

**DETERMINANT OF BANKING SECTOR DEVELOPMENT IN
ETHIOPIA**

**A Senior Essay paper submitted to Department of Accounting and Finance
for the partial fulfillment of the requirement of Bachelor of Art (BA) Degree
in Accounting and Finance**

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Jan 2021

Wolkite, Ethiopia

Statement of Declaration

I declare that the thesis for the BA degree in accounting and finance at Wolkite University hereby submitted by me, is my original work and have not previously been submitted for a degree at this or any other University, and that all references materials contained therein have been duly acknowledged.

Signature _____ Date _____

Haymanot Asnake

Acknowledgment

First and foremost, I thank the Almighty God for his support and protection in all aspects of my life.

Secondly I would like to express my heartfelt gratitude and appreciate to my advisor Damelash (MSc.), lecturer of Accounting and Finance in Wolkite University for his guidance and valuable suggestion and encouragement throughout my thesis work.

At last I would like to thank all my friends and my family for their unconditional support

Abstract

The aim of this study was to investigate the effect of bank-specific and macroeconomic determinants of banking sector development in Ethiopian. The study was selected seven banks from year 2008 to 2017. The study was used an explanatory type of research design and it would be use secondary financial data. Random effect regression model was applied to examine the impact of management efficiency, financial openness, trade openness, economic growth rate and inflation rate on banking sector development. Credit to growth domestic product rate (CTGDPR) was use as a measure of banking sector development. The major examining of the study would be showing that inflation rate was statistically insignificant and positive relationship with banks' sector development. Financial openness, trade openness and management efficiency have a positive and statistically significant relationship with banks' sector development. Also the relationship for economic growth rate was found to be negative relationship with banks sector development and statistically significant.

Keywords: *Determinants, External Factors, Internal Factors, Credit to GDP, Banking sector.*

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List Acronyms

BOA - Bank of Abyssinia,

CBE – Commercial Bank of Ethiopia

CBO-Cooperative bank of oromia

CLRM-classical regression model

CTGDPR-credit to growth domestic product ratio

BR- Bank regulation

DB – Dashen Bank

EGR - Economic growth rate

FO-financial openness

GDP - Gross Domestic Product

INFR-inflation rate

MGE- management efficiency

NBE - National Bank of Ethiopia

DGP -portion of real

TO- Trade openness

CHAPTER ONE

INTRODUCTION

1.1, Background of the study

Banking system is a set of interrelated subsystem that facilitates basically the exchange of money between lenders and borrowers. It consists of financial market and financial intermediary. Financial market is where direct transfer of funds takes place, while indirect transfer occurred through financial intermediary. The term financial intermediary stands for financial institutions specialized in the activity of buying and selling at the same time assets and financial contracts. As a result, they hold relatively large quantities of financial claims as assets and liabilities in contrast with nonfinancial firms. They are typically multifaceted, and their activities can be understood from a variety of vantage points. To this end, Andries (2009) stated to analyze them from two perspectives: as firms and intermediaries. Analysis of them as firms is about their behavior and made in the same way as the economists analyze other types of firm, while analyzing them as intermediaries implies the analysis of the services they offer to their clients. Financial development can be defined as policies, factors, and institutions that lead to the efficient intermediation and effective financial markets (According to Adnan, 2011).

It is a process that marks improvements in quantity, quality and efficiency of financial intermediary's services (Liu and Calderon, 2003). Developed, publicly trusted and stabilized financial sector will increase liquidity and allocation of capital to its most productive uses (World Economic Forum, 2012), which in turn accelerate economic growth and poverty reduction. In other words, the greater the financial development, the higher would be the mobilization of savings and its allocation to high return projects. Thus, analyzing the development of this sector is important as it is one of important player in economic progress of a country.

Financial intermediary's development expressed through measurements of its financial openness, institutional quality, trade openness, economic growth rate, and bank regulation. These factors focus on three basic characteristics of financial system: the level of financial intermediation, the

efficiency of financial intermediation and the composition of financial intermediation (FitzGerlad, 2006). The level of financial is the reflection of its depth and accessibility to users.

Their level is important to get the benefit of economies of scale. They enjoy economies of scale more when there is efficiency in provision of services. The more efficient the financial intermediation function the lower amount of scarce resources it consumes. In other words, borrowers can be charged lower interest rate and thus a higher level of fund channeled to borrowers at cheaper rate. Otherwise, the higher interest rate lower credit disbursed to the productive sector (Beck, 2006). Thus, efficiency of financial system is a necessary condition for higher economic growth (Sahoo, 2013).

Developed banking system in addition to its size and efficiency, it differs from other by its composition. Developed financial system consists of financial intermediaries and financial market for primary and secondary money and capital financial instruments. Studying this attribute of financial system is important because it affect economic growth, volatility and financial stability (IMF, 2012). Beck, Demirgüç-Kunt and Levine (1999) in their evaluation of financial structure they grouped financial institutions into three categories. The first group comprises the central bank and other institutions that perform functions of the monetary authorities. The second group, deposit money banks, comprises all financial institutions that have liabilities in the form of deposits transferable by check or otherwise usable in making payments. The third group-other financial institutions-comprises other bank like institutions that serve as financial intermediaries, while not incurring liabilities usable as means of payment.

A large body of evidence suggests that financial sector development plays a huge role in economic development. It promotes economic growth through capital accumulation and technological progress by increasing the savings rate, mobilizing and pooling savings, producing information about investment, facilitating and encouraging the inflows of foreign capital, as well as optimizing the allocation of capital (World Bank, 2012). Financial intermediation mobilizes and allocates savings and resources to the most appropriate investment projects. It also promotes the rate of technical advancement through identifying and financing entrepreneurs with the best chances of successfully initiating new products and processes, monitoring managers of

organizations by promoting sound corporate governance, providing insurances and sectored and inter temporal pooling of risks.

A banking system is said to be developed if it produces and processes information on investment opportunities and challenges, allocates capital based on those information; monitoring individuals and firm's investments and puts forth corporate governance; managing risks; mobilizing and pooling savings; and easing the exchange of goods and services. When financial systems perform these functions poorly, it hampers economic growth, restrains economic opportunities, and destabilizes economies.

The role of trade openness in influencing financial development has also been considered by Rajan & Zingales (2003). They highlight the supply-side role of interest groups, especially the vested interests of incumbent industrialists and financial intermediaries. In this view, incumbents have strong motivations to resist financial development because they are worried by the threat of new entrants into the market. In fact, if a country becomes more open to foreign competition or to international flows of capital, these incentives are weakened. Indeed, closed political systems are more likely to impede the development of financial systems that promote competition and threaten entrenched powers than open political systems.

Ethiopian financial system consists of the following: National Bank of Ethiopia, which is a regulatory body of the financial institutions as a whole, three state owned and sixteen private owned banks, one state owned and fifteen private owned insurance companies, thirty-one microfinance institutions and 2,833 small saving and credit unions and cooperatives. Ethiopian financial industry is one of the investment area allowed only to Ethiopian citizen or companies owned by Ethiopians.

But the maximum amount a person can hold either on his own or jointly with his spouse or with a person who is below the age of 18 related to him by consanguinity to the first degree not to be more than 5 percent of a bank's total shares. In addition to this restriction, if a person is an influential shareholder of any bank, he may not acquire shares in other bank as declared under sub-article 4 of article 11 of proclamation no. 592/2008. Moreover, as survey result of World Bank (2012) showed Ethiopia's banks do not involve in investment activities which include investment advice and fund management, venture capital activities, securitization, certain

activities associated with mergers and acquisitions, helping clients issue debt or equities either in their office or subsidiaries, or another part of a common holding company or parent.

The role of well functioning and developed financial institutions, specifically the banking sector, are vital in ensuring effective and efficient resource allocation for the economic growth of a country. In pursuit of such financial system, many developing countries have implemented numerous financial reforms including lifting restrictions on bank lending, the provision of market-based systems of credit allocation, lowering of reserve requirements, and the easing of entry restrictions to the banking sectors and privatization of state owned banks. In light of this proposed function, it is important to know the determinants in the banking sector development.

As known to all, the banking sector in Ethiopia is underdeveloped including the banking industry. Ncube (2008) and Ruecker (2011) stressed that the financial system of Ethiopia is very underdeveloped. There is no stock exchange and of the banks that exist, three are state owned and dominate the sector. There are no foreign banks in the country, and the system remains isolated from the effects of globalization while policy makers fear that liberalization will lead to loss of control over the economy. The government controls interest rates and sets them below the high inflation rate. The banking sector is improving from time to time in terms of service provision, outreach, capital, asset size, resource mobilization, credit disbursement and automation.

The aim of this paper will be to examine the determinants of banking sector development in the case Of Ethiopia, by analyzing its, financial openness, trade openness and its institutional quality.

1.3, Statement of the problem

Financial development is a general term important to represent a positive change observed in efficient, widely accessible and greater in size delivery of financial services to various economic agents. In other words, it is about looking at financial system from various angles like its size, accessibility, efficiency and structure. When we look at Ethiopian financial system from these points it is made up of financial intermediaries dominated by deposit taking financial institutions. The activities of these institutions are monitored and supervised by National Bank of Ethiopia. The rules and regulations used by this governing body are more restrictive. Consequently, the soundness of the country's banking sector restricted to enough access (Hussein Jarso, 2016).

Gallego et al. (2002), financial systems can develop in terms of financial depth, which includes bank liquid liabilities to GDP (or M2) or bank credit to the private sector to GDP. Fisman and Love (2004) found support for the finance and growth primarily when the level of financial development is measured as domestic credit provided by private sector banking institutions. Moreover Hsu and Lin (2000) found that banking development is positively related to the short and long term economic growth.

Demerguç-Kunt and Huizingha (2001) found that in the context of developing economies, too rapid and uniformed liberalization of the banking industry might not bring optimal outcomes. Specifically, the higher banking sector development is related to lower banking sector performance mostly due to the tougher competition. However, Study by Shirai (2001), Isik and Hasan (2003) suggest that financial liberalization may strengthen the banking sector by taking steps of liberalizing the banking sector development.

Upto the recent time, secondary financial market is not applying within the financial system. Therefore it is important to study the determinants of banking sector development in Ethiopia in order to cope with the very great changes in the world financial systems and make the respective banks aware of the progress change. At the side, the Ethiopian government is in the process to become a member of the World Trade Organization. This process will essential to Ethiopia government to open banking sector in foreign country. When the country is sustainable

development by banking sector it grant to sustainable economic growth. However banking sector of the country is not competitive in the world because it's in the infant stage (Abreha, 2015).

Some of the problems to the development of the banking sector includes heavy dependence of investors in borrowed fund, excessive government borrowing, absence of secondary markets, less attractive deposit rate, limited outreach of banking services, underdeveloped saving culture, poor cross selling activity of inflow of foreign remittance, deficit in the trade balance of the country and other reasons.

The paper tries to analyze the financial openness, trade openness, economic growth rate, management efficiency and inflation rate to determine development of the banking sector using an appropriate econometrics models. to the knowledge of the researcher, there is no such a prior research is conducted financial openness, and economic growth rate in the specified topic in the case of the Ethiopian banking sector and it have time gap. So this paper was investigating this problem.

1.4, Research Hypothesis

Ho1; Trade Openness has positive and insignificance influence on banking sector development in Ethiopia.

Ho2; Management efficiency has positive and significant effect on banking sector development in Ethiopia.

HO3; Economic growth rate has positive and does insignificantly influence financial development in Ethiopia.

Ho4; There is significant and positive effect of inflation rate on the Determinants of banking sector development in Ethiopia.

Ho5; Financial openness has positive and significance influence on banking sector development in Ethiopia.

1.5, Research objectives

The research was to achieve the following objectives in the end.

1.5.1 General Objective

The major objective of the study would to investigate the determinants of banking sector development in Ethiopia.

