Impact Assessment of
Bank Credit Availability on Investment Projects
<u>The Case of Ethiopia</u>

In Partial Fulfillment of the Requirements of the Award of Master of Business Administration (MBA)

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<u>Certificate of Originality</u>

This is to certify that the project titled *<u>Impact Assessment of Bank Credit Availability on Investment Projects-the case of Ethiopia</u>* is an original work of the student and is being subtitled in partial fulfillment for the award of the Master's Degree in Business Administration of Indira Gandhi Open National University. This report has not been submitted earlier either to this university or to any other University/Institution for the fulfillment of the requirement of a course of study.

____________________________ ____________________________

Signature of the Supervisor	**Signature of the Student**
Teklegiorgis Assefa	**Berhanu Hailu Gemechu**

Place: _________________________Place:________________________

Date: _________________________Date: ________________________

Dedicated to

My

Wife and Children

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CHAPTER ONE

INTRODUCTION

1.1 Background

Ethiopia(officially named Federal Democratic Republic of Ethiopia-FDRE) is located in the north-eastern part of Africa, commonly known as the Horn of Africa, at the cross-roads between Africa, the Middle East and Asia. The country has a relatively stable political and economic environment.

Ethiopia is endowed with abundant natural resources. Altitude in Ethiopia ranges from 125 meters below sea level in the Danakhil depressions of the Afar region to 4,620 meters above sea level in the Amhara region. Thus, the country has 18 major and 49 sub agro-ecological zones, each with its own agricultural and biological potential. It possesses one of the largest and most diverse genetic resources in the world. Besides, it has the soils and the climate suitable for the production of a variety of food crops.

The country has a large population **of 84.37 million** and thus potentially one of the largest domestic markets in Africa (CSA 2011). By virtue of its membership of the Common Market for Eastern and Southern Africa (COMESA), embracing 19 countries with a population of over 400 million, Ethiopia also enjoys preferential market access to these countries. **(AFDB 2011, World Bank 2011**)

The Ethiopian economy is based on agriculture, which in 2010/11 contributed approximately 41% of the gross domestic product (GDP). The Growth and Transformation Plan envisages that the agriculture sector will continue to be the major source of economic growth and that the sector will grow on average at least by 8.6 percent per annum.

During 2010/11, the country registered 11.4 % real GDP growth rate surpassing the Growth and Transformation Plan (GTP) target of 11 percent. The industry sectors have also registered growth rates above their targets set for the year due to effective implementation of prudent macroeconomic and sectoral policies.(GTP Annual Progress Report 2010/11).

The Ethiopian Government has made commendable efforts, through legislative and procedural reforms, to improve the investment climate of the country and thereby attract more foreign direct and local investment. In line with market-oriented economic policy, the investment regime has been liberalized through a series of Government legislations. Since 1992, the investment code has been revised three times to ensure the participation of more foreign investments in various sectors of the economy.

Currently, the Ethiopia's existing realities reveal that there is an acute shortage of capital. In contrast, the country is endowed with a large number of working age population and a potentially cultivable land although land is still relatively scarce in some part of the country, particularly in the northern and central highlands. It is believed that faster growth and hence economic development could be realized if the country adopts a strategy that helps raise the employability of labor resources and enhance productivity of land resources aimed at capital accumulation.

The major players of allocation of financial resources are financial institutions. Financial institutions include banks, microfinance institutions, insurance companies, credit and saving associations, and others. The major focus of this paper is on commercial and development banks such as private and government owned financial institutions engaged in allocation of financial resources though lending activities.

According to National Bank of Ethiopia, Banks, insurance companies and microfinance institutions are the main financial institutions in Ethiopia. The number of banks operating in the country reached 17 at the end of June 2012 of which 14 banks were privately owned. Recently, two private banks inaugurated making the total number of banks to 19 in number and private banking increased to 16. All of them are licensed to provide lending activities.

The total number of insurance companies operating in the country reached 15 as of June 30, 2012, of which 14 were privately owned. The number of branches increased to 243. On the other hand, there were 31 micro-finance institutions (MFIs) operating in the country.

These lending banking institutions have total branch network of 1289 branches making total bank branch to population to 62,063. In terms of capital, the total banking sector capital was 18.0 billion at the end of June 2012 of which private banks constituted 49.3% of capital of the banking system and the remaining is held by government financial institutions. (NBE 2012).

Total resources mobilized by the banking system (as measured by the sum of net change in deposit, loans collected and net change in borrowings) scalded up by 14.2 percent owing to arise in net deposit and loan collection by 13.1 percent and 34.4 percent, respectively counterbalancing the decline in net borrowing by 55.3 percent during the year 2011/12 (NBE 2012).

Total deposits liabilities of the banking system reached Birr 187.3 billion at the end of the fiscal year 2011/12, indicating annual growth rate 33.3 percent. The growth in deposit mobilization was partially attributed to the expansion of bank branches' and improvements in economic activities.

Disbursement of loans and advances by the financial sector has been increasing from to time. (CSA 2011: Banking and Balance of Payment 2011, Table L18). With the increase in lending activities of financial institutions, it is expected that there is a positive increase in investment activities in the country keeping all other factor unchanged.

Total number of investment licensed showed a growing trend since 1992/3. During year 1992/3, total number of investment licensed were 545 with total investment capital of Birr 3.983 billion as compared to a total of 4,603 investment projects licensed with total investment capital of Birr 113.05 billion during year 2011/12. During year 2011/12, the number of approved investment projects showed 2 percent annual decline.

The financial sector is believed to play a central role in meeting the Ethiopian government's developmental goal of poverty alleviation as well as the private sector growthin investment activities.

Hence, the thesiswill try to explore the impact of availability of financial resources namely loans and advance by Ethiopia Banks and its effect on the investment activities in the context of the country itself.

1.2 Statement of the Problem

Ethiopia, as a poor but growing country, needs adequate credit supply from financial institutions. Among the objectives of financial institutions, provision of financial services and lending activities are the major ones. Financial institutions operating in the country provide credit portfolio under various mechanisms to new investors and expansion of existing investors in the form of long term and short term loans and advances. However, the issue at hand is that the availability of credit not sufficient enough to meet the financing need of investors and are they fulfilling their role as financing investment activities.

Ethiopia's financial sector remains small, fragmented and lacks depth. The financial sector is not able to offer adequate and competitive services on the scale required. This is a major impediment to the expansion of productive activitiesand development of investment. The private sector considers inadequate access to risk capital and credit as major impediments to doing business.

Because of the asymmetry of information regarding the financial positions of enterprises and for lack of risk analysis practices, loans are advanced on collateral of fixed assets which creates bottle neck in the growth of investment activities. As a result of these scenarios, most investment initiatives in the country are not realized to success.

The study will try to explore the following questions:

- Is there a positive co-relation between availability of credit and growth in investment activities in Ethiopia?What is the degree of correlation between the two?
- What is the impact of credit availability on investment?
- Can availability of credit serve as an incentive for promoting investment in Ethiopia?
- What should the role of financial institutions be in promoting investment activities in the country?

1.3 Objective of the study

The general objective of this research is to assess the impact of availability of credit on investment activities in Ethiopia. The specific objectives are:

- To examine the different functions of financial institutions in the country,
- To look at the activities of financial institutions on providing credit in Ethiopia,
- To review and analyses the impact of credit on investment,
- To come up with pertinent conclusion and recommendations.

1.4 Hypothesis

The main hypotheses of the project work that will be tested are:

- There is a relationship between credit availability and investment activities in Ethiopia. There is a positive relation between credit availability and new investment initiatives.
- The number of increased borrowers related to the increased investment actors in the county.

1.5 Significance of the Study

In any country regardless of the level of development, investment activities are the engines of an economy which depends on the availability of financial resources specifically loans and advances. In developing countries like Ethiopia, the growth of investment projects has a tremendous contribution for the economic growth. However, the limited financial resources from formal financial institutions restrict the business investment activity.

The significance of this study could be summarized as follows:

- To strengthen the financial resource allocation of financial institutions to business investment activities that have dynamic impact for economic growth,
- To initiate policy dialog among the concerned institutions and legislative bodies to formulate successful policies and schemes to facilitate the growth of investment projects through provision of loans and advances,

- To pinpoint the access to capital in the main stay of the business community and to highlight that alternative sources of finance should be explored such as stock market /both money market and capital market/
- To give information about the financial resources availability and investment activities in the country.

1.6 Scope of the study

This paper focuses on formal financial institutions engaged in provision of loans and advances and investment activities in Ethiopia.

1.7 Limitation of the study

The main limitation of the study could be shortage of time and money, lack of enough written materials and lack of availability of data because of limited detailed information about financial institutions in Ethiopia. This is because financial institutions keep their information as secrecy as possible from their competitors. In addition due to the poor information disclosure culture of the institutions for academic purpose data might be limited or unavailable at all.

1.8 Organization of the paper

The paper is organized in five chapters as follows: the first chapter consists of the introduction part along with background, statement of the problem, objectives of the study, hypothesis, significance of the study, scope of the study, limitation of the study, methodology, source of data, organization of the paper, expected outcomes. The second chapter deals with review of literature. The third chapter deals with research methodology. The fourth chapter describes the date analysis, interpretation and discussion while the last chapter presents findings, conclusions and recommendations.

1.9Expected outcome

The expected outcomes from this research paper are listed below:

- One can be able to know and understand the role of financial institutions in supporting investment projects,
- One will be able to understand whether the formal financial sector is supporting the country's investment activities through provision of loans and advances,
- Financial institutions will be able to know the significant importance of credit and give them light to expand their lending base,
- Concerned government organs may take lesson from the findings the importance of credit inclusion as investment incentives,
- The study may serve as a reference for providing information about constraints, problems, potentials and solutions in promoting investment by availing credit facilities in Ethiopia.

CHAPTER TWO

LITRATURE REVIEW

2.1 Financial Institutions

Introduction

According to Thankor and Simon, a well-developed financial system goes hand-in-hand with robust economic growth and increased employment. They claimed that the better the financial system functions, the more new companies are launched, the larger the number of publicly listed companies, the better the overall management of risk, the greater the availability of consumer credit, and the higher aggregate investment.

Accordingly, financial institutions are an integral part of financial system. Financial system is a very complex system dealing with a vast variety of financial activities which encompasses financial Institutions, financial markets, financial instruments and the financial services.

Financial Markets and financial Institutions facilitate the functioning of the financial system through financial Instruments. The financial system facilitates economic growth by providing four basic services facilitating trade, facilitating risk management for various individuals and businesses, mobilizing resources; and obtaining information, evaluating businesses and individuals based on this information, and allocating capital (Thakor and Simon, 2011).

It is through the provision of these services that the financial system ensures that investment capital is channeled most efficiently from the providers of capital to the users of capital, so that both the economy and employment grow.

The financial markets also play a very significant role as far as the transfer of funds (financial resources) from surplus sectors to deficit sectors is concerned. This transfer of funds from lenders (surplus sector) to borrowers (deficit sector) is facilitated by banks and non-banking institutions, as well as various other agencies participating in the market.

Financial institutions, thus, are institutions which mobilize financial resources and transfer the savings or funds from surplus units to deficit units. Classification of these institutions are made based on various factor such as based on their role of regulation such as regulatory or non-regulatory, based on their level of intermediation such as intermediaries or non-intermediaries; based on their participation in money and capital markets and others.These institutions unlike commercial organizations deal with only financial resources like deposits, securities, loans, etc.

Our concern in this paper is financialinstitutions which are engaged in the mobilization and allocation of financial resources from the surplus unit to deficit unit and their impact on investment projects in Ethiopia.

