Granger Cause IFR		0.92188	0.4562
GOVEXP does not Granger Cause ASSET	80	0.48941	0.7435
ASSET does not Granger Cause GOVEXP		1.77948	0.1425
EXPT does not Granger Cause ASSET	80	0.95030	0.4403
ASSET does not Granger Cause EXPT		0.09007	0.9853
IFR does not Granger Cause ASSET	80	0.53317	0.7118
ASSET does not Granger Cause IFR		0.83429	0.5079
EXPT does not Granger Cause GOVEXP	80	1305.52	1.E-65
GOVEXP does not Granger Cause EXPT		288.339	4.E-43

IFR does not Granger Cause GOVEXP	80	436.886	4.E-49
GOVEXP does not Granger Cause IFR		65.2009	5.E-23
IFR does not Granger Cause EXPT	80	13.1384	5.E-08
EXPT does not Granger Cause IFR		44.4782	1.E-18

Appendix 5: Results of Hausman tests

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.000000	6	1.0000

* Cross-section test variance is invalid. Hausman statistic set to zero.

** WARNING: estimated cross-section random effects variance is zero.

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
DEP	0.575782	0.505605	0.022947	0.6432
LAD	0.761576	0.485936	0.011119	0.0089
ASSET	0.056069	-0.117003	0.006648	0.0338
GOVEXP	-1.346296	-1.368352	0.000071	0.0091
EXPT	0.165367	0.169930	0.000011	0.1718
IFR	0.065900	0.061609	0.000004	0.0244

Cross-section random effects test equation:

Dependent Variable: RGDP

Method: Panel Least Squares

Date: 05/24/15 Time: 08:45

Sample: 2000 2013

Periods included: 14

Cross-sections included: 8

Total panel (balanced) observations: 112

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.343852	0.024675	13.93539	0.0000
DEP	0.575782	0.280521	2.052547	0.0428
LAD	0.761576	0.230553	3.303267	0.0013
ASSET	0.056069	0.097237	0.576621	0.5655
GOVEXP	-1.346296	0.101707	-13.23695	0.0000
EXPT	0.165367	0.024359	6.788786	0.0000
IFR	0.065900	0.021424	3.076049	0.0027

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.726837	Mean dependent var	0.090357
Adjusted R-squared	0.690601	S.D. dependent var	0.040558
S.E. of regression	0.022560	Akaike info criterion	-4.628843
Sum squared resid	0.049876	Schwarz criterion	-4.289031
Log likelihood	273.2152	Hannan-Quinn criter.	-4.490971
F-statistic	20.05846	Durbin-Watson stat	1.723840
Prob(F-statistic)	0.000000		

Addis Ababa University

College Of Business and Economics

Department Of Accounting and Finance

Introduction

- My name is Melkamu Dereje, I am Msc student at the Department of Accounting and Finance at Addis Ababa University in Ethiopia.
- I am conducting research on **‘’The Impact of Commercial Banks’ Development in the Ethiopian Economic Growth’’.** I appreciate your willingness to contribute to this research.
- First, could you introduce yourself, stating your name and current position in the Bank?

Interview guided questions

1. Do you think that commercial banks' development affects economic growth by mobilizing monetary resources (deposits)?
2. Do you believe that commercial banks' development affects economic growth by allocating financial resources (financial facilities)?
3. How do you believe that the efficiency of the commercial banks affect the economic growth in Ethiopia?
4. In your opinion, how do you feel that commercial banks are important by avoiding information asymmetry and reducing transaction costs in the Ethiopian economic development process?
5. Do commercial banks have employment role for Ethiopian economic growth?
6. In your view, how important are commercial banks in facilitating trades?

Conclusion

- Thank you for taking the time to participate in this study.

- Could you recommend to me any individuals that may be able to provide additional information relevant for this study?