1.5.2 Specific Objectives

1. To determine the effect of management efficiency on banking sector development in Ethiopia.
2. To examine the effect of trade openness on banking sector development in Ethiopia.
3. To investigate effect of economic growth rate on banking sector development in Ethiopia.
4. To examine the effect of financial openness on financial development in Ethiopia.
5. To investigate the inflation rate on the determinants of banking sector development in Ethiopia.

1.6 Scope and limitations

The study was Carrie out on the data of seven selected commercial banks in Ethiopia. The researcher tried to look into their development and see how the variables have an impact on these banks development in the period of 2008-2017 (10 years). Financial reports within ten years may be affecting by different non model variables in the state of the economy. This might fail to measure the actual effects of determinants of banking development.

The idea is to examine empirically the factors and studies how they affect the development of banks in Ethiopia between these periods the scope of the research will only limit to the banking business from among financial institutions operating in Ethiopia. The composition of the study heavily depends on the availability of data and the integrity of the respective bodies in providing the required data.

1.7, Significance of the study

The importance of this study backs to the vital role played by the banking sector in the economic development process and its role to provide the necessary fund for investments by the public and the private sectors, which require studying the main determinants that affect the development of the entire banking sector by employing highly applicable standard measures and indicators of banking sector development.

1.8, organization of the proposal

The paper was organized as follow. The first chapter presented introduction followed by second chapter which presented literature review. The third chapter presented methodology and design as blue print of the study. Chapter four presented data analysis and discussion of the paper. Finally, chapter five of this study concluded the findings and presented recommendation based on the findings.

CHAPTER TWO

2, LITERATURE REVIEW

This chapter was highlight the theoretical literature, empirical literature, knowledge gap and conceptual framework of the study in general.

2.1. Theoretical literature

Baltagi et al. (2007), using panel data techniques and annual data, proved that trade openness and financial openness together with economic institutions determines the banking sector development dissimilarity across countries. Their results showed that countries that are least open can benefit greatly in terms of financial development if they open either their trade or capital accounts. These countries can have even greater benefits if they open both, though opening only one can still result in banking sector development. On the other hand, countries that are most open benefit the least from added openness.

The economics literature has identified a number of determinants that contribute to a more developed banking system. Among these determinants, the institutional and regulatory preconditions are perhaps the most studied factors underlying a well-functioning banking system. Starting with the seminal contribution of La Porta et al. (1997), many studies have found that bank sector development is stronger when institutions that protect and match the needs of investors are present.^{8,9} The empirical evidence shows that reinforcing the rights of creditors and contract enforcement tend to deepen financial markets (Levine et al., 2000; Demirgüç-Kunt et al., 2004; Law and Azman-Saini, 2008).

The availability of information on borrowers also improves the availability of credit and enhances the efficiency of financial institutions, especially in less developed systems (Barth et al., 2004; Demirgüç- Kunt et al., 2004; Detragiache et al., 2005; Djankov et al., 2007). While institutions are at the top of the list of the most often cited determinants of banking sector development, an emerging strand of literature argues that political pressure by interest groups may also have an impact, possibly by shaping the institutions and regulatory framework. According to Pagano and Volpin (2001), countries with closed and static political regimes tend to resist the availability of external financing, since the ensuing competition would threaten the

entrenched powers of the political elite. Rajan and Zingales (2003) illustrate that these pressures may weaken as economies open up to international trade and finance, resulting in the subsequent development of banking systems. Using a firm-level dataset of a large number of Pakistani firms, Khwaja and Mian (2005) confirm that despite higher default rates, politically-connected firms receive more funds.

2.1.1. Endowment theory

An endowment is a donation of money or property to non-profit organization, which use the result investment income for specific purpose. The endowment theory, also known as the settler mortality hypothesis was developed by Acemoglu, Johnson, and Robinson (2001). The theory identifies the role of institutions and geography in financial sector development. It put forward that initial endowments such as geographical factors and disease environment of a colony shaped the formation of initial institutions by colonizers. Acemoglu et al. (2001), note that institutions in former colonies are partly influenced by their colonization experience. The endowment theory suggests that differences in initial endowments had influence on the establishment of initial institutions which have had an enduring effect on protection of private property rights and financial sector development (Beck et al., 2003a). The endowment theory has three underlying assumptions. The first assumption is that different colonization strategies adopted by the Europeans settlers (colonizers) led to the creation of different types of institutions in the colonies.

2.1.2, Interest group theory of banking sector development

This article presents an interest-group theory of central bank independence. In the absence of independence of central bank the politician market instability is occurs. The interest group theory of banking development, often referred to as the simultaneous openness hypothesis is a contribution of Rajan and Zingales (2003). The theory shows that interest groups, cross-border trade and capital inflows can influence financial sector development. It suggests that trade and financial openness are necessary to promote financial sector development. However, the theory argues that banking sector development would be limited when the economy is open to only trade or capital. In other words, a country's financial sector needs simultaneous opening of trade and capital borders for its development. Rajan and Zingales (2003) argue that banking sector

development is as a result interest groups' stance on financial sector development. Interest groups, particularly incumbent firms often stand against financial sector development because potential competitors would gain entry into the domestic market due to greater financial analyze. Therefore, incumbent firms do not support financial sector development because it encourages competition. Incumbent firms in a closed economy benefit from low levels of financial sector development caused by financial repressive policies because access to finance by potential competitors would be limited (Hauner, Prati, & Bircan, 2013).

Incumbent firm's opposition reduces when trade and financial openness are simultaneously chosen (Rajan & Zingales, 2003). Baltagi et al. (2009), note that trade and financial openness do not only weaken incumbent firms' ability to oppose banking sector development, but they also provide incentives for them to change their opposing view. Studies such as Mahawiya (2015), Gwama (2014), Andrianaivo and Yartey (2010), Law (2009, 2007) lend strong support to Rajan and Zingales (2003) argument that banking sector development would be enhanced if trade and financial openness simultaneously take place. However, Asiama and Mobolaji (2011), and Baltagi et al. (2009) offer weak support. Based on Rajan and Zingales (2003), this study hypothesizes that simultaneous opening of trade and capital borders promotes banking sector development in sub-Saharan African countries. Also, it expects that trade and financial openness positively influence banking sector development in Ethiopia.

.1.3, Law and finance theory

Law and finance theory is the law and regulation of financial institution. Therefore understanding of law and finance is important to the creation of and formation of banking and financial regulation. The law and finance theory credited to La Porta, Lopez-de- Silanes, Shleifer, and Vishny (1997, 1998) emphasizes the role of law in banking sector development. The theory is in two parts. The first part focuses on legal systems. Countries where legal systems place high priority on creditor rights and effective contract enforcement has better developed banking sector (Levine, 1998, 1999; Levine et al., 2000). The second part identifies legal traditions/origins as the reason for cross-country difference in banking sector development. It put forth that countries whose legal traditions originate from common law are more financially developed than countries following the civil law tradition. However, Oto-Peralías and Romero-

_Avila (2014) argue that common law countries do not have better developed financial sector than civil law countries when there is high levels of endowments.

The law and finance theory put forward that common law countries provide stronger legal protection for investors than civil law countries (La Porta et al., 1997, 1998). Chong and Zanforlin (2000) identify that civil law countries are negatively associated with bureaucratic development, lack of corruption and credibility of governments. Studies such as Levine (1998, 1999), Djankov, McLiesh, and Shleifer (2007), and Cooray (2011) provide empirical support for the law and finance theory. However, Fowowe (2014) partially oppose the law and finance theory by empirically showing that legal origin does not explain why banking sector development varies across African countries. This study expects that the quality of legal system improves banking sector development in Ethiopia.

2.1.4, financial liberalization theory

This theory is used to cover a whole set of measure the complete freedom of finance to move in to and out of economy. The financial liberalization theory otherwise referred to as the McKinnon-Shaw hypothesis was put forth by McKinnon (1973) and Shaw (1973). It suggests that financial liberalization is a prerequisite for financial sector development which resultantly leads to economic growth. The theory points out those high and positive real interest rates would increase domestic savings which in turn increase the amount of loan able funds available for investment. McKinnon (1973) and Shaw (1973) view financial repression (administrative control of the financial sector) inhibits banking sector development. Financial repression causes market disequilibrium and limits the allocative efficiency function of the financial market (Andersen & Tarp, 2003).

In a financially repressed economy, firms are likely to face financing constraints due to limited access to external finance and credit controls. Laeven (2003) observes that financing constraints faced by small firms during the financial repression regime reduced following financial liberalization while large firms experienced higher financing constraints due to financial liberalization. Rajan and Zingales (2003) contend that the stimulating effect of financial liberalization on financial sector development is conditioned by economic openness trade and financial openness. In another stance, Ito (2006) is of the opinion that financial liberalisation spurs financial sector development provided a threshold level of legal development has been

reached. Studies such as Baltagi et al. (2009), and Law and Habibullah (2009) offer evidence to show that the financial sector develops due to the liberalization of the financial sector.

2.1.5, Inflation and finance theory

Inflation is the rate at which the general level of prices for goods and services is increasing in economy overtime. Huybens and Smith (1999) developed a theoretical model to show that a negative relationship subsists between inflation and finance. They argue that increase in inflation causes banks to ration credit and reduces the real rate of return on equity and these lead to fall in financial market activity. A shallower and less efficient financial market is characterized by high inflation (Detragiache, Gupta, & Tressel, 2005). Rousseau and Wachte(2002) argue that high inflation discourages banks to provide finance on long-term basis and it reduces banks' ability to increase allocation of resources. The ability for finance to promote economic growth reduces in the presence of high inflation (Rousseau & Yilmazkuday, 2009; Yilmazkuday, 2011). Boyd et al. (2001) empirically show that the relationship between inflation and finance is nonlinear and inflation has a threshold effect. Studies such as Kim and Lin (2010), Khan, Senhadji, and Smith (2006), and Rousseau and Wachtel (2002) also support the threshold effect of inflation on finance. This study expects that inflation undermines banking sector development in Ethiopia.

2.2, Potential determinants of banking sector development

The potential determinants of banking sector development as identified from empirical studies include but not limit to those discuss in this study.

Institutions

The endowment theory propounded by Acemoglu et al. (2001) identifies the important of institutions in banking sector development. Institutions have been widely identified as a key determinant of banking sector development in empirical studies. Recent studies show that improving the quality of institutions would promote banking sector development (Allen et al., 2014; Baltagi et al., 2009; Cherif & Dreger, 2016; Falahaty & Law, 2013; Filippidis & Katrakilidis, 2014; Law & Azman-Saini, 2012; Le et al., 2016; Luca & Spatafora, 2012). North (1990) describes institutions as rules established by humans to guide exchanges among them and they are the prime cause of economic development. Huang (2010a) says that the supply side of

financial sector development tends to be greatly influenced by institutions. This connotes that the quality of banks in the financial sector is dependent on the quality of institutions.

The quality of institutions reflects in the financial sector in the extent to which humanly developed rules result to raise in investor protection and ease of entrepreneurs' access to external financing (Herger, Hodler, & Lobsiger, 2008). Filippidis and Katrakilidis (2014) note that increase in the quality of institutions leads to increase in the efficiency of the financial market because it lowers transaction costs faced by economic agents. High quality of institutions promotes banking sector development (Law & Azman-Saini, 2012), whilst low quality of institutions limits banking sector development (Asiama & Mobolaji, 2011).

Law

Law is government regulation of financial law. A banking sector was developing if the right laws and institutions are present (Coyle & Turner, 2013). The impact of law on the financial sector has been widely researched from the two main parts of the law and finance theory developed by La Porta et al. (1997, 1998). The first part is the quality of legal systems and the second part is legal traditions/origins. The first part suggests that a legal system with institutions that provides strong investor protection and ensures effective contract enforcement promotes banking sector development. This has been supported by Beck, Demirgüç-Kunt, and Levine (2001, 2003a, 2003b), Levine (1998, 1999), and Levine et al. (2000) which show that countries where there is existence of legal institutions that emphasize creditor rights and enforces contract effectively exist tend to have better developed banking sector compared to countries where such institutions are weak. Ayadi, Arbak, Naceur and De Groen (2013), document that the ability of legal institutions to promote banking sector development is contingent on good democratic governance and proper implementation of financial reforms.