- **Meaning, Concept and Classification**

Financial institutions, as defined, above are reclassified in to various categories based on their type participation in money market and capital market. It is common practice to classify banks by the market they serve (Benton E. Gup and James W. Kolari, 2005).

According toIGNOU MBA MS-46 (2011) financial institutions are classified into two categories based on the types of markets they serve. Such as,

2.1.1 Classification base on participation in Money Markets

2.1.2 Classification based on participation in Capital Markets

2.1.1 Classification Based on Participation in Money Markets

Money market consists of specialized sub-markets which deal with specific type of short term funds and instruments. Important among these instruments are treasury bills market, commercial bills market, short term loan market, etc.

Based on participation in money market, these institutions classified in toCentral Bank, Commercial Banks, indigenous financial agencies, discount houses, micro-finance institutions, etc.

- **Central Bank**

It is an apex organ that regulates and makes policy relating to monetary management in the country. It serves as the government bank because it performs the major financial operations of the government. It is one of the major participants in the money market because it also participates in a big way in the market to purchase and sell various securities, specifically those issued by the Government.

The Central Bank plays the following role:

a) By issuing of currency notes,

b) By working as the agent and adviser of the Government specifically concerning to the financial matters, such as loans, advances, servicing of debts, etc. It also performs such functions of the Government Departments, Government Boards and public undertakings. It also makes arrangements to meet the financial requirements; both short term as well as long term in anticipation of the collection of taxes or raising funds from the public. Further, the Central Bank also advises the government in formulation of its economic and financial policies on national as well as international matters.

c) By acting as bankers' bank in the financial market the Central Bank regulates the banking operations in the country. It sets the floor and ceiling of rate of interest for lending and deposit..

d) It maintains adequate foreign exchange reserve for meeting the requirementsof foreign trade and servicing of foreign debts. It also ensures the stability of thecurrency at international level. For these purposes, the Central Bank has toparticipate in a big way in domestic as well as foreign financial markets.

From the above, it is evident that Central Bank of the country plays a significant rolein money market by participating in different capacities.

- **Commercial Banks**

The basic functions of commercial banks are borrowing and lending of money. A major portion of the total operations of the money markets is conducted through thecommercial banks. They borrow money by accepting all kinds of deposits from thepublic at large, repayable on demand or otherwise. These deposits can be withdrawnby cheques, drafts, pay order or otherwise. The banks employ these pooled funds inthe form of loans and advances to those who are in need of them.

The commercial banks assist in mobilizing the public savings which are normally inthe form of small holdings and then combining the same into a huge lot for thepurpose of investment into business sector. These banks meet the shortterm financial needs (working capital needs) of the business firms through themechanism of cash credit, discounting bills, promissory notes, overdraftfacility and other short-term debt instruments.

Besides accepting deposits and granting loans and advances, the commercial banks also provide a range of other services in the capacity of agent, for their clients. They undertake the payment of subscription, insurance premium, rent, royalty, interest dividend, etc. on behalf of their clients. They also collect the amounts arisen due to interest, dividend, rent, salary and wages, commission for their customers. Banks sometimes advise their clients relating to sale and purchase of various securities and in designing their investment portfolio. This service is popularly known as 'Portfolio Management Service'.

- **Indigenous Financial Agencies**

Indigenous financial agencies are important participants in money market, especially in unorganized sector. They comprise of money lenders and indigenous bankers. Money lenders are normally referred to those persons whose main business is to provide financial assistance to rural farmers, artisans and others.

On the other hand, indigenous banker is referred to an individual or private firm receiving deposits and dealing in lending money. However, it is very difficult to draw a line between money lenders and indigenous bankers.

The basic function of these agencies is to provide usually short term loans to both urban as well as rural borrowers.

The main technique of their financing is discounting of bills. Sometime, they also lend money by mortgaging immovable property like houses, land, fixed assets, etc. The rate of interest charged by them is normally very high in comparison to the banks.

As stated above, money lender’s lending policy is flexible and informal which is based upon their personal contacts with the clients. So their policies are not uniform and vary from place to place. Since the loans are provided mostly on the personal security, so the size of loan and the rate of interest to be charged also differ from client to client. In some cases, they charge a very high rate of interest to cover the risk. In brief, indigenous financial agencies provide financial assistance, usually short term, to rural and semi-urban borrowers at the different rate of interest depending upon the personal capability and risk.

- **Discount Houses**

Discount houses are important constituents of the money market. The major function of these houses is to discount trade bills of traders so as to provide adequate liquidity in the market. These houses are normally found in the developed money market, e.g. London Money Market.

Their main activities are concerned with discounting of traders’ bills and so the size of their capital is relatively small. They usually rely on borrowed funds. Discount houses play a significant role in business world specifically in money market. They assist the market making more liquid by discounting the trade bills.

Further, by endorsing these bills, they sell these bills to commercial banks to raise funds so that they can facilitate this service further to the traders. Besides this, they also provide guarantee to the bankers for payment of bills on maturity by the traders.

In case of default, they take the responsibility of payment. In this way, discount houses provide very flexible instrument whereby the bankers are able to adjust their cash positions through these houses.

Besides discounting the trade bills, these houses also deal in short term government securities. These houses also invest in treasury bills, commercial bills, other government securities, bonds and certificates issued by the local authorities and public corporations. Hence, major portion of the earnings of these houses is derived from commission received on discounting of the trade bills and interest accrued on investment.

- **Acceptance Houses**

Another important participant in the money market is Acceptance house. They play a significant role in providing more liquidity in the money market through borrowing short term loans from the banks and lending the same to the traders. In other words, the acceptance houses accept the bills of exchange which are drawn on them either by the seller or the buyer of the goods so that the accepted bill can further be discounted from the discount house.

Acceptance house is an important organ of a developed money market. They not only accept the bills which are drawn on them, but also performs some other functions like normal banking facilities; both domestic and foreign, short term loans to the traders, regulating their clients' open credit, advising on shipping and insurance problems arising out of the financing of trade, etc.

2.1.2 Classification Based on Participation in Capital Markets

Capital market is the place where such financial instruments which provide long term and medium term funds are traded. Various institutions and firms, popularly known as financial institutions, are involved in this process.

2.1.2.1 Banking Institutions and Non-Banking Financial Institutions

This classification is based on the functions of financial institutions in the course of financial resource mobilization and allocation.

- **Banking Institutions**

Banking institutions simply refer to such institutions which accept the deposits from the public and then lend to the borrowing community both for short term, medium and long term financing need of the deficit sector. Banking institutions under this classification are: commercial banks, cooperative banks, micro-finance institutions, land development banks, foreign banks, regional rural banks, etc.

2.1.2.2 Non-Banking Financial Institutions

Non-banking competitors perform many of the functions of banks. Apart from directfinancial resource allocation by collecting deposits and lending to the deficit sector, a lot of activities are performed by other financial institutions which are of non-banking by nature.

These activities include buying and selling of instruments and also create new instruments as per different needs of the savers. The various forms of non-banking financial institutions and their role are described hereunder:

- **Investment Banks**

Investment banking institutions may be defined as financial intermediarieswhich are responsible for gathering the savings of thrifty people and directing these funds into business enterprises. The basic functions of these investment banks are:

- Long term financing of business undertakings,
- Marketing of shares and debentures,
- Acting as security middlemen,
- Advising in marketing of an issue,
- Acting as an insurer instead of outright purchase of security etc.

The functions of investment banks related to the formation of new capital and functions subordinate to capital formation.

The function concerning formation of a new capital is related with the participation in formation of new capital for both new as well as existing undertakings. It includes all such activities like originating, under-writing, purchase and sale of securities, etc. In the second category, it comprises of working as broker or dealer, offering security, counseling, advising, security substitutions and other allied services.

- **Merchant Banks**

Merchant banksare financial institutions providing specific services like acceptance of bills of exchange, corporate issue management, portfolio management services, project counseling and financing, corporate restructuring, etc. The scope of merchant banking activities is too vast.

Basically, merchant banking activity is an institutional arrangement providing financial advisory and intermediary services to the corporate sector. One merchant banker may specialize in one activity only; simultaneously may take up other supportive or complimentary activity.

- **Investment Companies**

These non-banking institutions involve in collecting of funds from the general public (generally house-hold savers) through a specific financial instrument such as shares, debentures, etc. and then invest these pooled funds in the suitable securities depending upon the objective of that scheme. The objective of such investment companies is to get enhanced benefits of large and pooled resources through low risk and expertise.

The major investment type companies include investment trusts, mutual funds, common trust funds of commercial banks, management investment companies, unit trusts, etc.

In brief, investment companies are important participants in the capital markets. They mobilize funds from a large number of investors and channelize the same for productive purpose through financial markets.

- **Insurance Companies**

Insurance companies are part of non-banking institutions because they collect funds in the form of premium from policy holders. Being the custodians of policy holder'ssavings, these institutions have huge investible funds to employ in thebusiness sector.

- **Pension Funds**

Pension funds and retirement plans of all types have become important investors andparticipants in the capital markets recently. These constitute huge investible fundswhich needs judicious selection of investment outlets as per the requirement ofparticular fund or plan. In developed countries, private pension plans or corporatepension funds have become major constituent of the capital market largely in thesecond half of the twentieth century.

In a pension plan, pension holders are providedwith a fixed amount in particular currency each month, often calculated as a multipleof the number of years worked in that organization. Sometimes, the terms andconditions of plan agreements may differ, however, mostly pension payments arefixed for a period of time. Because contributions are usually made by the employers,so they should select such investment outlets which could provide them high rate of return and at the same time are not very risky. It has been observed that assets inpension funds grow over long period because most of the employees who come undera plan are a number of years from retirement. So, for longer period, contributionsmade by those who are employed exceed the payments of those who have retired.

- **Finance Companies**

Another important participant in the capital market is private sector financecompanies. These companies collect funds from the people through shares,debentures, fixed deposits and short term loans from banks and other corporate units.Sometimes, a huge fund is also raised through inter-corporate deposits. In somecases, it is noticed that they raise fund at a very high rate of interest. So, thesecompanies have a quite different liability and capital structure from that of otherpublic financial institutions. Relatively they have large proportion of equity capital.

Most of the finance companies go for financing of consumer durable goods,automobiles, furniture, etc; normally on installment basis. Besides, they also provideshort term business credit to the business firms and professionals. Thus, these financecompanies have to compete with commercial banks and other financial institutionswhich provide such loans.

To summarize, non-Banking Financial Institutions includes investment banks, merchant banks, investment companies, insurance companies, pension funds, etc.

The focus of this thesis is on banking financial institution in the Ethiopian context. The Ethiopian financial sector is dominated by the banking sector. Banks are the important component of any financial system in the country. They play important role of channelizing the savings of surplus sectors to deficit sectors.

In the next section, we look at the role of banking financial institutions.

2.2 Role of Banks

Banks perform several of services to their customers. In broad terms, banks perform functions of intermediation, payments and other financial services (Gup & Kolari, 2005). In other words, the major roles of banks can be classified in to financial resource mobilization, allocation and other services.

2.2.1 Financial Resource Mobilization

The success of banking system greatly lies on the deposit mobilization performance of the bank as the deposits are normally considered as a cost effective source of working fund.

- **Financial Intermediation**

By financial intermediation, banks mobilize financial resources from depositors andlend them to other customers known as borrowers. Similarly, insurance companies, particularly thoseinvolved in long-term life assurance business, collect premiums from policy holdersand invest these surpluses in industrial/commercial activity via the stock market.