Miletkov and Wintoki (2009), show that the banking sector develops as the quality of legal system improves. The second part of the law and finance theory argues that common law tradition offers stronger legal protection to investors and support financial sector development than the civil law tradition (La Porta et al., 1997, 1998). They further argue that legal tradition is a reason for cross-country differences in financial sector development. Legal tradition is an important determinant of creditor rights (Djankov et al., 2007). Huang (2010a), and Beck et al. (2001, 2003a, 2003b) provide evidence consistent with the arguments of La Porta et al. (1997,

1998). Asongu (2012) finds that French civil law African countries enjoy greater efficiency in their banking sectors than countries with British legal origin. A recent study by Fowowe (2014), shows that legal origin does not explain cross-country differences in banking sector development in Africa.

Financial liberalization

It is the freedom of financial institution in the economy. The financial liberalization theory emerged from the independent works of McKinnon (1973) and Shaw (1973), hence it is otherwise referred to as the McKinnon-Shaw hypothesis. It argues that banking sector development is enhanced by financial liberalization. A financial sector is said to be liberalized when government restrictions on financial activities are relaxed or eliminated, cross-border capital flows are permitted, and the interaction between the forces of demand and supply acts as the mechanism for price determination of financial services. In a financially repressed economy, government use restrictions and price distortions on the financial sector to increase public revenue via the financial sector and these are obstacles to financial sector development (Creane, Goyal, Moborak & Sab, 2004). Financial liberalization can stimulate financial sector development by increasing the efficiency of the financial sector. However, financial liberalization does not necessarily lead to an efficient financial sector.

Ghosh (2005), states that financial liberalization has led to an increase in financial crises in developing economies. Evidence shows that higher levels of financial liberalization tend to make the banking sector prone to crises (Ahmed, 2013; Demirgu c-Kunt & Detragiache, 1998; Fowowe, 2010). However, Beck, Demirgu c-Kunt and Levine (2006) argue that countries with lesser regulatory restrictions on banking activities are less prone to crises. Atiq and Haque (2014) observe that the beneficial role of financial sector development in economic growth reduces as financial liberalization increases. Ahmed (2013) documents financial liberalization promotes banking sector development in sub-Saharan African countries.

Macroeconomic factors

The macroeconomic factors that have been widely identified as determinants of banking sector development are openness to trade and capital, economic growth, inflation, remittances, income level, and government size. Openness is the extent to which an economy allows trade and capital across its borders. Rajan and Zingales (2003) postulated the interest group theory of financial

sector development, otherwise known as the simultaneous openness hypothesis which identifies openness trade and financial openness as a determinant of banking sector development. The theory posits that openness would lead to banking sector development when the economy does not choose trade openness or financial openness in isolation of each other.

Put differently, financial sector development occurs when an economy is simultaneously open to both trade and capital. However, this is in contradiction to the sequencing process of financial liberalization which suggests that an economy should be open to trade before eliminating capital inflow controls (Ito, 2006; McKinnon, 1991). Chinn and Ito (2006) finds that trade openness is needed before financial openness. David et al. (2014) observe that trade openness plays a greater role in financial sector development than financial openness in sub-Saharan African countries with better institutions. Andrianaivo and Yartey (2010) claim that trade openness would negatively affect banking sector development in financially repressed economies in sub-Saharan Africa. Calderon and Kubota (2009) show that the positive impact of financial openness on banking sector development is influenced by the level of institutional quality, quality of the legal system, and degree of trade openness. Law and Demetriades (2006) contend that openness matter more for banking sector development in middle-income countries than low-income countries. Studies showing that trade and financial openness influence banking sector development include Mahawiya (2015), Andrianaivo and Yartey (2010), Baltagi et al. (2009), Chinn and Ito (2006), and Law and Demetriades (2006).

The endogenous growth models argue that financial sector development is crucial for economic growth. However, Robinson (1952) pioneered the argument that economic growth is important for financial sector development. This connotes that financial sector development may not be strictly exogenous in an endogenous growth model. Robinson (1952) view is widely referred as the demand-following hypothesis. This hypothesis counters Schumpeter (1911) earlier view that real sector growth is led by financial sector development. It argues that real sector growth would make enterprises demand for more and improved financial services, hence leading to financial sector development. The implication of this argument is that economic growth is a potential determinant of banking sector development.

Goldsmith (1969), documents that the banking sector tends to develop as the economy grows. There is a strand of empirical Literature on the finance-growth nexus supporting the demand following hypothesis causality from economic growth to banking sector development with no feedback response (Liang & Teng, 2006; Odhiambo, 2008). This suggests that banking sector development can be driven by economic growth. Recent studies confirm that economic growth positively influence banking sector development (Ahmed, 2013; Falahaty & Law, 2013; Filippidis & Katrakilidis, 2014; Le et al., 2016). Inflation is the sustained and persistent rise in the general price level in an economy and it indicates the level of macroeconomic stability.

The negative relationship between inflation and banking sector development is evident in many empirical studies (Aggarwal, Demirgu c-Kunt, & Per a, 2011; Ahmed, 2013; Allen et al., 2014; Andrianaivo & Yartey, 2010; Detragiache et al., 2005; Djankov et al., 2007; Dutta & Mukherjee, 2011; Filippidis & Katrakilidis, 2014; Gwama, 2014; Naceur, Cherif, & Kandil, 2014).

Remittances can boost banking sector development, especially in developing countries where financial services are limited. They are funds transferred via financial institutions from one country to another country, which allow recipients to demand or have access to alternative financial services and products (Orozco & Fedewa, 2005). Guiliano and Ruiz-Arranz (2009) document that remittances stimulate growth of economies with less developed financial sectors by providing alternatives to finance investment and alleviating liquidity constraints.

Remittances increase the volume of deposits and credit in developing economies (Aggarwal et al., 2011). Cooray (2012) finds that remittances deepen the banking sector but hinder the efficiency of the banking sector. Remittances promote banking sector development in African.

High income (developed) countries experience greater levels of banking sector development than other income groups (Beck, Demirgu c-Kunt & Levine, 2009; Demirgu c-Kunt & Levine, 1999).

Geography

Geography is a country such as absolute distance to the equator (latitude), land area, poor accessibility to coast and river navigable to the ocean (landlocked), and population density are probable determinants of banking sector development. Countries closer to the equator tend to have lower levels of banking sector development (Beck et al., 2003a). The endowment theory identifies the role of geography in banking sector development. Geography endowments explain

cross-country variations in banking sector development (Allen et al., 2014; Beck et al., 2003a, 2001; Kodila-Tedika, Asongu, & Cinyabuguma, 2016). Huang (2010a) argues that geography may influence both the demand and supply side of financial sector development. Huang (2010a) asserts that countries with larger land area tend to witness lower levels of financial sector development.

Landlocked countries have limited access to water transportation by ocean and this may adversely affect banking sector development due to lesser access to external trade or higher transportation cost of goods compared to countries not landlocked. Allen et al. (2014) find that population density is more crucial for banking sector development in African countries than countries in other parts of the world. They argue that low population density in some African countries is the reason for their less developed banking sector.

Other potential determinants

Democracy can lead to higher levels of banking sector development (Dutta & Mukherjee, 2011; Girma & Shortland, 2008; Huang, 2010a, 2010b; Yang, 2011). It is a measure of the quality of a country's political institutions/environment. Ayadi et al. (2013) observe that good democratic governance coupled with sound implementation of financial reforms and strong legal system enhance banking sector development in the Mediterranean region. Democracy promotes banking sector development in countries with better institutions (Boudriga & Ghardallou, 2012; Huang, 2010a). Haber and Perotti (2008) argue that higher levels of democratic governance can lead to higher levels of banking sector development. Government is also a determining factor for development of the banking sector (Ayadi et al., 2013; Cooray, 2011; Naceur et al., 2014). Literature identifies two perspectives development and political which explain how government can influence banking sector development.

The development perspective was put forth by Gerschenkron (1962) and the political perspective was posited by Kornai (1979). The development perspective suggests that government participation in countries that are backward can lead to banking sector development by reducing market failures and promoting market access. In contrast, the political perspective argues that government participation in the banking sector limits its development by increasing inefficiency among banks due to lower competition. Banking sector development is likely to be limited when

governments increase their market power because of the disincentive effects of taxes, increased rent seeking and the crowding out effect on private investment (Cooray, 2011). La Porta, Lopez-de-Silanes, and Shleifer (2002) show that banking sector development becomes slower with increased government ownership of banks. This finding is corroborated by Barth, Caprio, and Levine (2004).

Kwok and Tadesse (2006) argue that countries with higher uncertainty avoidance tend to have bank-based financial systems. Dutta and Mukherjee (2011) provide evidence that uncertainty avoidance is negatively associated with banking sector development. Stulz and Williamson (2003) show that differences in culture measured by differences in religion and language account for variation in protection and enforcement of creditor rights among countries, but it is conditioned by the extent to which a country is open to external trade. Easterly and Levine (1997) argue that the underdeveloped nature of financial sectors in sub-Saharan African countries is due to high ethnic diversity. Ethnic diversity tends to negatively impact on banking sector development (Beck et al., 2003a; Boudriga & Ghardallou, 2012). Renneboog and Spaenjers (2012) contend that religion influences financing decisions.

Less religious countries have higher levels of banking sector development than countries that are more religious (Beck et al., 2003a). This is because religious countries tend to be risk averse and the unwillingness to assume risk may stifle banking sector development. Cooray (2011) finds that religion is negatively related to banking sector development. Meisenberg and Lynn (2011) argue that human capital is a direct cause of institutional development and economic outcomes.

According to Meisenberg (2012), shows that human capital is positively correlated to economic growth, economic freedom, education, democracy, population density and government size. Therefore, human capital is a possible determinant of banking sector development. Human capital reflects the risk management capability of a country and it is a proxy for social institutions. Kodila-Tedika and Asongu (2015) note that human capital in form of proficient or skilled personnel can promote bank stability. Recent empirical studies show that human capital fosters banking sector development (Cooray, 2011; Filippidis & Katrakilidis, 2014; Kodila-Tedika & Asongu, 2015; Ozkok, 2015).

Allen et al. (2014) argue that the lack of ability to manage risk is detrimental to banking sector development. They show that human capital is positively correlated with banking sector development in Africa.

2.3, Conceptual Framework Used in the Study

Banking sector development

According to Roubini and Bilodeau (2008), define banking developments as enabling infrastructure (factors, policies, and institutions), that lead to effective financial intermediation and markets, and deep and broad analyze to capital and financial services. A good measurement of banking development is crucial in analyzing the advancement of financial sector and understanding the corresponding impact on economic growth and poverty reduction. According to (Levine 2002), banking sector development can be defined as the policies, factors, and the institutions that lead to the efficient financial intermediation. A strong banking system offers risk diversification and effective capital allocation. The greater the banking development, the higher would be the mobilization of savings and its allocation to high return projects.

Levine et al. (2012) identified four bases of measurement of banking development which have been conventionally accepted. These include: (a) size of financial institutions and market (financial depth), (b) degree to which individuals can use banking services (access), (c) efficiency of banking institutions in mediating resources and facilitating financial transactions (efficiency), and (d) stability of financial institutions and markets (stability). Antzoulatos (2008) asserted that the degree of asymmetric information reduces with the development of banking system. Developed banking systems offer specialized services and efficient operations that help to reduce information asymmetry in the market. Investors can trust and put more faith in the experienced forecasts of the financial intermediaries in developed banking systems. In this way the value and trust of information raises and more investments can be attracted.