The growing size of the financial activity relative to the overall economic activity in aclosely integrated world has implied that disruptions in the financial markets in anyeconomy can engender contagion which can spread rapidly and have adverseeconomic ramifications. So the financial intermediations role played by the financialservices sector is crucially important in mobilizing savings for investment purposes.

- **Deposit Functions**

Banks act as financial intermediaries between those who have money (i.e. savers or depositors) and those who need money (i.e. borrowers). As financial intermediaries, banks enhance economic efficiency and economic growth by allocating capital to its best possible uses. Banks obtain deposit from savers by offering deposit instruments that:

1. Have a wide variety of denominations, interest rates, and maturities,
2. Are risk free (insured), and
3. Have a high degree of liquidity.

These characteristics meet the needs of most savers better than bonds and stocks that may have higher denominations, high risk, less liquidity, and higher transaction costs. Non-banking financial institutions may offer similar services, such as money market funds, but mutual funds are not risk free for they are not insured.

2.2.2 Financial Resource Allocation – Loan Provision

Banks play a prominent role in allocation of resources by facilitating the granting of loans and advances under various time spheres such as short term, medium and long term.

Banks make every type of loans that is legally permissible by the regulatory body such as National Bank of Ethiopia. The activity of financial intermediation between depositors and lenders is crucial to the growth and stability of the economy. Economic growth depends on a large volume of savings and the effective allocation of financial resources mobilized to the productive and profitable uses. By offering depositors financial instruments that have desirable risk/return characteristics, banks encourage savings, and by effectively screening credit requests, they channel funds in to socially productive and profitable uses.

Moreover, banks through their lending activities are able to create new bank deposits and hence increase the country's money supply.

2.2.3 Cash Payment and Other Services

Besides accepting deposits and granting loans and advances, banks also provide a range of other services in the capacity of agent, for their clients. They undertake the payment of subscription, insurance premium, rent, royalty, interest dividend, money transfers, facilitating foreign transaction by settlement of payments, etc. on behalf of their clients. They also collect the amounts arising due to interest, dividend, rent, salary and wages, commission for their customers. These banks also, sometimes, advise their clients relating to sale and purchase of various securities and in designing their investment portfolio. This service is popularly known as Portfolio Management Service.

- **Payments**

Banks are the core of payments system. Payments refer to the means by which financial transactions are settled. Therefore, the means by which such payments are settled is an integral part of the payments system. The Payments system also involves the settlement of credit card transactions, electronic banking, wire transfers and other aspects in the movement of funds.

The role of banks in the payment system takes on important social dimensions because an efficient payment system is vital to economic stability and growth. Savings and loans, savings banks, and credit unions (known collectively along with banks as depository institutions) as well as money market mutual funds and brokerage firms also offer transactions accounts.

Banks along with the Central Reserve System are the heart of the payment system. The payment system can be divided in to retail payment and large amount payment systems.

Retail payment system handles individual transactions for settlement of paper checks, electronic credit/debit cards, and provides currency to businesses and individuals for cash transactions. Large and large payment systems concerned with business, governmental, domestic and international payments and receipts.

Large amount payment system is used by business and governments to handle large amount domestic and international payments and receipts.

- **Other Financial Services**

In addition to their traditional role of providing financial intermediation between depositors and borrowers, commercial banks provide a variety of other financial services.These activities include a variety of commitments and contingent claims that business firms are increasingly demanding, including financial guarantees, loan commitments, standby letters of credit,note issuance facility. In addition, banks are offering various derivative securities services, such as swaps, options, futures and forward contracts, as well as assets securitization, to assist customers in coping with the greater volatility that exists in today's financial markets.

The basic functions of banks as described above are financial intermediation such as loan functions, and other financial services.

This paper focuses on the resource allocation role of banks and the following chapter presents the literature on the financial sector ofEthiopia.

2.3 Financial Institutions in Ethiopia

2.3.1 Introduction

The Ethiopian financial sector is dominated by the banking sector. Banks are the important component of any financial system. They play important role of channelizing the savings of surplus sectors to deficit sectors. The efficiency and competitiveness of banking system defines the strength of any economy. Ethiopian economy is not an exception to this and banking system in Ethiopia also plays a vital role in the process of economic growth and development. The Ethiopian banking system has been regulated for most of its subsistence. The key regulatory features were interest rate regulation, credit restrictions, equity market controls and foreign exchange controls. Although some restrictions are still in operation, regulations, which are affecting banks, are being relaxed after implementing the financial liberalization (1992) measures. Consequently, the private sector financial institutions are growing rapidly yet, major commercial banks and specialized institutions still remain within the public sector. This sectionreviews the structure Ethiopian financial sector and the main features of Ethiopia's financial development prior to 1991, and economic transition and financial reforms undertaken after 1991/92.

- **The Imperial Era (prior to 1974)**

The establishment of the Abyssinian Bank, a private company controlled by the Bank of Egypt, in 1905 marked the beginning of modern banking in Ethiopia. The financial sector was dominated by foreign ownership until the Abyssinian Bank was nationalized in 1931 and renamed the Bank of Ethiopia. Further financial institutions were established during the Italian occupations of the late 1930s. During the Italian occupation, Bank of Italy banknotes formed the legal tender. In 1943, the State Bank of Ethiopia was established, with 2 departments performing the separate functions of an issuing bank and a commercial bank. Under the subsequent British occupation, Ethiopia was briefly a part of the East Africa Currency Board.

The State Bank of Ethiopia operated as both a commercial and central bank until 1963. Prior to January 1964, the State Bank was the Central Bank with the power, as agent of the Ministry of Finance, to issue Bank notes and coins and was the sole authorized dealer in foreign exchange. It was also up to that date that the State Bank was engaged in commercial banking activities. By the Monetary and Banking proclamation No.206 of 1963, the State Bank was dissolved, and the National Bank of Ethiopia and the Commercial Bank of Ethiopia were formed as of 1st January 1984, The National Bank is the Central Bank of Ethiopia and the currency issuing authority, as agent of the Ministry of Finance (CSA, 2011 Section L). The Commercial Bank, as its name indicates, undertakes all general Banking business. The Commercial Bank of Ethiopia S.C. and Addis Bank merged in 1980 by proclamation No.184.

Prior to the emergence of the Marxist government, Ethiopia had several state-owned banking institutions and private financial institutions established during the 1960s. The National Bank of Ethiopia (NBE) (the country's central bank and financial adviser), the Commercial Bank of Ethiopia (CBE)(which handled commercial operations), the Agricultural and Industrial Development Bank (established largely to finance state-owned enterprises), the Savings and Mortgage Corporation of Ethiopia, and the Imperial Savings and Home Ownership Public Association (which provided savings and loan services) were the major state-owned banks. Major private commercial institutions, many of which were foreign owned, included the Addis Ababa Bank, the Banco di Napoli, and the Banco di Roma. In addition, there were several insurance companies. Therefore, the structure of Ethiopia's financial system therefore resembled that of other African countries at this time. All of this changed with the overthrow of the monarchy of Haile Selassie in 1974.

- **The Derg Era (1974 - 1990)**

The 1974 revolution and the subsequent shift to Marxist government brought several major changes to the banking system. In January and February l975, the government nationalized and subsequently reorganized private banks and insurance companies. By the early l980s, the country's banking system included the NBE; the Addis Ababa Bank, which was formed by merging the three commercial banks that existed prior to the revolution; the Ethiopian Insurance Corporation, which incorporated all of the nationalized insurance companies; and the new Housing and Savings Bank, which was responsible for making loans for new housing and home improvement. The government placed all banks and financial institutions under the NBE's control and supervision (NBE, 1996a).The National Bank of Ethiopia regulated currency, controlled credit and monetary policy, and administered foreign-currency transactions and the official foreign-exchange reserves. A majority of the banking services were concentrated in major urban areas, although there were efforts to establish more rural bank branches throughout the country. However, the lending strategies of the banks showed that the productive sectors were not given priority. In l988, for example, about 55 percent of all commercial bank credit financed imports and domestic trade and services.

Agriculture and industry received only 6 and 13 percent of the commercial credit, respectively.

- **Financial Reform period (post 1991)**

Successful reconstruction and development both require financial institutions capable of mobilizing resources, in particular domestic savings, and channeling them into high return investments.

During the era of state socialism (1974 to 1991), Ethiopia's financial institutions were charged with executing the national economic plan; state enterprises received bank finance in accordance with the plan's priorities. This system, based on the template of the Soviet Union, saw little need to develop the tools and techniques of financial regulation and supervision found in market-based financial systems. With the overthrow of the Derg Regime in 1991, Ethiopia began its transition to market economy. This transition has had profound implications for the financial system. New financial institutions have emerged, the role of the private sector in the financial system has been expanded, and the role of the central bank was being reformulated.

The Ethiopian financial sector is still dominated by the banking sector, which accounts for about 78% of total financial sector capital, with remaining assets accounted for by the insurance sector (5%) and microfinance institutions (16%). The Ethiopian banking sector comprises one development bank (DBE), two state-owned commercial banks, namely, Commercial Bank of Ethiopia (CBE) and Construction and Business Bank (CBB), and sixteen private commercial banks. In terms of credit, the banking sector constitutes 99.9% of the total outstanding loans and advances the remaining is constituted by micro finance institutions. (NBE 2012)

The introduction and expansion of private banks in the past decades has coincided with improved banking services, including such features as longer banking hours, ATMs, electronic banking, and improved facilities. Private banks have also been dynamic actors, in that they are not (as is common elsewhere in Africa) reliant primarily on buying government debt and living off its interest; in fact, because lending to government offers such limited rewards in Ethiopia, private banks do virtually none of it, and have focused on fast-growing sectors in the economy. This reflects the liberalization of business licensing which encouraged private-sector growth. The objectives was to bring changes on the supply-side of the loan market paralleled by important changes on the demand side the main indicators being changes in the share of private-sector credit to total domestic credit and CBE's credits to the public-sector. However, it can be inferred that the financial system of Ethiopia is very underdeveloped. There is no stock exchange and of the nineteen banks that exist in the country, 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 loan and saving interest rates and sets them below the high inflation rate.

2.3.2 Current Development of Financial Sector

Banks, insurance companies and microfinance institutions are the main financial institutions in Ethiopia (NBE 2011/12). The number of banks operating in the country reached 19 at the end of April 2013 of which 16 banks are privately owned. The total numbers of bank branches are more than 1289. As a result, the ratio of total bank branch to total population is 62,063 (taking into account total population of 80 million as of June 30, 2012). The number of branches as of June 30, 2011 was970, hence a 33% annual branch expansion.

About 33.4 percent of the total bank branches were located in Addis Ababa, depicting relatively high concentration of branches in the capital. Of the total bank branches, the share of private banks decreased to 47.6 percent from 48.6 percent in the preceding quarter due to the opening of 68 new branches by public banks during the review quarter.

Total capital of the banking system reached Birr 18.0 billion at the end of the fiscal year 2011/12, of which private banks together accounted for49.3 percent. Commercial Bank of Ethiopia, the biggest state owned bank, has 34.6 percent of the total capital of the banking system. As compared to the previous fiscal year, the total capital of the banking sector increased by 13%.

The total number of insurance companies operating in the countryreached 15 during year 2012, of which 14 were privately owned. The number of branches increased to 243 during 2012. About 53.1 percent of the total branches were located in Addis Ababa. On the other hand, there are 31 micro-finance institutions (MFIs) operating in the country. These MFIs mobilized a total saving deposit of Birr 5.5 billion, which was 44.2 percent higher than last year. Similarly, credit outstanding of MFIs scaled up by 32.9 percent on annual basis to reach Birr 9.3 billion. Their total assets also increased by 31.0 percent to Birr 13.3 billion by the end of June 2012.The following table presents the list of banks in Ethiopia along with number of branches and respective capital.

Table 1Capital and Branch Network of Banking System at End of June 30, 2012

Sr. #	Banks	DateEstablished	Number of Branches		Capital	
	Public Banks		2011	2012	2011	2012
1	Commercial Bank of Ethiopia	1963 E.C.	417	559	6262	6231
2	Development Bank of Ethiopia	1901 E.C.	32	32	2179	2540
3	Construction and Business Bank	1975 E.C.	34	84	277	363
	Private Banks					
1	Awash International Bank	1994 E.C.	70	86	1104	1257
2	Dashen Bank	1995 E.C.	65	75	1152	1381
3	Bank of Abyssinia	1996 E.C.	57	61	532	691
4	Wegagen Bank	1997 E.C.	53	60	1093	1269
5	United Bank	1998 E.C.	50	69	748	785
6	Nib International Bank	1999 E.C.	51	58	983	1242
7	Cooperative Bank of Oromia	2004 G.C.	43	51	207	338
8	Lion International Bank	2006 G.C.	30	36	318	357
9	Zemen Bank	2008 G.C.	3	7	193	290
10	Oromia International Bank	2008 G.C.	36	42	265	393
11	Bunna International Bank	2009 G.C.	11	25	220	257
12	Berhan International Bank	2009 G.C.	10	15	138	211
13	Abay Bank S.C	2010 G.C.	8	25	161	250

14	Addis International Bank S.C	2012 G.C.	0	5	117	155
15	Debub Global Bank S.C	20-Apr-12 G.C.	0	na		0
16	Enat Bank S.C	2012 G.C.	0	na		0
	Total		**970**	**1290**	**15,949**	**18,010**

Source: NBE Annual Report, 2011/12 and Private Banks

2.3.3 Activities of the Banking System

The activities of the banking system of Ethiopia include deposit mobilization, provision of loans and advances, and resource allocation as explained in the following section.

2.3.3.1 Resource mobilization

One of the major activities of the banking system in Ethiopia is resource mobilization. Accordingly, total resource mobilized by banking System is measured by the sum of net change in deposit, loans collected and net change in borrowings.

- **Deposit Mobilization**

Total deposit liabilities of the banking system reached Birr 187.3 billion at the end of the fiscal year 2011/12, indicating annual growth rate of 33.3 percent. (NBE 2012) The growth in deposit mobilization was partly attributed to the rise in the number of bank branches opened by commercial banks and improvements in economic activities. Component wise, demand deposits, which accounted for 49.3 percent of the total deposits, reached Birr 92.3 billion, showing annual growth rates of 30.2 percent. Similarly, saving deposits, with44.0 percent share in total deposits increased by 8.0 and 27.8 percent during same period. Time deposits, which constituted 6.7 percent of the total deposit liabilities surged by143.0 percent over same period last year. The share of public banks in total deposits mobilization increased marginally to 68.1percent from 64.5 percent last year, while the share of private banks decreased from 35.5 to 31.9 percent.

2.3.3.2 Provision of Loans and Advances

As part of the resource allocation activity of the banking sector, the Ethiopian banking sector provides fresh loans and advances to the general public for various investment purposes. As per information obtained from NBE, total fresh loan disbursement reached Birr 16.5 billion during the fiscal year 2012, indicating an increase of percent over the same period of last year. Public banks disbursed Birr 13.5 billion (or 82.1 percent) and private banks the remaining balance. About 99.4 percent of new loan disbursement by private banks went to finance private enterprises while public banks financed 57.5 percent. Sector wise, industry was the largest beneficiary (43.4 percent), followed by agriculture (33.1 percent) and housing and construction (7.9 percent). These allocations of resources sector wise can be closely examined from the following table.

Table 2Breakdown of Loans and Advances of Banking System by Clients

(In millions of Birr)

Particulars	Loan Disbursement	% share	Loan Collection	% share	Outstanding Loan	% share
Public Banks	1,3540.2	82.1	6,527.4	58.6	78,005.7	68.0
Central Government*	0.0	0.0	0.0	0.0	2,755.6	3.5
State Enterprise	5,741.2	42.4	711.4	10.9	27,665.6	35.5
Cooperatives	5,111.3	37.7	3,744.3	57.4	13,208.1	16.9
Private enterprises	2,687.6	19.8	2,042.2	31.3	34,100.0	43.7
Inter-bank lending	0.0	0.0	29.4	0.4	276.4	0.4
Private Banks	2,947.4	17.9	4,610.9	41.4	36,740.4	32.0
Central Government*	0.0	0.0	0.0	0.0	1,790.0	4.9
State Enterprises	0.0	0.0	2.7	0.1	293	0.1
Cooperatives	18.0	0.0	49.6	1.1	542.1	1.5
Private Enterprises	2,929.3	9.4	4,558.6	98.9	3,439.1	93.6
Inter-Bank Lending	0.0	0.0	0.0	0.0	0.0	0.0
Grand Total	16,487.6	100.0	11,138.3	100.0	114,746.1	100.0

Source: National Bank of Ethiopia quarterly and annual report, June 2012

2.3.3.4 Outstanding Credit

Total outstanding credit of the banking system (excluding credit to government) increased to Birr 110.2 billion at the end of June 2012, up 41.8 percent higher than last year. Of the total outstanding loan, Birr 34.1 billion (43.7 percent) was claims on private enterprises, 35.5 percent on state enterprises and 16.9 percent on cooperatives (Table 3). Sector wise, credit to industry sector stood first with 30.5 percent share followed by international trade (22.7 percent), agriculture (15.6 percent), housing & construction (11.2 percent) and domestic trade (11.0 percent), refer Table 4.11 above. The share of private banks in total outstanding loan was 32.0 percent. The following table presents summary of loans and advances by Banks and Receiving Sectors –end of June 2012.

Table 3 Summary of loans and advances by Banks and Receiving Sectors –end of June 2012

(In Millions of Birr)

	Public Banks			Private Banks			Total		
Borrowing Sector	D**	C**	O/S**	D**	C**	D**	D**	C**	O/S**
CentralGovernment *	0.0	0.0	2755.6	0.0	0.0	1,790.0	0.0	0.0	4,545.6
Agriculture	5,433.5	3,954.9	16604.1	22.0	97.4	561.5	5,455.5	4,052.3	17,165.6
Industry	6,802.0	1,034.7	28858.8	352.3	515.8	4,698.4	7,154.4	1,550.6	33,557.3
Domestic Trade	84.4	304.6	2307.7	678.2	1742.4	9767.1	762.7	2,047.0	12,074.7
InternationalTrade	110.9	252.5	14949.1	957.3	1369.0	10,066.3	1,068.3	1,621.5	25,015.4
Export	87.2	101.0	6118.5	341.7	570.4	4602.1	429.0	671.4	10,720.6
Imports	23.7	151.6	8830.6	615.6	798.6	5,464.2	639.3	950.2	14,294.8
Hotels andTourism	11.1	30.6	487.7	100.9	75.4	1,162.8	112.1	106.0	1,650.5
Transport &Communication	67.1	191.0	2405.9	283.4	263.8	2,023.0	350.5	454.8	4,428.9
Housing &Construction	849.0	478.3	6667.6	455.0	464.6	5,729.9	1,304.0	942.8	12,397.4
Mines, Power &Water Res.	0.0	0.0	0.0	0.0	1.2	31.9	0.0	1.2	31.9

Source: Commercial Banks and staff computation

Notes: *Refers to government borrowing in the form of bonds and treasury bills from commercial banks and other sectors otherthan NBE

** D = Disbursement, C = Collection, O/S= Outstanding Credit

2.4 Financial Activities of NBE

National Bank of Ethiopian is the major lending institution in financial system to the government and Development Bank of Ethiopia apart from its role of regulating the financial systems of the country (NBE Annual Report 2011/12)

As at June 30, 2012, total claims of NBE on the central government reached Birr 55.6 billion, up by 0.4 percent vis-à-vis same period last year. Of the total loans and advances, direct advance accounted for 83.3 percent and government bonds 16.7 percent. Direct advance remained unchanged compared to the preceding last year, because government's decision nor to borrow from the central bank in view of controlling inflationary pressure. In contrast, NBE's holdings of government bonds slightly declined by 1.4 percent Birr 9.3 billion. Meanwhile, deposits of the central government and financial institutions at the NBE declined to Birr 30.8 billion, down by 24.4 percent compared to the same period last year. Of the total deposits, 33.2 percent was deposit of the central government which declined by 0.7 percent years-on-year. Deposit by financial institutions also dropped by 32.5 percent compared to last year.

Table 4Financial Activities of NBE during year 2011/12

(In Millions of Birr)

Particulars	A	B	C	C/A	C/B
1. Loans and Advances	61, 570. 7	67, 432. 5	68, 064. 5	10. 5	0. 9
1.1. To Central Government	55,320.7	55,562.5	55,562.5	0.4	0.0
Direct Advance	46,265.0	46,264.9	46,264.9	0.0	0.0
Bonds	9,055.7	9,297.5	9,297.5	2.7	0.0
1.2 To Development Bank of Ethiopia	6,250.0	11,870.0	12,502.0	-	5.3
2. Deposit Liabilities	40, 705. 9	30, 147. 3	30, 756. 9	-24. 4	2. 0
2.1 Government	10,290.9	11,962.1	10,218.4	-0.7	-14.6
2.2. Financial Institutions	30,415.0	18,185.2	20,538.5	-32.5 12.9	12.9
O/W:					
-Banks	30,356.7	18,177.0	20,523.5	-32.4	12.9
-Insurance companies	58.3	8.1	15.0	-74.3	84.7
3. Net Claims of NBE	20, 864. 8	37, 285. 2	37, 307. 6	78. 8	0. 1

Source: NBE Annual Report 2011/12

From the above discussion, we can learn that the prevailing instruments for mobilization of capital by the government are treasury bills and corporate bonds.In the next sections, we shall explore the alternative sources of finance available for investment project in Ethiopia.

2.5Ethiopian Financial Market

The financial market in Ethiopia is under developed since there is no stock market, and capital market. The only primary markets instruments prevailing in the market are treasury bills and corporate bonds as explained in the following sections.

2.5.1 Treasury (T) Bills Market

The Treasury Bills is the active primary market instrument in the country in order to mobilize resources for priority sectors identified in the GTP. Tenders are offered periodically by the Central Bank. The government offers 28-day, 91 day and 182-day bills.

The average weighted yield also surged by 51.9 percent on annual basis and reached Birr 1.6 billion as of June 30, 2012 (NBE 2011/12).

2.5.2 Corporate Bond Market

Corporate bond market is not developed in Ethiopia; the big players are few public institutions and regional governments. The purchaser of these bonds is the Commercial Bank of Ethiopia (CBE), the largest commercial bank in the country which is also government owned.

During the FY 2011/12, CBE purchased corporate bonds worth Birr 6.6 billion, of which 76.3 percent were issued by public enterprises and the rest by the Addis Ababa City Administration to finance housing project.

At the end of June 31, 2012, the stock of corporate bonds held by the CBE stood at Birr 61.8 billion, of which 82.2 percent was claims on public enterprises and the remaining balance, on regional states. Corporate bonds issued by EEPCO accounted for 79.1 percent of the total outstanding corporate bond balance and 96.3 percent of the bonds issued by public enterprises. DBE and ETC also raise their investment capital by issuance of corporate bonds.