Private sector credit to GDP

Credit issued to the private sector by banks and other financial intermediaries divided by GDP. Domestic credit to private sector refers to financial resource provided to the private sector by financial corporations, such as through loans, purchases of no equity security and trade credits and other accounts receivable that establish a claim for repayment. It's measure the level of financial service by distinguishing the credit issue to private or public sector. These rates impact the lending and borrowing interest rates of commercial banks. Therefore, fluctuation of lending rates impacts the volume of domestic credit in an economy which implies that lending rate is a determinant factor to influence the amount of domestic credit cited by Mallick and Agarwal (2007).

Inflation:

It is the rate at which the general price level of goods and services changes in an economy. This is one of essential environmental condition which may affect both costs and revenues of most organizations including the banking institutions. Inflation is the rate at which the general level of prices for goods and services is increasing in economy overtime. Kutsienyo (2011) found that inflation has a positive impact on commercial banks sector development in Ghana. The study pointed out that inflation important as a signal that bank managers are able to forecast accurately inflation and are proactive in managing act before inflation. By making accurate forecast of inflation, the manager can increase the rates on loan faster than the rate at which operating cost is increasing so that inflation favorably impacts on banking sector development. in line with the (Bourke, 1989; Molyneux et al., 1992; Athanasoglou et al. 2005 and Tesfaye 2014), found positive relationship between inflation and banking sector development, they indicated that inflation is anticipated by bank which give opportunity for the bank to adjust the interest rate according to the expected inflation rate, therefore it enables the revenue to be increased faster than the costs.

Financial Openness

Financial openness is often associated with higher rate of economic growth. it is a state where by a financial system develops and becomes more sophisticated by opening up to foreign capital

and becoming more closely integrated with foreign financial systems (Estrada, Park & Ramayandi, 2015).

Economists agree that foreign direct investment (FDI) inflows can increase growth by bringing in advanced foreign technology, managerial skills, and other know how and by making domestic markets more competitive through the entry of foreign companies. However, in the absence of a sound and efficient banking system, foreign capital inflows may be misallocated, resulting in growth-crippling financial crisis. It is worth investigating the effect of financial openness on banking development. Studies of the relationship between financial openness, banking development and growth revealed mixed results or provide little evidence on developing countries (Kose et al., 2009; Obstfeld, 2009; Quinn & Toyoda, 2008; Quinn, Schindler, & Toyoda 2011).

Financial liberalization is the capital account openness and deregulation in the domestic financial markets. There are mixed views in this regard. According to some studies financial openness helps to build up the strong banking system and to achieve higher targets of growth. On the other hand it may incur a lot of risk taking and can increase macroeconomic volatility in an economy. The results of financial liberalization in middle income and low income countries are also found quite different. Financial liberalization has helped achieve high growth rates in middle income countries whereas in case of low income countries the results are opposite. One main reason for this can be because low income countries do not have developed banking systems to allow them for a significant increase in leverage and financial flows (Bordo, 2000).

Management efficiency

It is one of the influential factors that determine the bank sector development. The ratio of operating expense to operating income will use as the proxy of efficiency of bank management and higher ratios reflect a less efficient management Habtamu (2012). Indranarain (2009), Bourke (1989) and Molyneux and Thornton (1992) used operating expense to operating income and stated that Higher the efficiency level of a bank, higher it's developed level. Therefore a positive relationship is expected between efficiency and development of banks. The study conducted by Samuel (2015), determinants of commercial banks development in Ethiopia found positive but insignificant relationship to bank profits.

Trade Openness

Trade openness is a measure of economic policies that either restricted or invite trade between countries. It means outward or inward orientation of a given country's economy (Hardinson, 2015). It measures economic policies that either restrict or invite trade between countries.

Benya (2010) established trade openness, liquid liabilities, financial openness and the GDP growth rates determined banking development in Africa. He used a cross sectional and panel data techniques by employing the banking sector indicator liquid liabilities (M3) as dependent variable while trade openness, financial openness and the GDP growth rates as independent variables. The data used in this research ranged from 1975- 2005.

The empirical results from both regression types generally suggested that trade openness had a significantly positive effect on Africa's banking development. Cross-sectional results showed that financial openness and the GDP growth rate are significantly negative in 2005. With the panel data results, financial openness was significantly negative in explaining financial development, while the GDP growth rate was insignificant suggesting that it was not an important determinant of financial development for African countries. Bekaert et al. (2006) stressed that market openness brings down volatility through enhancing risk diversification process. Trade openness, one of the main aspects influencing globalization today is believed to contribute to banking development. Rajan and Zingales (2003) argued that unconstrained trade combined with capital flows served as an incentive for industrial and financial incumbents to push for banking development. This was because government's role in the banking sector declined due to unconstrained openness and industrial and financial incumbents would turn to finance from the open foreign markets to fund their projects. Incumbents would push for financial development because new opportunities emerged due to trade and financial openness could generate profits that compensated for the negative impact of increased competition. They concluded that trade openness benefits banking development positively.

Baltagi, Demetriades and Law (2007), using panel data techniques and annual data, proved that trade openness and financial openness together with economic institutions determined the banking development dissimilarity across countries. These results showed that countries that

were least open could benefit greatly in terms of banking development if they opened either their trade or capital accounts. These countries could have even had greater benefits if they opened both, though opening only one could still result in banking sector development. On the other hand, countries that were most open benefited the least from added openness. Results from a study conducted by Kim, Lin and Suen (2010).

Opening domestic markets to foreign goods, known as trade liberalization, can be a key driver of banking development. It can weaken the political power of entrenched business interests that might otherwise block institutional reforms, a point that is emphatically made by Rajan and Zingales (2004) in their book *Saving Capitalism from the Capitalists*. Trade liberalization, which promotes a more competitive environment, lowers the revenue of entrenched firms so that they need greater access to external sources of capital. Thus, they become more likely to support reforms that promote a deeper and more efficient financial system. This is agreement with research findings that a deeper banking sector positively was associated with greater trade openness (Rajan & Zingales, 2003); Free trade also promotes financial deepening by reducing corruption. high tariffs breed corruption because importers have incentives to pay customs officials to avoid tariffs by smuggling in goods.

Countries that restrict international trade are found to be more corrupt (Ades & Di Tella, 1994). Thus facilitating production for overseas markets creates a greater need for a well-functioning financial system. Overall, following the literature trade openness is represented by the value of Exports and imports as a percentage of GDP.

Economic Growth Rate

International monetary fund (2012) defines economic growth as the increase in the inflation-adjusted market value of the goods and services produced by an economy over time. It is conventionally measured as the percent rate of increase in real gross domestic product, or real GDP, usually in per capita terms. The rate of economic growth refers to the geometric annual rate of growth in GDP between the first and the last year over a period of time. Implicitly, this growth rate is the trend in the average level of GDP over the period, which implicitly ignores the fluctuations in the GDP around this trend. Benya (2010) established that trade openness, liquid liabilities, financial openness and the GDP growth rates determined banking development in Africa. He used a cross sectional and panel data techniques by using the banking sector indicator

liquid liabilities (M3) as dependent variable while trade openness, financial openness and the GDP growth rates as independent variables.

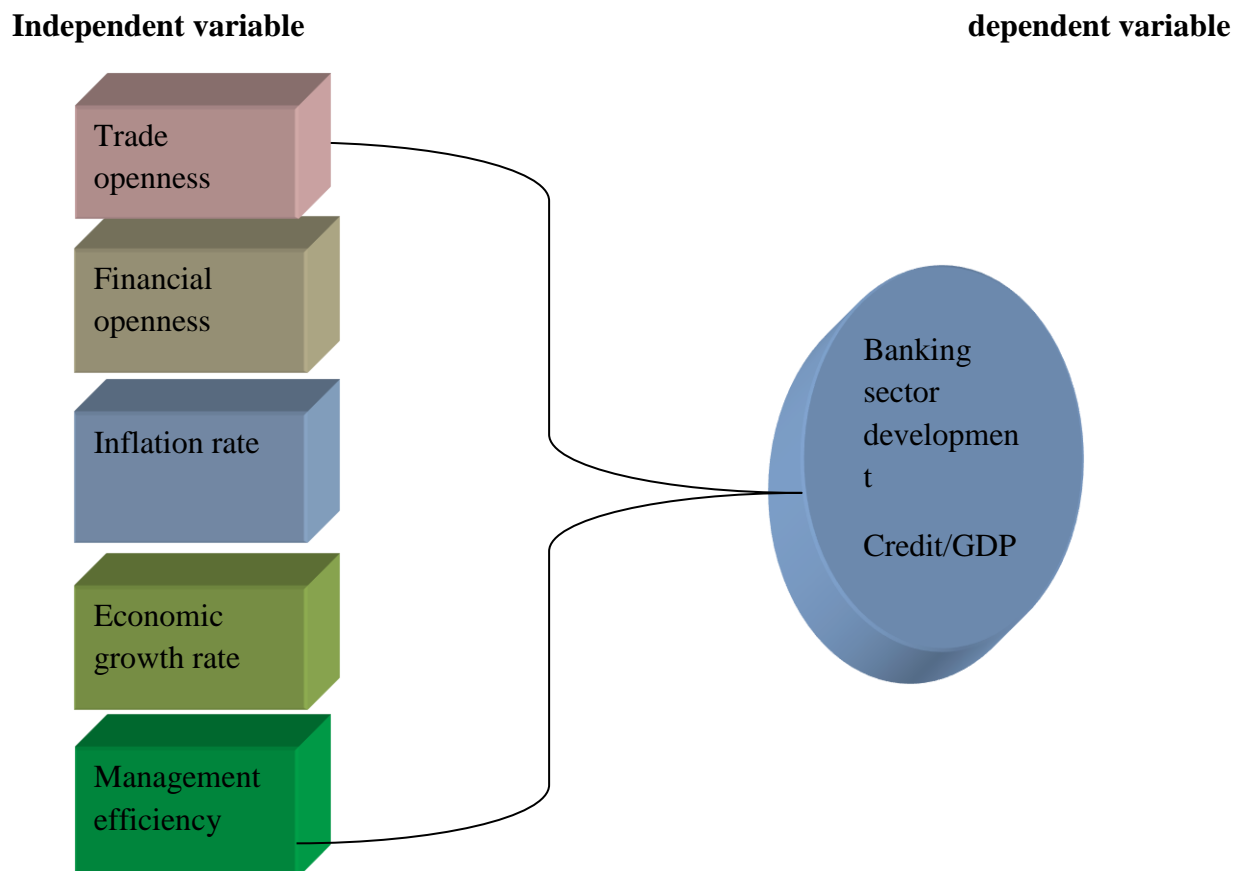
King and Levine (2000a) examined the relationship between economic growth and financial development indicators (liquid liabilities over GDP, bank credit over bank Credit plus central bank domestic assets and credit to private sector divided by GDP). They showed that a country's level of banking development can predict its level of economic growth. Levine (2000) explored the effect of the banking sector development proxies by credit allocated by deposit-taking banks to the private sector divided by GDP, on economic growth, capital accumulation and productivity growth.

Stock market liquidity and bank development predicted economic growth, capital accumulation and productivity growth intermediary variables, namely, liquid liabilities and private credit, have a statistically significant and positive effect on economic growth on a panel of 71 countries. Similarly, Cole et al. (2008) examined the relationship between banking sector stock returns and economic growth for 18 developed and 18 emerging markets over the period 1973-2001. By using dynamic panel techniques, they found a positive and significant relationship between bank stock returns and GDP growth. Empirical results showed that the direction of causality between finance and growth was sensitive to the measurement of financial development. They confirmed the existence of demand following and supply-leading hypotheses. Therefore the direction of causality seemed to be specific for the country and the banking development indicator. This implied that banking sector and real sector were interrelated to each other in most cases.