It is clear that corporate bond issuance is only available for financing government projects and it is not permissible for private sector to issue bonds to raise capital.

Table 5Breakdown of Corporate Bond Market

(In millions of Birr)

Issuer of the Bond	2010/11			2011/12		
	NP	Red	O/S	NP	Red	O/S
Enterprises	2, 800. 0	4, 318. 6	31, 400. 0	4, 318. 6	50, 770. 9	5 61, 786. 7
ETC	0.0	0.0	0.0	0.0	0.0	0.0
DBE	200.0	4,318.6	1,800.0	0.0	4,318.6	1,870.9
2. RegionalGovernments	1, 091. 0	451. 5	8, 858. 3	1, 550. 0	753. 9	11, 015. 8
Oromia	164.0	25.6	2,004.2	0.0	0.4	1993.0
Amhara	169.0	31.4	1,393.1	0.0	329.0	751.1
Tigray	85.0	15.0	774.0	0.0	2.4	721.7
SNNPRS	23.0	52.2	988.8	0.0	29.5	791.5
Dire Dawa	40.0	16.2	213.7	0.0	5.6	210.4
Harari	10.0	16.2	148.9	0.0	14.7	94.8
Addia Ababa	600.0	294.9	3,335.6	1550.0	372.3	6453.4
3.Grand Total(1+2).	3, 891. 0	4, 770. 1	40, 258. 3	6, 550. 0	5, 072. 5	61, 786. 7

Source: NBE Quarterly Report 2011/12

Note: NP= New Purchase, Red. = Redemption, O/S= outstanding

2.5.3. Stock Market

There is no stock exchange and of the nineteen banks that exist in the country, 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 loan and saving interest rates and sets them below the high inflation rate.

2.5.4 Ethiopian Government Saving Bond

The Ethiopian Government Saving Bond isissued by Development Bank of Ethiopia (DBE) to mobilize saving throughout the country. In the places where there are no DBE branches, the Commercial Banks of Ethiopia and Micro Finance institutions are used to sell the bond. At the end of the fiscal year, this bond was renamed as the Grand Ethiopian Renaissance Dam Bond and issued in both domestic and foreign currencies denomination.

Grand Ethiopian Renaissance Dam Bond are issued in both domestic and foreign currencies denomination for the purpose of financing the investment in construction of the Grand Ethiopian Renaissance Dam.

2.5.5 Housing Saving scheme

This is a special saving scheme that would facilitate low income citizens to have their own house. Citizens will be encouraged to save at least 40 percent of the money needed to build the house and then 60 percent will be availed by Commercial Bank of Ethiopia (CBE). Currently, CBE and Ministry of Urban Development and Construction are working on the details of the implementation modalities of the program. (GTP2010/2011).

2.5.6 Saving Scheme for Capital Investment

This scheme is designed to alleviate investment capital problems associated with micro, small and medium enterprises in acquiring machinery and equipment so as to achieve the GTP targets of industrial development. The scheme is similar to the housing saving scheme and it will be implemented along with the housing program by the CBE.

2.5.7 Social securities (Pension Fund and Provident Fund)

In addition to providing social protection and safety nets, social security schemes play an important role in encouraging savings and thereby fostering sustainable economic development. The government has introduced a social security system that encompasses both public and private sector employees (GTP Annual Progress Report 2010/11).

From the above presentation it is obvious that the major source of finance of investment projects in the country iscommercial banks, and the Government has introduced various schemes for mobilization of deposit and financial resources for financing investment programs in accordance with the Growth and Transformation Plan.However, the private sector is excluded from mobilization of financial resources through these schemes or mechanisms.

Before we explore the inter-relationship of the availability of credits (i.e. loans and advances) with investment projects, let us first look at the type and nature of investment projects prevalent in the Ethiopian economy.

2.6 Investment Activities in Ethiopia

Ethiopia has made a considerable progress in economic and social development since 1992 as a result of the implementation of favorable policies and strategies that are instrumental in improving the national economy (GTP Annual Progress Report, Nov. 2010). The Rural Development Policy and Strategy, the Industrial Development Strategy, and other sectoral policies and strategies have initiated a new push towards creating frameworks conducive to economic and social development.

The Rural Development Policy and Strategy, which is under implementation in the country, underlines that agriculture-led development will bring about fast economic growth, enable its people become beneficiary of economic growth, and lay solid foundation for industrial development (Ethiopia Investment Guide 2012).

The Industrial Development Strategy focuses on export manufacturing with priority given to textile and garments, leather and leather products, agro-processing, and small and micro-enterprises.

The Government of Ethiopia, in recognition of the role of the private sector in the economy, has revised the investment law over three times for the last twenty years (1992-2012) to make it more transparent, attractive and competitive. Major positive changes regarding foreign investments have been introduced through Investment Proclamation No.280/2002 and Regulations No.84/2003. (Ethiopian investment Agency 2012).

As a result of the implementation of these policies and strategies, agricultural and industrial production, investment and export trade are growing steadily from year to year both in terms of variety and volume. Export earnings fromCoffee (9.0), oilseeds (44.1), pulses (66.7

percent), fruits and vegetables (17.9 percent), live animals (2.9 percent), Gold (14.5 percent), flower (10 percent) and overall growth is 13.0 percent have been achaived in 2011/12 from the previous fiscal period. (NBE 2012)

Due to the investment-friendly environment created in the country, the inflow of foreign direct investment (FDI) has been increasing over the last twenty years. Accordingly, out of the total investment projects licensed between 1992- 2012, FDI's share is about 15.71 percent. The following table presents investment projects by sector at the end of June 30, 2012.

Table 6 InvestmentDistributions by Sector – June 2012

Sector	No. of Projects	Share [%]	Capital(in Million Birr)	Share [%]	Perm. Emp.	Share [%]	Temp Emp.	Share [%]
Agriculture, hunting & forestry	109	10	795	6	2,225	11	25,803	57
Mining and quarrying	1	0	40	0	40	0	60	0
Manufacturing	219	20	6,980	54	10,326	51	8,877	20
Education	12	1	62	0	354	2	138	0
Health	6	1	574	4	448	2	85	0
Hotels (Including Resort Hotels, Motels and Lodges) & Restaurants	41	4	822	6	1,343	7	1,039	2
Tour Operation, Transport and Communication	21	2	64	0	225	1	328	1
Real Estate, Machinery and Equipment Rental and Consultancy Service	592	53	2,218	17	2,886	14	2,901	6
Construction Contracting Including Water Well Drilling	114	10	1,241	10	2,095	10	4,260	9
Wholesale, retail trade & repair service	1	0	9	0	12	0	22	0
Other*	6	1	171	1	150	1	2,010	4
Grand Total	1, 122	100	12, 976	100	20, 104	100	45, 523	100

Source: Ethiopian Investment Agency

* Gymnasium and Recreation center

Given the above investment scenario, Ethiopia still remains an untapped and unexploited market for investors. China, India, Sudan, Germany, Italy, Turkey, Saudi Arabia, Yemen, the United Kingdom, Israel, Canada and the United States are the major sources of FDI.

Ethiopian government has formulated the five year Growth and Transformation Plan (GTP) to carry forward the important strategic directions in maintaining a fast growing economy in all sectors.

Accordingly, Ethiopia's economy is projected to grow at an average growth rate of 11.2 percent and real GDP is planned to attain the 11.5% growth rate by the end of year 2015.(GTP PP 41).Investment in agricultural sector has been envisaged to be the primary engine of growth by encouraging private investment in the agricultural sector and provide better support for large scale agricultural investments.

The Ethiopian government is also keen in investment and expansion of services in the effort to support the development of the agriculture sector and ensuring accelerated and better growth in industrial sector by creating appropriate environment to make the sector a base for the next country economic development in a step by step manner and to make the sector to contributes its share in solving the country's shortage of foreign currency.

It is obvious that in order to meet the growth and transformation plan, apart from other factors, availability of credit is a crucial element.

In the subsequent sections, we shall explore the inter-relationship between the availability of credits (i.e. loans and advances) with investment projects in Ethiopia.

CHAPTER III

RESEACRCH METHODOLOGY

3.1 Description of the Study Data

The main focus of this paper is on bank credit and investment inEthiopia. Availability of financefor investment projects in Ethiopia goes in line with the major objectives of establishment of banks.The role of banks in providing short, medium and long term financing for investment projects need to be examined to justify that the banking sector is fulfilling its objectives; and if investment activities are being enhanced.

The only source of finance for investment projects in the country is the banking sector which constituted 16 private financial institutions and 3 governmental institutions. Credit is made available from these institutions in the country. In the following section, we shall examine twenty years data (1992/93-2011/12) of the loan provision by the banking sector as well as investment activities.

3.2 Types and Sources of Data

The data type employed in this study is mainly collected from secondary sources. This is because it is difficult to find primary data from financial institutions since there is a problem in information sharing and most banks and investors are not willing to disclose their financial structure of investment activities. Moreover, the study is designed to comprise country wide research but there are shortages of money which restrict the paper to focus on secondary sources.

The sources of data are:

1. Published documents from National Bank of Ethiopia –annual, quarterly and periodic reports, proclamations, directives, etc;
2. Quarterly and annual reports of private and government banks engaged in lending activities in Ethiopia,
3. Period publications, reports, etc. of Ethiopian Investment Agency, and Ethiopian Customs Authority
4. Various Publications from African Development Bank, World Bank, etc.

3.3 Method of Data Collection

The research is designed to undertake analysis of the role bank /private and governmental/ in investment promotion. To do this secondary data are employed for empirical analysis. The data will be found from National Bank of Ethiopia, private and governmental banks, and Ethiopian Investment Agency library and documentation offices. Hence, the data is collected from the above sources through reading and referring of documents and official publications.

3.4 Method of Data Analysis

The data collected are finally analyzed through different quantitative and qualitative methods. But specifically the main method of analysis to show the role of banks in investment activities is simple regression model.

Model specification:

$$y = \alpha + \beta x,$$

$$r^2 = \frac{\hat{\beta}\sum xy}{\sum y2}$$

Y mean= $\hat{\alpha} + \hat{\beta}$

X_i =Total amount of loans and advances of bank

=Independent variable

r^2 = Co-efficient of determination

Y mean = Estimate of the expected or mean value of Y

$\hat{\alpha}$ = Interception of the equation=a

$\hat{\beta}$ = Slope of the regression equation=b

3.5 Testing for the Significance of the Correlation Coefficient

Once the correlation coefficient has been calculated from sample data one is normally interested in asking the question: Is there an association between the variables? Or with what confidence can we make a statement about the association between the variables?

Such questions are best answered statistically by using one of the following two commonly used procedures:

i) Providing confidence limits for the population correlation coefficient from the sample size n and the sample correlation coefficient r. If this confidence interval includes the value zero, then we say that r is not significant, implying thereby that the population correlation coefficient may be zero and the value of r may be due to sampling variability.

ii) Testing the null hypothesis that population correlation coefficient equals zero vs. the alternative hypothesis that it does not, by using the t-statistic.

The approach for testing the significance of r is to use the formula

$$t = \frac{r}{\sqrt{(1-r^2)/(n-2)}}$$

Apart from the above model the following quantitative techniques will be employed in the analysis part.

- Correlation technique to show the relationship between credit portfolio (independent variable) and total investment

- t test and F test to test the hypotheses that "are loan amount and investment related?"
- Descriptive statistic (mean, and variance),
- Simple percentage, ratios, graphs, and charts.

CHAPTER FOUR

DATA COLLECTION AND ANALYSIS

In the Ethiopian financial sector, there are 19 banks including three governmental owned and 16 private institutions which are the major source of finance for investment project. The following table presents the existing list of these banks.

Table 7 List of Banks in Ethiopia

	Bank Name	Web Site	Year Est.
1	Development Bank of Ethiopia	http://www.dbe.com.et/index.htm	1909
2	Commercial Bank of Ethiopia	http://www.combanketh.et/	1963
3	Construction and Business Bank	http://www.cbb.com.et/Index.html	1983
4	Awash International Bank	http://www.awash-international-bank.com/	1994
5	Bank of Abyssinia	http://www.bankofabyssinia.com/	1996
6	Wegagaen Bank	http://www.wegagenbanksc.com/	1997
7	United Bank	http://www.unitedbank.com.et/default.aspx	1998
8	Nib International Bank	http://www.nibbank-et.com/index.php	1999
9	Dashen Bank	http://www.dashenbanksc.com	2003
10	Lion International Bank	http://www.anbesabank.com/	2006
11	Oromia International Bank	http://www.orointbank.com/	2008
12	Bunna International Bank	http://www.bunnabanksc.com/	2009
13	Zemen Bank	http://www.zemenbank.com/	2009
14	Abay Bank S.C.	http://www.abaybank.com.et/	2010
15	Berhan International Bank	http://berhanbanksc.com/	2010
16	Addis International Bank	http://www.addisbanksc.com/	2011
17	Cooperative Bank of Oromia	http://www.coopbankoromia.com.et/	2011
18	Debub Global Bank	http://www.debubglobalbank.com/	2012
19	Enat Bank		2012

Source: NBE and own compilation from respective banks websites

4.1Loans and Advances Granted (outstanding credit)

As of June 30, 2012, the total amount of outstanding loans and advances was Birr 110.2 billion as compared to Birr 77.69 billion as of last year of the same period with a 42% annual growth rate, the highest growth rate over the last 25 years.The following table presents outstanding credit balances over the last 25 years.

Table 8 Total Amount of Loans and Advances of Banks (Xi) for the last 25 years

Year	Outstanding Credit in millions of Birr	Growth Rate
1988	5058	-
1989	5611	11%
1990	6159	10%
1991	6566	7%
1992	6,774.50	3%
1993	7,994.80	18%
1994	7,025.30	-12%
1995	9,077.70	29%
1996	12,185.60	34%
1997	13,372.70	10%
1998	15,435.10	15%
1999	18,270.60	18%
2000	19,680.10	8%
2001	24,976.60	27%
2002	26,432.70	6%
2003	28,399.00	7%
2004	25,248.90	-11%
2005	29,026.20	15%
2006	40,453.30	39%
2007	44,317.50	10%
2008	48,241.80	9%
2009	51,633.50	7%
2010	62,280.70	21%
2011	77,690.50	25%
2012	110,200.60	42%
Average	**28,084.46**	**14%**

Source: National Bank of Ethiopia various annual and quarterly publications

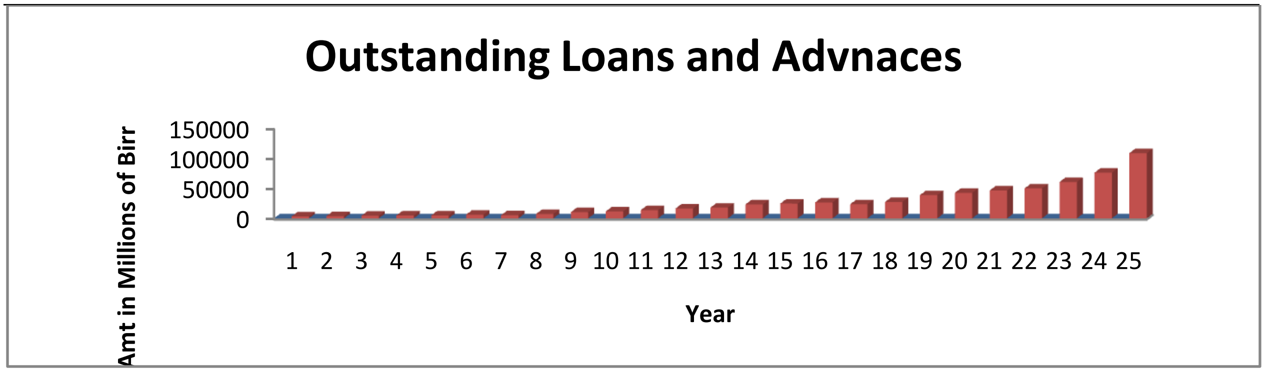


Chart 1Outstanding Loans and Advances for the Last 25 years, 1988-2012

As we can observe from the above information, availability of credit as measured by outstanding loans and advances has been increasing for the last twenty years. The average annual growth rate is 14% for the last 25 years.

4.2 Investment Projects

In the country there are various investment projects classified in to different categories and sectors. For our purpose, classification base on ownership is applied since the same classification of presentation is preferred both by NBE and EIA. Accordingly, investment projects are classified in to domestic projects, foreign projects and public projects. These investment projects can also be reclassified in to new projects, expansion projects or rehabilitation.

The major source of information is Ethiopian Investment Agency and NBE. As per information collected from NBE and EIA, the following table presents domestic, public and foreign projects classified by year, number of projects and capital for the last twenty years.

Table 9 Investment ProjectsLicensed during the year 1992/93-2011/12

Fiscal Year	Domestic projects		Foreign Projects		Public Projects		Total Projects	
	Number	Capital	Number	Capital	Number	Capital	Number	Capital
1992/93	542	3,750	3	233	-	-	545	3,983
1993/94	521	2,926	4	438	1	57	526	3,421
1994/95	684	4,794	7	505	2	39	693	5,338
1995/96	897	6,050	10	434	1	6	908	6,490
1996/97	752	4,447	42	2,268	1	7	795	6,722
1997/98	816	5,819	81	4,106	1	14	898	9,939
1998/99	674	3,765	30	1,380	9	4,915	713	10,060
1999/00	561	6,740	54	1,627	9	5,760	624	14,127
2000/01	635	5,676	45	2,923	7	257	687	8,856
2001/02	756	6,117	35	1,474	10	1,599	801	9,190
2002/03	1,127	9,363	84	3,369	6	706	1,217	13,438
2003/04	1,862	12,178	347	7,205	16	1,837	2,225	21,220

2004/05	2,240	19,572	622	15,405	10	1,486	2,872	36,463
2005/06	5,100	41,841	753	19,980	6	18,215	5,859	80,036
2006/07	5,322	46,630	1,150	46,949	-	-	6,472	93,579
2007/08	7,307	77,868	1,651	92,249	3	262	8,961	170,379
2008/09	7,184	83,630	1,613	73,111	10	82,784	8,807	239,525
2009/10	5,080	40,852	1,413	55,169	3	394	6,496	96,415
2010/11	5,360	42,093	952	53,357	10	154,019	6,322	249,469
2011/12	40,70	41,008	531	69,761	2	2,277	4,603	113,046
Average Annual	**2,496**	**23,256**	**471**	**23,774**	**5**	**13,732**	**3,051**	**59,585**
Cumulative	**47,420**	**465,117**	**9,427**	**451,710**	**107**	**274,633**	**61,024**	**1,191,696**

Source: NBE and Ethiopian Investment Agency

Since year 1992/93, the number and capital of total investment projects has been increasing form time to time. For the last twenty years, the average annual number of projects is 3,051 and in terms of capital the average amount of investment capital is Birr 59.6 billion.

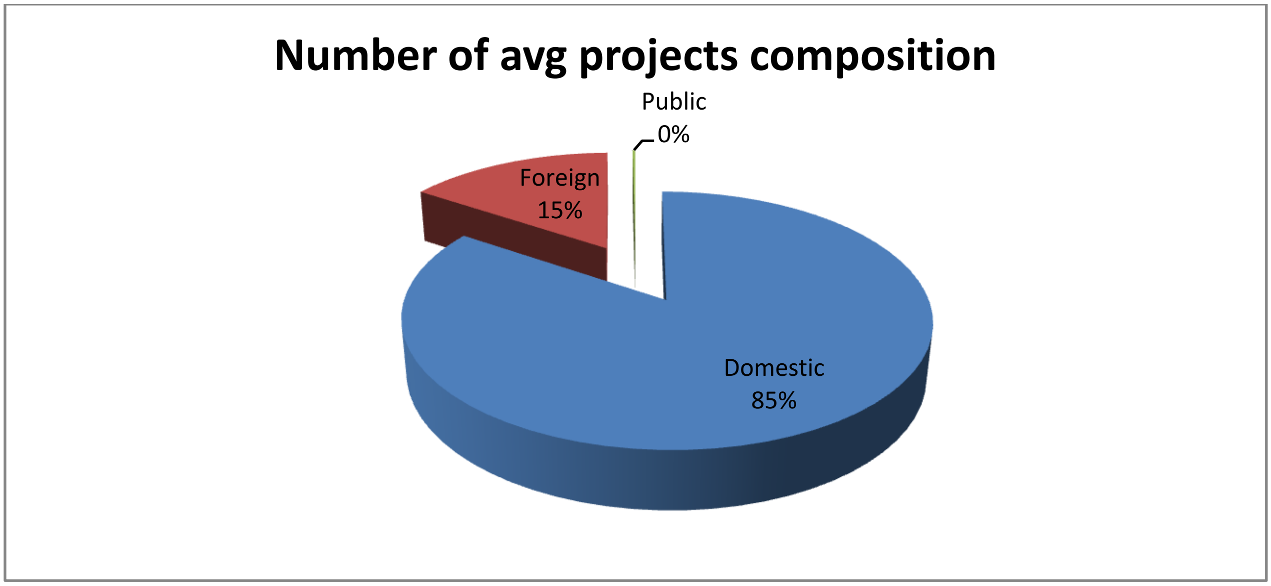
In terms of composition, domestic investment is the highest in number throughout the year but in terms of capital foreign investment was the highest during year 2011/12 representing 62% of total investment capital. Considering the average composition, domestic foreign and public investment constituted 39%, 38% and 23%, respectively in terms of capital. The highest average number of investment is also recorded by domestic investors, i.e. 84.4%, followed by foreign investment (15.4%) and the least average number of investment during the last 20 years is scored by the public investment projects (0.2% of the total).

From this analysis, we can conclude that the domestic investors are significant in average number of projects and capital followed by the foreigninvestors. This fact can be understood by studying the following table of composition and pie charts.