Shaw and McKinnon (2000) argue that financial development plays a critical role in economy as it positively impacts economic growth. There are two schools of thoughts to this phenomenon. Firstly, banking development is seen as a consequence of the maintenances of positive real interest rates. The financial deepening resulting, which is one of the measures of banking development, impacts positively the commodity sector growth. These include currency, demand deposits, time deposits (each as a portion of real DGP) and M2/real GDP. Secondly, financial development impacts directly on investment growth and asset competition, thus ensuring that the relationship between investment and real interest remained negative. Gerschenkorn (1962) pointed out that several studies showed that countries such as Japan, Taiwan and china carefully paid attention to the balance between other sectors and banking sector development.

Cited by Robinson (2004), maintained that it was economic growth which created the demand for various types of banking services to which the financial system responded. She concluded that the demand exacerbated by a growing economy required more banking services. Economic growth rate is the percentage increase in GDP. Overall, these sets of literature provide evidence of economic growth causing banking development. The economic growth is measured by the growth rate in the real GDP.

Figure 2.1, Conceptual frame work



Source; developed by Researcher

2.4, Empirical Review

Financial liberalization often includes removal of control over: interest rates and financial activities, reduction of required reserve ratios, diminishing capital subsidies through credit direction, Liberalizing foreign currency exchange, and Loosening controls over the activities of financial organizations. As there is no uniform approach to financial liberalization, each country must identify liberalization procedures for its domestic financial sector according to its own social and political landscape (MCG Management Consulting Limited, 2006).

In their comparative study consisted a panel of above 60 countries Barth, Capiro& Levine (2001) have found state ownership of banks varies from a high of 80 percent to a low of 0 percent in sample of countries The tighter the restrictions placed on this activity, on average, the more inefficient banks are and the greater the likelihood of a banking crisis is. At the same time, the greater the share of bank assets controlled by state-owned banks, on average, the less financial development as well as the development of the nonbank sector and the stock market will be.

In their study using dynamic panel data analysis Baltagi, Demetriades& Law (2007) suggest that trade openness is statistically significant determinant of banking sector development. The marginal effects of trade (financial) openness are negatively related to the degree of financial (trade) openness, indicating that relatively closed economies may benefit from opening up their trade and/or capital accounts. Although these economies can benefit most by opening both their trade and capital accounts, opening up one without the other could still deliver benefits in terms of banking development.

A comparative study conducted in Nigerian banks by Dabo (2012) witnessed that there exists significant increase in the mean levels of profitability, and operating efficiency and it showed that liberalization policy on banks had a significant impact even after the banking consolidation exercise.

Banks are predominating the financial sector in Africa. With a few exceptions (for example, Botswana, Namibia, South Africa, Swaziland), the banking sector accounts for more than 75 percent of total financial system assets; in a number of African countries, the share is above 90 percent (Fuchs, Muller & Witte, 2013).

According to Fuchs, Muller & Witte (2013) in most African countries, supervisory capacity remains low. Supervisory resources, including qualified staff and the availability of analytical tools, are limited. Supervisory processes focus on compliance with regulatory standards. The ability to monitor risks on the institutional and systemic levels is hampered by insufficient data quality and poor reporting processes. Regulatory capital ratios are significantly higher than the minimum required by international standards and even increased slightly during the crisis. Leverage as measured by capital to nominal assets is much lower than in most developed markets.

Compared to most countries, Ethiopia has taken a cautious approach toward the liberalization of its banking industry. For all intents and purposes, its industry is closed and generally less developed than its regional peers. The industry comprises one state-owned development bank and 18 commercial banks, two of which are state-owned, including the dominant Commercial Bank of Ethiopia (CBE), with assets approximately 70 percent of the industry's total holdings. The underdevelopment of the banking industry can be seen in the small proportion of the population that has a deposit account, less than 8%. This underdevelopment restricts economic growth because it dramatically reduces the ability of the banking industry to offer savings products (Keatinge, 2014).

In their study using an econometric model and Descriptive Quantitative and Qualitative analysis on the Competition of the Banking Industry in Ethiopia Eshete, Teshome & Abebe (2013) have found that Competition in terms of price is relatively less significant competitive parameter in the Ethiopian banking industry. Bank service charges are more or less homogeneous in the industry, whereas interest rates on time and saving deposits are partially controlled by monetary authorities, rather than demand and supply forces. However, after satisfying the minimum statutory levels, banks have been engaging in price competition, as can be explained by differentiated rates on deposits, especially on time deposit, the commencement of interest payment on demand deposit, as well as differentiated interest rates on loans. Banks in the Ethiopian case are competing in terms of service quality and efficiency (including use of technological advances), branch network expansions, advertising and prices, put in the order of their significance.

2.5, Identified Gaps in the Literature

Overall, empirical review for this research provides back ground information of banking sector development. Most of the research works were not follow financial openness and management efficiency to identify the various that determine the banks sector development. Therefore, the paper would be believed to fill the gap by contributing to the literature.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically it is set by Kothari (2003). This chapter was presents the methods and techniques that was use to approach the research problem, which include research design, research approach, types and source of data, and methods of data collection, analysis and presentation.

3.2, Research design

This study was use explanatory type of research design to establish causal relationship between variables. The researcher was use panel data (both time series and cross sectional data) of 7 banks operating in Ethiopia: As cited from (Baltagi , 2005) the advantage of using panel data is that it controls for individual heterogeneity, less co-linearity variables and tracks distributes or trends in the data something which simple time-series and cross-sectional data can provide. To examine the impact of independent variables (management efficiency, financial openness, trade openness, inflation rate and economic growth rate) over the dependent variable banking sector development).

3.3. Research Approaches

According to Creswell (2009) there are three fundamental elements of research approach namely qualitative, quantitative and mixed research approach. This section briefly presents the fundamental nature of these approaches. Qualitative research approach is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem (Creswell, 2009, p 4). It is a knowledge claim based primarily on the multiple meanings of individual experiences, socially and historically constructed meanings of individual experiences with intent of developing a theory.

Marshall and Ross man (1999) outlined that qualitative research is less structured in description as it builds new theories. Flexibility and emergent without being constrained by standardized procedures that the investigator explores and understand phenomena entirely in their natural

setting is an advantage of qualitative research. As noted in Merchant and Van der Stede (2006) the significant advantage of qualitative research method is the ability to analyze naturalistic environments and such studies are able to examine more complex research questions without sacrificing the richness or complexity of the natural environments. Despite the above advantage, Yesegat (2009) noted that qualitative research design has its own disadvantage. First, lack of standardized rules in the research design and the emphasis on giving meanings and interpretations to events and things that reduces the objectivity and reliability of the research process. This in turn compromises the reliability of findings.

Quantitative research is the numerical representation and manipulation of observations for the purpose of describing and explaining the phenomena that those observations reflect. There are two strategies of inquiry in quantitative approach: survey design and experimental design approach. The former provides a quantitative or numeric description of trends and opinions of a population by studying a sample of that population where as the later is used to test the impact of a treatment on an outcome, controlling for all other factors that might influence the outcome of the study (Creswell, 2009). The generalization to a total population from a sample is one of the advantages of carefully designed and applied quantitative research approach. To enhance the generalization of outcome, the approach follow standardized procedures, in sample selection, instrumental design, implementation and analysis of the study.

The reliability of finding and the alleviation of the impact of investigator and subject bias is the attribute of standardization. Despite its usefulness, quantitative research approach has its own disadvantage. Sample non-representativeness is one of its major drawbacks which take the researcher to sampling risk. Creswell (2003) noted that flexibility in design can make standardization to hinder exploitation of new ideas in addition to lack of quality of interpretive and exploratory examination of research problem. It is generally undertaken by using scientific methods which includes the generation of models, theories and hypothesis, developments of instruments and methods for measurement, experimental control and measurement of variables. Mixed research approach on the other hand is pragmatic world view of usage of both quantitative and qualitative data sequentially i.e. researchers was not go to one extreme approach rather they

use all available method to understand the problem. Therefore the disadvantage of using single approach was minimized as it employees the practice of using both approach.

As noted by Green et al. (1989) mixed method approach has a number of benefits. The first benefit is triangulation pertaining to a situation where researchers seek convergence, corroboration, correspondence of results from quantitative and qualitative methods to increase validity of constructs and inquiry results. Secondly, by mixed methods complementarily, researchers seek elaboration, enhancement, illustration, clarification of the results from one method with the results from the other method. Thirdly, by mixing methods with developmental intent, researchers seek to use the results from one method to help develop or inform the other method. Fourthly, mixing methods with initiation intent seeks the discovery of paradox and contradiction, new interpretations, the recasting of questions or results from one method with questions or results from the other method. Finally to increase the scope of inquiry in this paper use mixed method with expansion intent seeks to extend the breadth and range of inquiry by using different methods for different inquiry components.

3.4, Study Population and Sampling techniques

Study Population

The target population of this study was including all commercial banks register by NBE and operating in Ethiopia. According to NBE 2015/16 financial reports, recently, the number of banks decreases to 18 from 19 due to the merger of Construction & Business Bank with Commercial Bank of Ethiopia. From the 18 banks 16 are private and 2 publics.

Sampling Technique

The study was use non-probability purposive sampling technique based on the age and accessibility of complete audited report. The reason behind selecting purposive sampling techniques than others is, it was consider more appropriate when the universe happens to be small and a known characteristic of it is to be studied highly concentrate.

3.5, Types of Data and source

This study was use the secondary data to analyze determinants of banking sector development in Ethiopia. The data was gathered from the website of each of the banks to collect necessary data for the study. In order to achieve the research objectives mentioned in chapter one, the study was use audited financial report. The data was set use cover a period of 9 years starting from 2008 to 2017, involving of eight commercial banks in Ethiopia (CBE, AIB, DB, WB, BoA, UB and NIB for 10 following years. The study was use secondary data.

3.6, Methods of Data analysis

The collected panel data was analyze by using descriptive statistics, correlations, and multiple linear regression analysis. The secondary data was analyzed by using E-views 8 for windows software package. Basically, a descriptive statistical tool was use to analyze the mean, standard deviation, minimum and maximum values of the study.

Before undertaking any manipulations of the data, the study was compute the descriptive statistics and correlation matrices for banks in the sample, since correlation analysis was use to select the variables which enter in the econometrics model.

3.7. Model specification

A researcher was use different measures of banking sector development. As can be observed from the dependent and independent variables stated, the models that are employed to measure banking development was include: Dependent variable credit to GDP and independent variable; Management efficiency (MGE), Trade openness (TO), financial openness (FO), Economic growth rate (EGR) and inflation rate (INFR).

In this study we regress banking development on the identified determinants of banking development variable resulting in the following Multiple linear regression models:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 \epsilon. \dots\dots\dots\text{Equation 1}$$

Where:

- **Y** is Credit to GDP (CTGDP)
- **β_0** , is the constant
- **X1**, management efficiency
- **X2** represent the Financial Openness

- **X3** represent the Trade Openness
- **X4** represent the Economic Growth rate
- **X5**, inflation rate
- ϵ is the error term

3.8, Model Assumptions and Data properties

The following diagnostic tests were carried out to ensure that the data fits the basic assumptions of linear regression models;

Normality Test

Normality test was carried out to verify if the error terms are normally distributed. The JacqueBera (JB) test was employed to ascertain this assumption. The test was based on the null hypothesis that the residuals are normally distributed.

Autocorrelation Test

Autocorrelation or serial correlation refers to the case in which the error term in one time period is correlated with the error term in any other time period.

Multicollinearity Test

Detection was by matrix correlation among independent variables. According to Gujarati (2004), the rule of thumb is that if the pair-wise correlation coefficient between two regressors is high, in excess of 0.8, then multicollinearity is a serious problem.

Heteroscedasticity Test

Heteroscedasticity occurs when the variance of the error term is not constant. The study employed popular White's heteroscedasticity Test. Gujarati (2004) asserts that the general test of heteroscedasticity proposed by White does not rely on the normality assumption and is easy to implement. The test based on the null hypothesis that the variance of the errors is constant.