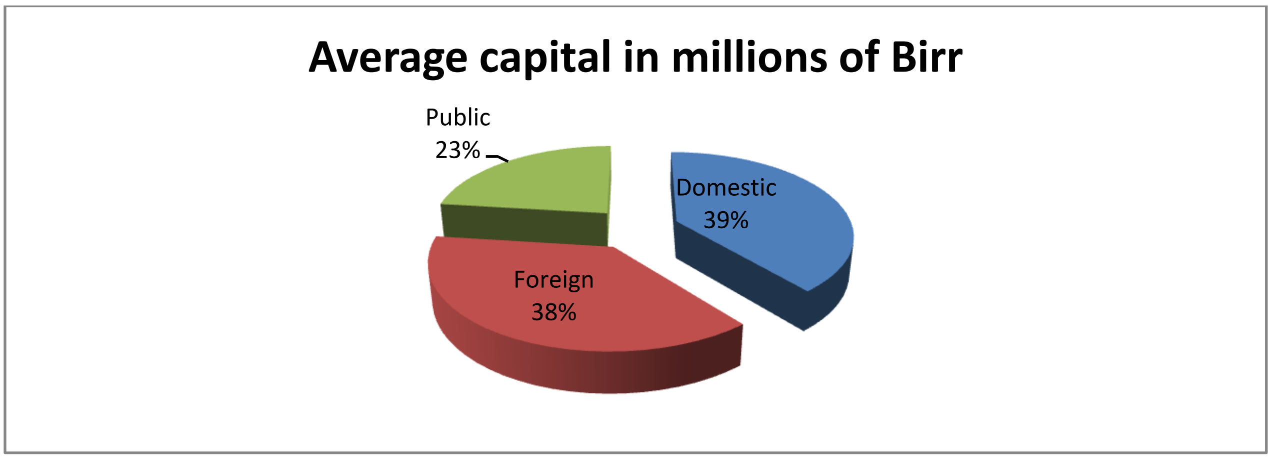
Table 10 Investment Projects: composition in terms of number and Capital

Description	Types of Investment			
	Domestic	Foreign	Public	Total
Averagenumber of projects per annum over the last twenty years	2,575	471	5.0	3,051
%age of average composition	84.4%	15.4%	0.2%	100%
Average growth rate (last 20 yrs)	375%	15612%	440%	490%
Average capital in millions of Birr	23,256	22,597	13,731.7	59,58100%
%age of average composition	39%	38%	23%	

Source: own computation



Pie Chart 1 Average Distribution of Number of Projects



Pie Chart 2 Average Distribution of Projects Capital

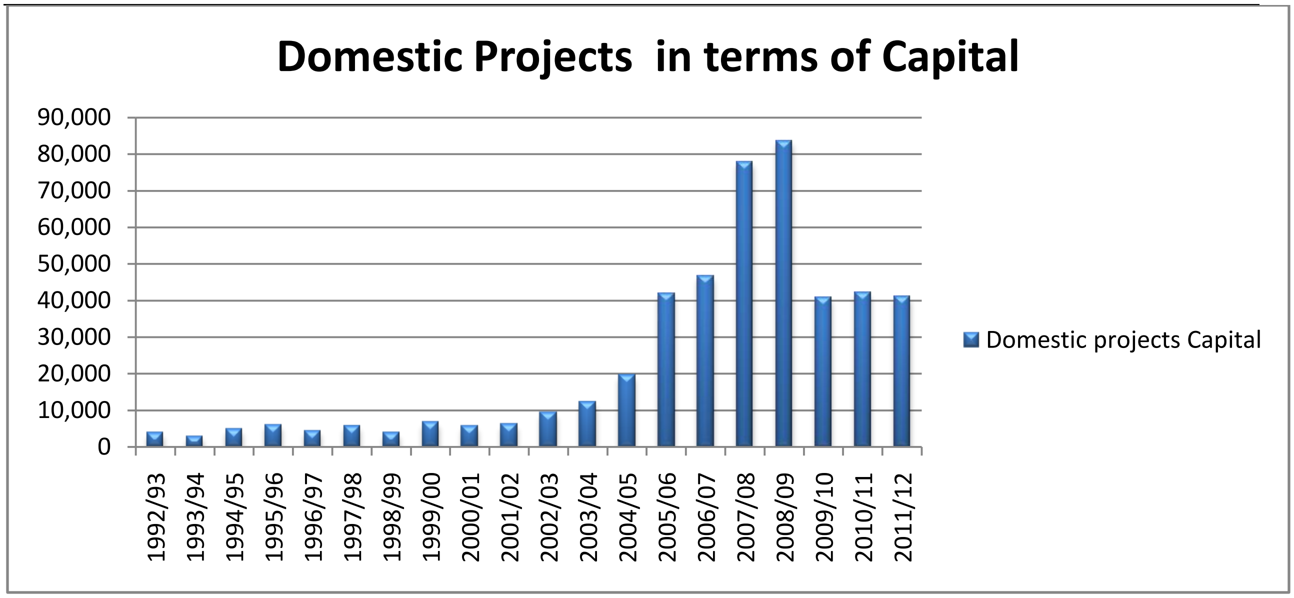


Chart 2 Domestic Investment Projects: 1992-2012

Domestic investment project reached its pick in 2008/9 and then declined in the subsequent years.

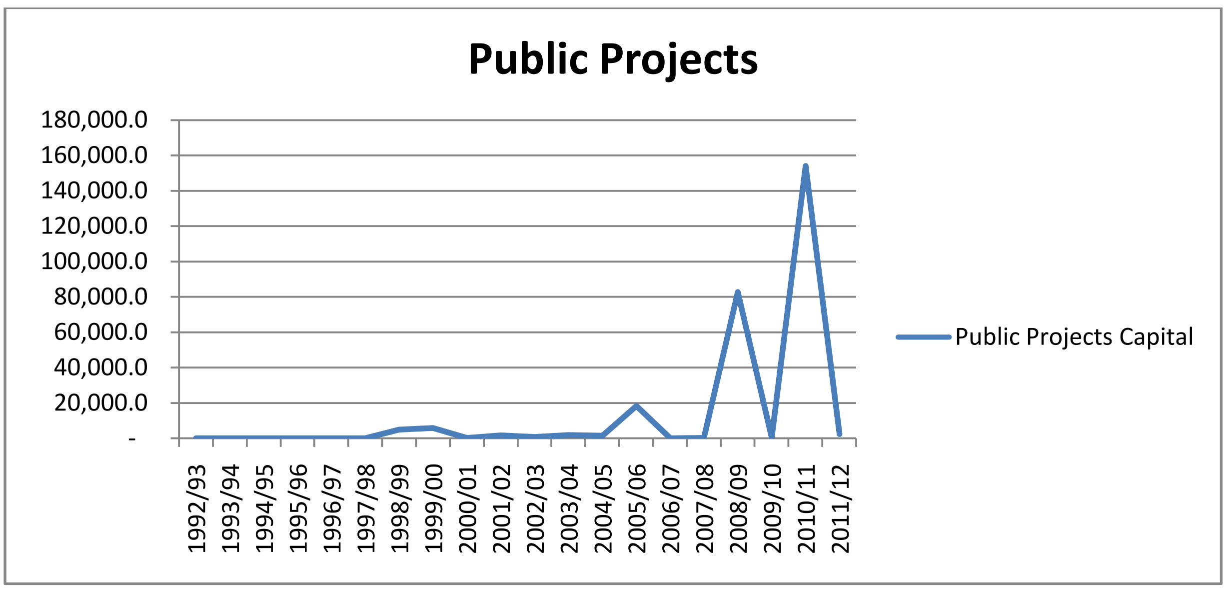


Chart 3 Trends in Public Investment Projects – 1992-2012

Investment by the government of Ethiopia was the highest during the year 2010/11 but the trend is erratic. The average growth rate in this sector is the average investment capital over the review period of 1992/3-2001/12 is Birr 13.7 billion with average annual growth rate of 5343%. The average number of public project growth rate is 57%. Hence, the overall trend reveals an increasing trend.

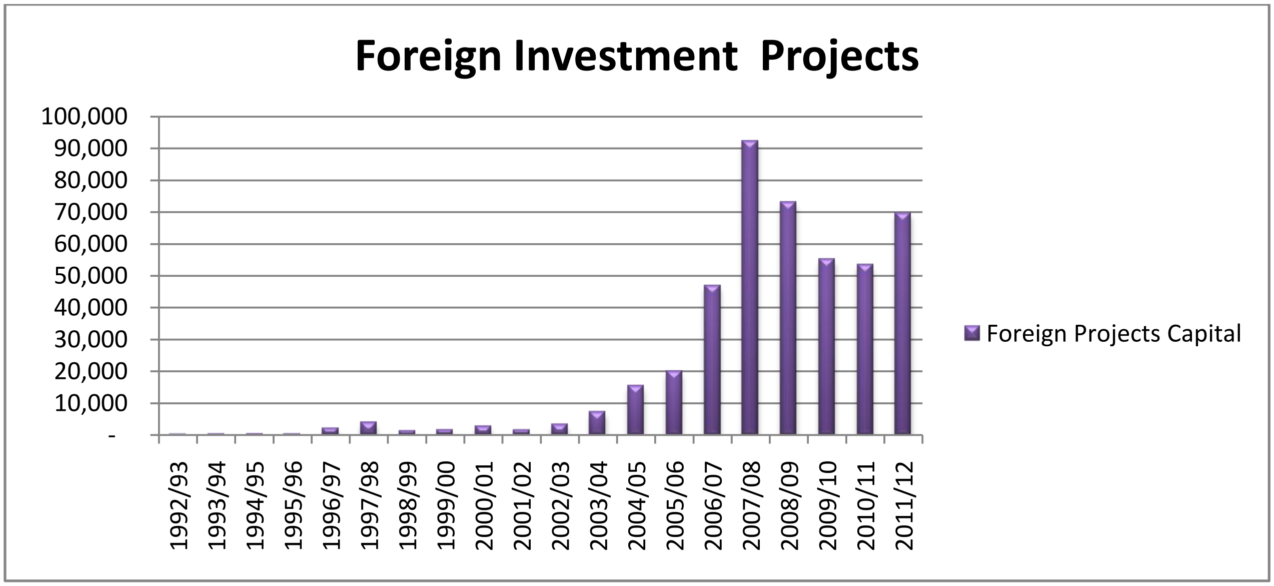


Chart 4 Trends in Foreign Investment Projects: 192-2012

As indicated in the above chart, it is only after 2002/3 fiscal year that significant foreign investors initiated to emerge and consistently participate in the investment endeavor of the country. The highest foreign investment was observedin year 2007/8 but declined then after until is showed some favorable trend during the year 2011/12. The average amount of investment during the last 20 year is Birr 22.6 billion with average growth rate of 59%.

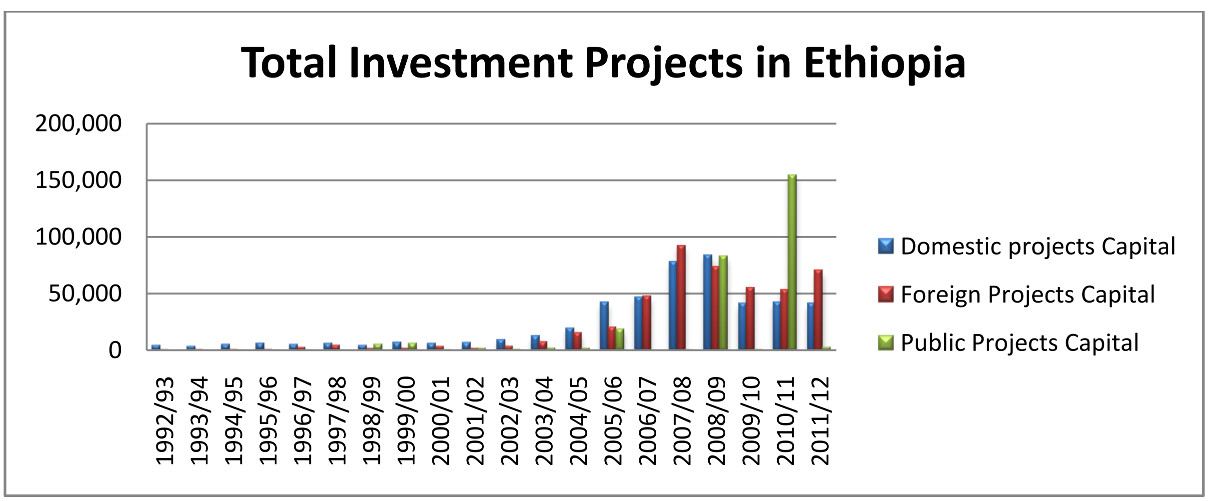


Chart 5 Trends in Investment Projects in Ethiopia: 1992-2012

Considering the total investment, public projects investment capital exceeded the foreign and domestic investment during the year 2010/2011. This is the unusual trend and the scenario was not continues in the subsequent year of 2011/12.