Table 3. 1, Definition, Notation and Expected Effect of the Explanatory Variables

	Variable	Measure	Notation	Exp. Sign
Dependent variable	Credit/GDP	Private credit to GDP	CTGDP	N/A
Independent variable	Financial openness	Total capital flows as share of GDP	FO	+
	Trade openness	The ratio of total trade to GDP	TO	+
	Management efficiency	The ratio of operating expense to operating income	MGE	+
	Economic growth rate	The annual change in the GDP in %	EGR	+
	Inflation rate	The annual inflation rate	INFR	+

CHAPTER FOUR

4 Data Analysis and Discussion of Results

4.1. Results and Discussions

This chapter presents the data collected along with the results of the data analysis by grouping the analysis into three parts. These are: the descriptive statistics analysis, Correlation analysis and regression analysis.

4.2 Descriptive Statistics

Kothari (2004) noted that descriptive analysis is largely the study of distributions of variables. The two most important statistical measures used to summarize descriptive research data are measure of central tendency and measure of dispersion. Measure of central tendency includes mean, median, and mode, whereas a measure of dispersion includes maximum, minimum, and standard deviation. The descriptive statistics are presented as follows.

The table 4.1 presents the results of the descriptive statistics for main variables involved in the regression model. The main descriptive measures are the mean, standard deviation, the minimum and the maximum values of the variables over the period take in to account. The summary statistics for all variables reported in the table below.

Table 4.1 descriptive statistics

	CTGDPR	EGR	FO	INFR	MGE	TO
Mean	0.324348	24.40000	2.537000	16.67268	0.411643	33.08500
Median	0.332898	20.65000	2.395000	8.632068	0.398000	34.31500
Maximum	0.523945	46.10000	5.580000	55.24131	0.613600	40.80000
Minimum	0.148714	14.20000	0.400000	2.706865	0.254100	22.28000
Std. Dev.	0.112570	9.961200	1.812667	16.18565	0.085693	5.847542
Skewness	-0.017378	0.990670	0.318930	1.465377	0.315089	-0.400383
Kurtosis	2.170342	2.760851	1.671931	3.736649	2.555769	1.973041
Jarque-Bera	2.011159	11.61680	6.331014	26.63492	1.733858	4.946287
Probability	0.365833	0.003002	0.042193	0.000002	0.420240	0.084319

Source: computed from E-views 8 result

As shown in the Table 4.1 above, the descriptive statistics of the study composed of 70 observations collected from seven commercial banks in Ethiopia over the period of 2008 to 2017. The mean of return on asset (CTGDPR) was around 33.2% for the sampled commercial banks in Ethiopia with a minimum of 14.9% and a maximum of 52.4%. This indicates, the most

Developed bank among the sampled banks earned 52.4% of private credit for every per one birr invested in the company's assets. The least developed bank of the sampled banks earned 14.9% percents of private credit for every per one birr invested in the company's assets. The standard deviation statistics CTGDPR was (0.112570), which confirms that there was variation between banks' during the study period undertaken.

Management efficiency ratio with the minimum and maximum value of 25.4100% and 61.3600% respectively, with an average value of 41.1643%: which indicated that a relatively deviation from the mean by 0.085693 among the bank specific independent variables. On the other hand, the smallest standard deviation was recorded in MGE which was shows the existence less variations among the banks in the sample under the study period.

Trade openness is the ratio of trade balance to GDP. The mean value of this variable was 33.08500 per birr during the study period undertaken and have a standard deviation of 5.847542 per birr. This depict that, there was reasonable dispersion among banks in terms of total Trade when calculate the ratio values have taken. The maximum and minimum values were 40.80000 and 22.28000 per birr respectively.

The other macroeconomic variables, the economic growth rate of Ethiopia for the last consecutive ten years was approximately 24.40000 with a minimum economic growth of 14.20000 and a maximum growth of reaching 46.10000 per birr. The standard deviation registered in the period was 9.961200; it means that economic growth in Ethiopia during the period of 2008 to 2017 relatively stable. The financial openness during the period of this study was an average of 2.537000 per birr. Financial openness appeared to be volatile with a standard deviation of 1.812667. Lastly, inflation mean is 16.67268, with maximum rise in price recorded 55.24131 and minimum, 2.706865 Standard deviation was 16.18565 per birr.

4, 3 CLRM Assumption and Model Test

In order to provide more insights into the importance of the Bank-Specific characteristics and whether this set of variables makes a significant contribution in explaining the variation in the dependent variable, for the importance of this study, the data set checked certain diagnostic tests to ensure the model specification tests have been to fit the classical liner regression model (CLRM) assumptions and to undertake reliable estimations.

4.3.1 Heteroscedasticity

The Heteroscedasticity problems present when the variance of the error term is not constant. As noted in Brooks, (2008, p.182) the variance of the errors is constant, this is known as the assumption of homoscedasticity. If the errors do not have a constant variance, they are said to be heteroscedastic. The study would be employed the popular white test to detect heteroscedasticity. This test involves testing the null hypothesis that the variance of the errors is constant (homoscedacticity) or no heteroscedasticity against the alternative that the errors do not have a constant variance.

In this study, as shown below, both the F-statistic and Chi-Square versions of the test statistic draw the same conclusion that there is evidence for the presence of heteroscedasticity, since the p-values were greater than 0.05. This indicates that, there is evidence that we reject the null hypothesis implying that the residuals are not homoscedastic, since the p-value was considerably in greater than 0.05.

Table 4. 2 White test of Heteroscedasticity

Heteroskedasticity Test: White test

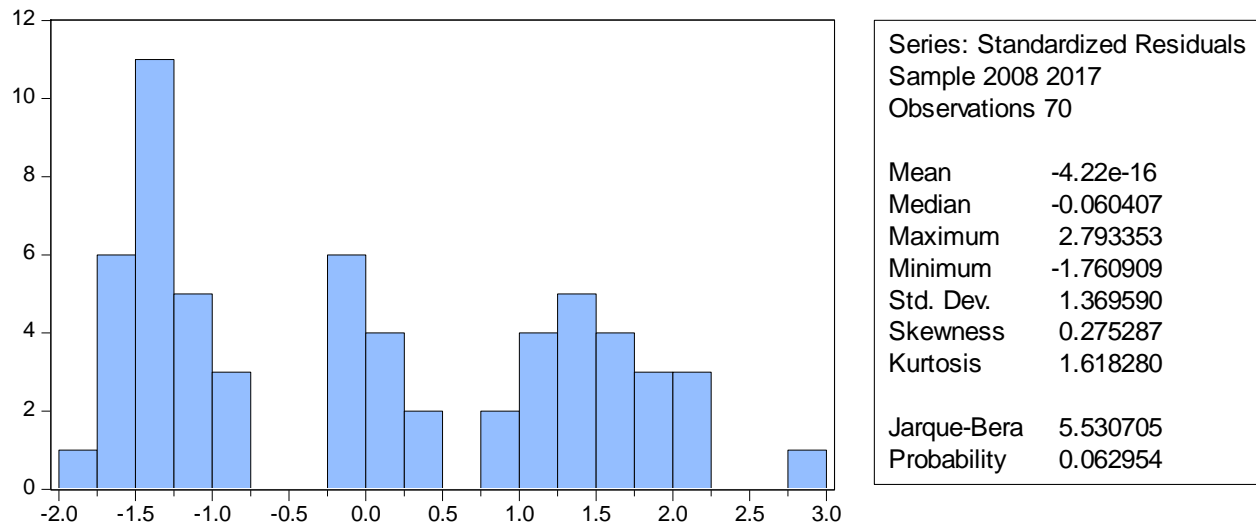
F-statistic	7.810835	Prob. F(15,54)	0.0000
Obs*R-squared	47.91573	Prob. Chi-Square(15)	0.0000
Scaled explained SS	7.607047	Prob. Chi-Square(15)	0.9386

Source: Output of Eviews 8

4.3.2 Normality Test

The model that include Normality test In order to conduct the normality assumption required a single or joint hypothesis tests about the model parameters. The popular Bera–Jarque test would be employed to check normality According to Brooks (2008, p.210) a normal distribution is defined to have a coefficient of kurtosis of 3. In the same token, if the residuals are normally distributed, the Jarque--Bera statistic would not be significant at 5% significant level. The null hypothesis is that the distribution of the residuals is normal. As shown in figure 4.2, below the coefficient of kurtosis was close to 1.6 and the Bera-Jarque statistic had a P-value of 0.063 which is greater than 0.05 so, we can no reject the null HO of normality test at the 5% level, Concluded that the data can consistent with a normal distribution assumption and there is no the problem of normality in the model.

Table 4. 3 Normality test for residuals



Source: Output of Eviews 8

4.3.3 Test for Serial correlation LM test

Gujarati (2009) defined the term autocorrelation as “correlation between members of series of observations ordered in time [as in time series data] or space [as in cross-sectional data]. This assumption requires that the observations error terms should not be serially correlated, in short $cov(u_i, u_j) = 0$ for $i \neq j$. Brooks (2008) also stated that, it is assumed that the errors are uncorrelated with one another. The consequences of ignoring autocorrelation when it is present are similar to those of ignoring heteroscedasticity. The coefficient estimates derived using OLS are still unbiased, but they are inefficient, i.e. they are not BLUE. To test whether error terms are serially correlated or not, we can use Durbin--Watson (DW) test and/or Breusch-Godfrey Serial Correlation LM Test. But the first test, according to Brooks (2008), is only of whether consecutive errors are related to one another. And there will also be many forms of residual autocorrelation that DW cannot detect. Breusch--Godfrey test is a more general test for autocorrelation up to the r^{th} order.

Accordingly, to best detect serial correlation among error terms that could not be detected through using Durbin-watson, the Breusch-Godfrey Serial Correlation LM Test was conducted after pooled OLS estimated. The null and alternative hypotheses are.

$H_0: \rho_1 = 0$ and $\rho_2 = 0$ and...and $\rho_r = 0$

$H_1: \rho_1 \neq 0$ or $\rho_2 \neq 0$ or.....or $\rho_r \neq 0$ As shown in the below table 4.4, the F test and the P value of F-statistic result of the model was 0.0083, which is less than the significance level of 5%. As a result, the null hypothesis which states residuals is serially correlated. Reject at 5 percent of significant level. This implying that there is significant evidence for the presence of serial correlation in these models. In addition, the Chi-Square P-value of the models also supports the presence of serial correlation in the model. Therefore, there is serial correlation among residuals.

Table 4. 4 test for serial correlation LM test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.564088	Prob. F(40,24)	0.0083
Obs*R-squared	56.72603	Prob. Chi-Square(40)	0.0417

Source: Output of Eviews 8

4.3.4, Multicollinearity Test

Multicollinearity assumption is concerned with the existence of a perfect linear relationship among some or all independent variables in the studies (Gujarati D., 2004). If multicollinearity is perfect among explanatory variable, their regression coefficients are indeterminate and their standard errors are infinite. If multicollinearity is less than perfect, the regression coefficients, although determinate, possess large standard error which means the coefficients cannot be estimated with great precision or accuracy.

According to Churchill and Iacobucci (2005), when there is multicollinearity, the amount of information about the effect of independent variables on dependent variables decreases. As a result, many of the independent variables in the study could be judged as they are not related to the dependent variables when in fact they are. Multicollinearity condition exists only where there is high, but not perfect correlation between two or more independent variables (Cameron & Trivedi, 2009 and Wooldridge, 2006). If we did not allow the presence for any correlation among the independent variables in the study, then multiple regressions would not be very significant for econometric analysis.

Hailer et al (2006) argued that multicollinearity problem exists when the correlation coefficient among the explanatory variables in the study are greater than 0.9. The results in the following correlation matrix table 4.3 shows that the highest correlation was 0.6686. Since there is no correlation above 0.9 according to (Hair et al, 2006), we can conclude that there is no problem of multicollinearity in this study.

Table 4. 5 Correlation Matrix of the independent variables

	EGR	FO	INFR	MGE	TO
EGR	1				
FO	-0.17692	1			
INFR	0.6686	-0.37969	1		
MGE	0.3341	-0.14893	0.01805	1	
TO	0.5369	-0.195710	0.33021	0.178172	1

Source: Output of Eviews 8

4.4, Correlation Analysis

The Correlation Analysis indicates that at what extent the independent variables are influential on the bank size development indicators (CTGDPR). With our bank specific variables, financial openness (FO) and inflation rate (INFR) are relatively, highly impacting on ROA as indicated in table 4.4 below, FO, MGE and TO be positively correlated variable with CTGDPR. This shows that, when those variable increases CTGDPR also increases. On the other hand, the economic growth rate (EGR) and inflation rate (INFR) seems to be inversely correlated with the ROA.

Table 4,6 Correlation matrix of dependent and independent variables

	CTGDPR	EGR	FO	INFR	MGE	TO
CTGDPR	1					
EGR	-0.237635	1				
FO	0.5720957	-0.17692	1			
INFR	-0.3165794	0.6686	-0.37969	1		
MGE	0.024981	0.3341	-0.14893	0.01805	1	
TO	0.1485590	0.5369	-0.195710	0.33021	0.178172	1

Source: Output of Eviews 8

4.5, Model selection test: Random model versus fixed effect model

According to Vong et al., (2009) pointed out that, panel data are more appropriate, because it has provided detail information as it consists of both the cross sectional information, which captures individual variability, and the time series information, which captures dynamic adjustment. In brief, panel modeling enables to identify a common group of characteristics while, at the same time, considering the heterogeneity that is present among individual units.

In order to predict the panel regression models, the Hausman test was performed to determine the appropriateness of the model to be adopted, where the null hypothesis is that the selected model is random effects and the alternative states that the fixed effects is selected.

Husman test

Null (H₀): Random effect Model is appropriate

Alt(H_a): Fixed effect Model is appropriate

Decision Rule: Reject H₀ if p-value is less than significance level 5% or do not reject H₀ if PV is greater than significance level 5%. According to the results presented below the study adopt random effects model.

Table 4.7, Correlated Random effect Hausman test

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	1.942010	5	0.8571

Source: Output of Eviews 8

4.6, Results of regression analysis

This section presents the empirical findings from the econometric results on the factors affecting banking sector development in Ethiopia. The section covers the empirical regression model used in this study and the results of the regression analysis. Under the following regression outputs table the beta coefficient which indicates that each variables level of influence on the dependent variable and its sign may be negative or positive. The P-value indicates that at what percentage or precession level of each variable is significant. The R2 values indicate the explanatory power of the model to explain dependent variables and in this study adjusted R2 value which takes into account the loss of degrees of freedom associated with adding extra variables were inferred to see the explanatory powers of the models.

Empirical model: the empirical model used in the study in order to identify the determinants of commercial banks profitability in Ethiopian was provided as follows:

$$CTGDPR = \beta_0 + \beta_1 (EGR) + \beta_2 (FO) + \beta_3 (INFR) + \beta_4 (MGE) + \beta_5 (TO) - \varepsilon$$

Table 4.8 regression result analysis

Dependent Variable: CTGDPR
 Method: Panel EGLS (Cross-section random effects)
 Date: 01/03/21 Time: 03:46
 Sample: 2008 2017
 Periods included: 10
 Cross-sections included: 7
 Total panel (balanced) observations: 70
 Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EGR	-0.005781	0.001593	-3.628522	0.0006
FO	0.041629	0.006334	6.572789	0.0000
INFR	0.000955	0.001016	0.939887	0.3508
MGE	0.238558	0.111777	2.134227	0.0367
TO	0.006889	0.001495	4.608233	0.0000
C	0.033323	0.060598	0.549903	0.5843

Effects Specification		S.D.	Rho
Cross-section random		0.000000	0.0000
Idiosyncratic random		0.082060	1.0000

Weighted Statistics			
R-squared	0.538364	Mean dependent var	0.324348
Adjusted R-squared	0.502298	S.D. dependent var	0.112570
S.E. of regression	0.079416	Sum squared resid	0.403640
F-statistic	14.92746	Durbin-Watson stat	1.106206
Prob(F-statistic)	0.000000		

Source: Output of Eviews 8

Significance level at 5% and 10%

Significant of the model is tested, accordingly, table 4.8 of linear regression indicated that the regression model predicts the outcome variable significantly with the p-value of (0.000),

The value of R-squared statistics and the Adjusted-R squared statistics of the model was 53 % and 50% respectively. The R-squared results indicate that 53% variation in the dependant variable (CTGDP) is described by the explanatory variables of the banking sector development in Ethiopia and the reaming 47% was explained by other factors which are not included in the model. F value of 0.000 indicates that it is significant supporting the model relevant to the study.

Table 4.8 also shows that variables like financial openness, inflation rate, management efficiency and interest trade openness had a positive relationship with credit to GDP ratio as far as their

coefficients were (0.042), (0.001), (0.24), and (0.006) respectively. This indicate that, there was a direct relationship between the above four independent variables and CTGDPR. On the other hand economic growth rate, have a negative coefficient of -0.005781 which indicates that there was an inverse relationship between economic growth rate and CTGDPR. Thus the increase of these variables will lead to a decrease in CTGDPR. In general as per the regression results provided in above table 4.8 shows among the 5 regresses used in the study four of them were significant

Management Efficiency

Management efficiency has a positive and statistically significant impact on banking sector development. The result shows that, a positive coefficient of 0.238558 and significant at 5% significance level (p-value =0.0367). The outcomes imply that, an increase in management efficiency the results increases the banks sector development. The empirical finding of this study is also contrary or contradicts the results of Abreha (2015) who analysed the determinants of banking sector development in Ethiopia and find out that the management efficiency has a negative significant impact on banking development. Furthermore, the finding of Jonth (2013), revealed that the management efficiency has a positive and insignificant impact with development.

Economic Growth rate

EGR was statistically significant at 5% significance level (p-value 0.0006) and has a negative relationship with profitability. The coefficient of -0.0005781 in the regression output indicates that EGR was significant determinant of banks development in Ethiopia under the study period. The results show that one-unit increase in EGR will contribute -0.0005781 unit decreases in credit to GDP ratio. Moreover, higher economic growth leads to lower banks development in Ethiopia. This result is agreed with the studies by Tan et.al, (2012). The negative relationship is in opposite with the findings of (Birehanu, 2012; Amdemichael, 2012; Samuel, 2015; Habtamu, 2012 and Moges, 2017), which stated that positive and significant association among EGR and bank development.

Inflation rate (INFR)

Another important macroeconomic condition that affects banking industry was inflation rate. It had statistically insignificant at 10 %.(p value 0.35) the coefficient 0.001 indicates that, the

inflation affects the banking development positively. When inflation of the countries increases by 1-unit, the other things remain constant the credit to growth domestic product rate will increase by 0.001 units. This may imply that bank management may anticipate the rate of inflation and react accordingly. Consequently banks in Ethiopia tend to be more developing in inflationary environments. The result is in line with the finding of (Athanasoglou, Brissimis and Delis, 2005; Tesfaye, 2014; Moges, 2017; Molyneux and Thornton 1992, and Guru, Staunton and Balashanmugam, 2002) established positive relationship between inflation and banks development. Contrary wise, the studies conducted by Abreu and Mendes (2000) in Europe found a negative relationship between inflation and banks development. According to Samuel (2015) and Amdemichael (2012), inflation is not a significant driver of development of banks.

Trade openness

Trade openness statistically significant at the 5% significance level (p-value 0.001) and have positive relationship with banks development. This direct relationship indicated that when trade openness increases the banking industry also increases. The result is in line with Baltagi, Demetriades & Law (2007) suggest that trade openness is statistically significant determinant of banking sector development. Bourke (1989), Hassan and Bashir (2003), Samuel (2015), of (Gemechu, 2016; Melaku, 2016; Birehanu, 2012; Amdemichael, 2012; Samuel, 2015; Habtamu, 2012; Ermias, 2016 and Athanasoglou et al. 2008) that argues that trade openness has positive and significant impact on banking sector development.

Financial openness

The financial openness results of the regression output shows that, it is significance at 5% significance level (p-value=0.0000) and has a positive impact on credit to growth domestic product. This means, it describes the increase of financial openness was also increase banking industry in Ethiopia. The result of this study is also opposite with the finding of Joe (2017) that argued there is a negative and significant relationship FO and banks development. The result is line with mou and Mendes (2000), SehrishGul et al(2011) and Athanasoglou et al. (2006) gives evidence of positive relationship between FO and bank industry development.

4.7 Summary of Analysis

The following table 4.8 presents the summary of hypothesized expected sign and actual sign for the relationship between the independent variables and banking sector development.

Table 4.9 Description of the variables and their expected relationship

Explanatory variable	Expected impact	Actual impact on CTGDPR
EGR	Positive	Negative and significant
FO	Positive	Positive and significant
INFR	Positive	Positive and insignificant
MGE	Positive	Positive and significant
TO	Positive	Negative and significant

CHAPTER FIVE

5, Conclusion and Recommendation

The above chapter identifies the analysis of the findings and discussions of the study. The aim of this chapter is to discuss the conclusions and recommendations. Accordingly, the chapter is organized in to two sections, the first section presents the conclusions of the study and the second section presents the recommendations provided based on the findings of the research.

5.1 Summary of Finding

The secondary data used in this study covered a period of 10 years from 2008 to 2017. The banks that were sampled were 7 as they provided complete data over the study period. The explanatory variables used in the regression models were mainly financial variable and macro variables. Credit to growth domestic product used as a dependent variable to measure the banking sector development.

According to the regression results, the specific variables except inflation rate (INFR) the other were found to be significant in determining credit to growth domestic product. The results indicate that economic growth rate had a negative and significant impact on banks sector development. This indicates as the increases economic growth rate the banking sector development of the country decrease. The study also found significant positive relationship between financial openness and banks sector development. The regression result showed that trade openness and management efficiency was positive and statistically significant in determining banking sector development.

On the other hand, inflation was insignificant and had a positive influence on banking sector development this indicating that as the rate of inflation is raise, CTGDPR raise. It also indicates that managers are able to estimate inflation and adjust lending rates accordingly.

5.2 Conclusion

The study investigate or examine the determinants that influence and impact on banking sector development and to find out to what a range of values these determinants influence the Ethiopian banking sector. The necessary data was collected from secondary sources. Financial formula was calculated and statistical tools including; (percentages, averages, correlation, descriptive statistics of variance and regression analysis) were utilized in testing the hypotheses. As a result, this

study investigated the effects of internal determinants (MGE) and external determinant (macro variable) banks of Ethiopia over the period 2008 to 2017. Economic growth rate has negative and significant effect on banks sector development. This negative relationship is suggesting that when EGR of the country is increasing banking sector development in the country is decrease. From this result the researcher concludes the bank is losing from large economic growth rate. Therefore, economic growth rate of the bank is an important factor in determining banking sector development in Ethiopia.

Management efficiency has significant positive effect on banks sector development in Ethiopia. According to the result, best performing bank operates at expense. Increasing management efficiency is increasing banking sector development. Therefore the researcher concludes management efficiency is among major determinants of the banking sector development. Financial openness has significant positive effect on banking sector development. Therefore it is direct relationship with banking sector development. So it was major determinants of the banking sector development. Inflation rate was positive and insignificant relationship with banking sector development.

Trade openness has positive significant effect on banking sector development. This positive Relationship is suggesting that when trade of the country is increasing, banking sector development is increase. The banking sector of Ethiopia is still gaining from trade. From this result the researcher concludes the bank is gaining from trade. Therefore, increasing trade strategy in the country is successful in determining banking sector development.

5.3 Recommendation

Economic growth rate was among the main determinants of banking sector development. It is increasing from year to year. EGR increase has negative impact on banking sector development. The banks are decrease development from EGR increasing. The study shows economic growth rate is reaching to uncontrollable size i.e. it is creating diseconomies on banks. The bank has use economic growth by applying new management rather than wait. Therefore banks should not ignore the macroeconomic indicators when strategizing to improve on their development. Thus, banks in Ethiopia should not only be concerned about internal structures and policies, but they must consider both the internal environment and the macroeconomic or external environment together in fashioning out strategies to improve their development.

Future research recommendation

The study required to examine the factors that affect banking sector development in Ethiopia. However, the variables used in the statistical analysis did not include all factors like; Expense Management, bank size, Liquidity Management, Net Interest Margin, Revenue Diversification, Return on Equity, Consumer Price Index, Concentration, Liquidity, Broad Money Supply, Return on Invested Capital and etc that affect Ethiopian banking sector development. In this study analysis method is eview8 software. Thus, future research could incorporate factors that explain in the above and analysis by other method like by stata software.

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Appendixes

Appendix 1 Raw data

Year	ID	CTGDPR	FO	TO	MGE	EGR	INFR
2008	1	0.148714	0.4	8.65	0.12	15.1	22.3
2009	1	0.170318	0.68	27.7	0.3872	14.2	2.706865
2010	1	0.224751	0.96	39.35	0.3897	33.4	7.321393
2011	1	0.324013	1.97	35.95	0.4164	46.1	38.04408
2012	1	0.371969	0.64	33	0.4208	15.5	20.81219
2013	1	0.435577	2.82	30.89	0.3169	21.1	7.390356
2014	1	0.523945	3.34	40.8	0.3023	16.6	8.464137
2015	1	0.305425	2.1	10.3	0.3779	11.2	5.44
2016	1	0.341783	5.58	26.6	0.3381	18.2	7.5
2017	1	0.396989	4.91	22.28	0.504244	20.2	8.8
2008	2	0.148714	0.4	38.65	0.4066	35.1	55.24131
2009	2	0.170318	0.68	27.7	0.421	14.2	2.706865
2010	2	0.224751	0.96	39.35	0.5583	33.4	7.321393
2011	2	0.324013	1.97	35.95	0.5745	46.1	38.04408
2012	2	0.371969	0.64	33	0.398	15.5	20.81219
2013	2	0.435577	2.82	30.89	0.402	21.1	7.390356
2014	2	0.523945	3.34	40.8	0.4331	16.6	8.464137
2015	2	0.305425	4.07	21.3	0.3648	13.4	8.11
2016	2	0.341783	5.58	26.6	0.3192	18.2	7.5
2017	2	0.396989	4.91	22.28	0.389501	20.2	8.8
2008	3	0.148714	0.4	38.65	0.3729	35.1	55.24131
2009	3	0.170318	0.68	27.7	0.4246	14.2	2.706865
2010	3	0.224751	0.96	39.35	0.4995	33.4	7.321393
2011	3	0.324013	1.97	35.95	0.5292	46.1	38.04408
2012	3	0.371969	0.64	33	0.4797	15.5	20.81219
2013	3	0.435577	2.82	30.89	0.4382	21.1	7.390356
2014	3	0.523945	3.34	40.8	0.4681	16.6	8.464137
2015	3	0.305425	1.3	18.5	0.4377	10	4.222
2016	3	0.341783	1.5	16.6	0.4433	8.011	2.33
2017	3	0.396989	4.91	22.28	0.489065	20.2	8.8
2008	4	0.148714	0.4	17.88	0.111	19	30.11
2009	4	0.170318	0.68	12.55	0.5053	4.77	1.75
2010	4	0.224751	0.96	39.35	0.5627	33.4	7.321393
2011	4	0.324013	1.97	35.95	0.6136	46.1	38.04408
2012	4	0.371969	0.64	33	0.4805	15.5	20.81219
2013	4	0.435577	2.82	30.89	0.3845	21.1	7.390356
2014	4	0.523945	3.34	40.8	0.3825	16.6	8.464137

2015	4	0.305425	4.07	35.63	0.3564	23.6	10.44641
2016	4	0.341783	5.58	26.6	0.3319	18.2	7.5
2017	4	0.396989	4.91	22.28	0.577638	20.2	8.8
2008	5	0.148714	0.4	38.65	0.2735	35.1	55.24131
2009	5	0.170318	0.68	27.7	0.3185	14.2	2.706865
2010	5	0.224751	0.96	39.35	0.4416	33.4	7.321393
2011	5	0.324013	1.97	35.95	0.398	46.1	38.04408
2012	5	0.371969	0.64	33	0.312	15.5	20.81219
2013	5	0.435577	2.82	30.89	0.312	21.1	7.390356
2014	5	0.523945	3.34	40.8	0.3804	16.6	8.464137
2015	5	0.305425	4.07	35.63	0.293	23.6	10.44641
2016	5	0.341783	5.58	26.6	0.3279	18.2	7.5
2017	5	0.396989	4.91	22.28	0.589253	20.2	8.8
2008	6	0.148714	0.4	38.65	0.388	35.1	55.24131
2009	6	0.170318	0.68	27.7	0.391	14.2	2.706865
2010	6	0.224751	0.96	39.35	0.5084	33.4	7.321393
2011	6	0.324013	1.97	35.95	0.4626	46.1	38.04408
2012	6	0.371969	0.64	33	0.3763	15.5	20.81219
2013	6	0.435577	2.82	30.89	0.3361	21.1	7.390356
2014	6	0.523945	3.34	40.8	0.2541	16.6	8.464137
2015	6	0.305425	4.07	35.63	0.2893	23.6	10.44641
2016	6	0.341783	5.58	26.6	0.2674	18.2	7.5
2017	6	0.396989	4.91	22.28	0.39375	20.2	8.8
2008	7	0.148714	0.4	38.65	0.3367	35.1	55.24131
2009	7	0.170318	0.68	27.7	0.4047	14.2	2.706865
2010	7	0.224751	0.96	39.35	0.5215	33.4	7.321393
2011	7	0.324013	1.97	35.95	0.4931	46.1	38.04408
2012	7	0.371969	0.64	33	0.429	15.5	20.81219
2013	7	0.435577	2.82	30.89	0.3297	21.1	7.390356
2014	7	0.523945	3.34	40.8	0.3297	16.6	8.464137
2015	7	0.305425	4.07	35.63	0.2653	23.6	10.44641
2016	7	0.341783	5.58	26.6	0.2026	18.2	7.5
2017	7	0.396989	4.91	22.28	0.342679	20.2	8.8

Appendix 2

Regression result analysis

Dependent Variable: CTGDPR
Method: Panel Least Squares
Date: 12/14/20 Time: 00:08
Sample: 2008 2017
Periods included: 10
Cross-sections included: 7
Total panel (balanced) observations: 70

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.012321	0.063588	0.193757	0.8470
EGR	-0.006023	0.001642	-3.666993	0.0005
FO	0.042958	0.006411	6.701006	0.0000
INFR	0.001120	0.001036	1.081204	0.2841
MGE	0.259661	0.125289	2.072500	0.0427
TO	0.007289	0.001539	4.734983	0.0000

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.553320	Mean dependent var	0.324348
Adjusted R-squared	0.468605	S.D. dependent var	0.112570
S.E. of regression	0.082060	Akaike info criterion	-2.007928
Sum squared resid	0.390563	Schwarz criterion	-1.622471
Log likelihood	82.27747	Hannan-Quinn criter.	-1.854820
F-statistic	6.531533	Durbin-Watson stat	1.162252
Prob(F-statistic)	0.000001		

Appendix –3: Tests for Heteroskedasticity: White

Heteroskedasticity Test: White test

F-statistic	7.810835	Prob. F(15,54)	0.0000
Obs*R-squared	47.91573	Prob. Chi-Square(15)	0.0000
Scaled explained SS	7.607047	Prob. Chi-Square(15)	0.9386

Appendix 4: Tests for autocorrelation: Breusch-Godfrey

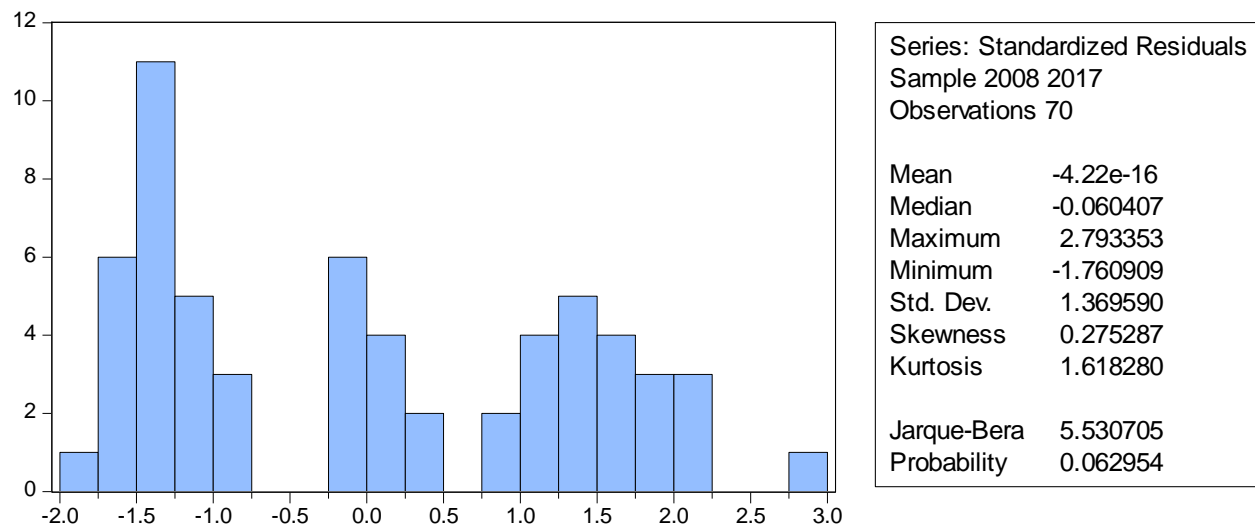
Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.564088	Prob. F(40,24)	0.0083
Obs*R-squared	56.72603	Prob. Chi-Square(40)	0.0417

Appendix-5: Tests for Multicollinearity:

	EGR	FO	INFR	MGE	TO
EGR	1				
FO	-0.17692	1			
INFR	0.6686	-0.37969	1		
MGE	0.3341	-0.14893	0.01805	1	
TO	0.5369	-0.195710	0.33021	0.178172	1

Appendix -6: Tests for Normality: Bera-Jarque test



Appendix -7: Descriptive Analysis

	CTGDPR	EGR	FO	INFR	MGE	TO
Mean	0.324348	24.40000	2.537000	16.67268	0.411643	33.08500
Median	0.332898	20.65000	2.395000	8.632068	0.398000	34.31500
Maximum	0.523945	46.10000	5.580000	55.24131	0.613600	40.80000
Minimum	0.148714	14.20000	0.400000	2.706865	0.254100	22.28000
Std. Dev.	0.112570	9.961200	1.812667	16.18565	0.085693	5.847542
Skewness	-0.017378	0.990670	0.318930	1.465377	0.315089	-0.400383
Kurtosis	2.170342	2.760851	1.671931	3.736649	2.555769	1.973041
Jarque-Bera	2.011159	11.61680	6.331014	26.63492	1.733858	4.946287
Probability	0.365833	0.003002	0.042193	0.000002	0.420240	0.084319

Appendix 8 correlation analysis

	CTGDPR	EGR	FO	INFR	MGE	TO
CTGDPR	1					
EGR	-0.237635	1				
FO	0.5720957	-0.17692	1			
INFR	-0.3165794	0.6686	-0.37969	1		
MGE	0.024981	0.3341	-0.14893	0.01805	1	
TO	0.1485590	0.5369	-0.195710	0.33021	0.178172	1