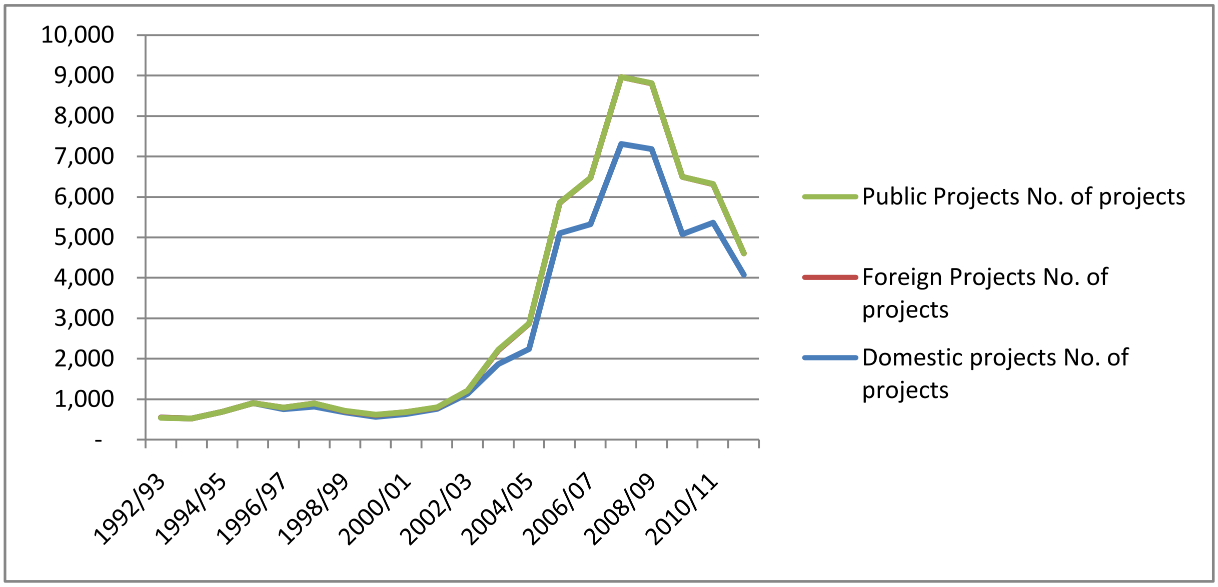


Chart 6 Growth in Number of Investment Projects

According to Ministry of Finance and Economic Development in its Growth and Transformation Plan (2010/11-2014/15) Annual Progress Report for F.Y. 2010/11, the Ministry claims that the improvement in investment may be attributed to:

1. the policy reforms undertaken,
2. improvement in accessibility of financial services in urban and rural areas,
3. conducive investment climate,
4. application of several incentive schemes at various levels, and
5. acceleration of privatization and improvements in land delivery.

Furthermore, huge capital spending made by the government on a series of public infrastructure has contributed far for the expansion of investment during year 2010/11.

Then, accessibility of financial services in urban and rural areas is considered as one of the many factors that need to be improved for the improvement and enhancement of investment activities in the country, Keeping all other factors unchanged, we shall now examine the correlation that existsbetween investment activities and the availability of financial resources such as loans and advances from the formal banking sector in the Ethiopia.

In order to explore the degree of dependence of investment activities on the availability of credit, the following information has been collected from various publicized sources such as Ethiopian Investment Authority, National Bank of Ethiopia, Ministry of Finance and Economic Development, and annual reports of financial institutions. The outstanding credit balance collected includes those loans and advances granted by banks only.

The twenty years data collected is presented in the following table identifying investment projects as dependent variable (Y_i) and credits as independent variables (x_i).

Table 12 Outstanding Credit and Capital of Approved Investment Projects

Year (End of Reporting Period)	Outstanding Credit in millions of Birr (Xi)	Investment Projects (Yi) Millions of Birr
June 2012	110,200.6	113,046
June 2011	77,690.5	249,469
June 2010	62,280.7	96,415
June 2009	51,633.5	239,525
June 2008	48,241.8	170,379
June 2007	44,317.5	93,579
June 2006	40,453.3	80,036
June 2005	29,026.2	36,463
June 2004	25,248.9	21,220
June 2003	28,399.0	13,438
June 2002	28,399.0	9,190
June 2001	24,976.6	8,856
June 2000	19,680.1	14,127
June 1999	18,270.6	10,060
June 1998	15,435.1	9,939
June 1997	13,372.7	6,722
June 1996	12,185.6	6,490
June 1995	9,077.7	5,338
June 1994	7,025.3	3,421
June 1993	7,994.8	3,983

Scattered Diagram

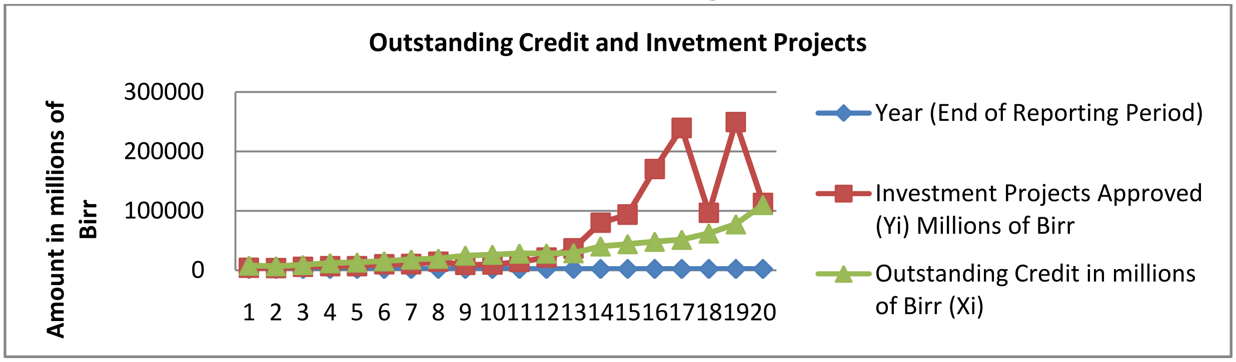


Chart 7 Trend in Investment Projects and outstanding credit in Ethiopia: 1992-2012

4.3 Data Analysis

For convenience of analyzing the data, the following dependent and independent variable representations are made.

- Yi =Capital of Investment project in millions of Birr =Dependent variable
- Xi= Loans and advances outstanding in millions of Birr = Independent variable

The scatter diagram exhibits some positive kinds of relationship patterns, indicating correlations between these two variables as shown in the Figure.

What we shall examine next is a precise and quantitative measure of the degree of association between the two variables and the correlation coefficient

4.3.1 Determination of Correlation

Taking into account the outstanding loans and advances (X_i) and capital of investment projects (Y_i) of a the country for the last 20-year period shown in above following Table , we proceed to determine the correlation coefficient between these variables.

Table 13 Computation of Correlations

Year	Investment Projects in Millions of Birr (Yi)	Outstanding Credit in millions of Birr (Xi)	x=Xi-Ẋ	y=Yi-Ȳ	y^2	x^2	xy
1993	3,983	7,995	-25,760	-55,602	3,091,560,163	663,569,872.02	1,432,294,027.73
1994	3,421	7,025	-26,730	-56,164	3,154,372,430	714,484,881.02	1,501,249,949.43
1995	5,338	9,078	-24,677	-54,247	2,942,715,310	608,946,925.92	1,338,640,146.58
1996	6,490	12,186	-21,569	-53,095	2,819,057,787	465,215,290.32	1,145,193,776.98
1997	6,722	13,373	-20,382	-52,863	2,794,475,624	415,419,809.42	1,077,441,660.18
1998	9,939	15,435	-18,320	-49,646	2,464,705,458	335,616,904.02	909,503,609.13
1999	10,060	18,271	-15,484	-49,525	2,452,705,815	239,749,610.82	766,834,574.48
2000	14,127	19,680	-14,075	-45,458	2,066,411,581	198,101,402.52	639,811,716.33
2001	8,856	24,977	-8,778	-50,729	2,573,411,149	77,050,650.62	445,289,797.08
2002	9,190	26,433	-7,322	-50,395	2,539,635,867	53,609,487.42	368,983,166.38
2003	13,438	28,399	-5,356	-46,147	2,129,527,150	28,685,129.22	247,155,338.78
2004	21,220	28,399	-5,356	-38,365	1,471,857,879	28,685,129.22	205,476,114.08
2005	36,463	29,026	-4,729	-23,122	534,617,635	22,362,022.32	109,339,523.93
2006	80,036	40,453	6,698	20,451	418,251,581	44,865,213.42	136,985,205.28
2007	93,579	44,318	10,563	33,994	1,155,605,634	111,580,137.92	359,085,833.73
2008	170,379	48,242	14,487	110,794	12,275,354,754	209,877,515.12	1,605,092,194.53
2009	239,525	51,634	17,879	179,940	32,378,475,576	319,664,004.72	3,217,177,826.83
2010	96,415	62,281	28,526	36,830	1,356,463,632	813,741,233.82	1,050,623,809.73
2011	249,469	77,691	43,936	189,884	36,056,009,410	1,930,385,276.82	8,342,780,693.83
2012	113,046	110,201	76,446	53,461	2,858,099,905	5,844,013,849.82	4,086,902,914.38
SUMATION	**1,191,696**	**675,097**	**0**	**0**	**117,533,314,341**	**13,125,624,346.55**	**28,985,861,879.40**

$\sum Y = 1{,}191{,}696$ $\sum X = 675{,}097$

Total sum of squares (TSS)

$\sum y^2 = 117{,}533{,}314{,}341$ $\sum x^2 = 13{,}125{,}624{,}346.55$

$\bar{Y} = 59{,}584.80$ $\dot{X} = 33754.85$ $\sqrt{\sum Y^2} = 342{,}831.32$ $\sqrt{\sum x^2} = 114{,}567.12$

$\sum xy = 28{,}985{,}861{,}879.4$

4.3.2 The Correlation Coefficient (r)

The equation for the correlation coefficient applied is as follows:

$$Correl(X, Y) = \frac{\sum (x-\bar{x})(y-\bar{y})}{\sqrt{\sum (x-\bar{x})^2 \sum (y-\bar{y})^2}}$$

$$\therefore r = \frac{\Sigma xy}{\sqrt{\Sigma x^2}\sqrt{\Sigma y^2}}$$

where

$x = X - \overline{X}$ = deviation of a particular X value from the mean $\overline{X}$

$y = Y - \overline{Y}$ = deviation of a particular Y value from the mean $\overline{Y}$

$$r = \frac{28,985,861,879.4}{342,831.32 \times 114,567.12} = 0.74$$

This value of r (= 0.74 indicates a high degree of association between the variables X and Y. For this particular problem, it indicates that an increase in loans and advances is likely to yield higher sales.

4.3.3Testing for the Significance of the Correlation Coefficient

We use the t-statistics approach for testing the significance of rs. The following formula is applied:

$$t = \frac{r}{\sqrt{(1 - r^2)/(n - 2)}}$$

$$t = \frac{0.74}{\sqrt{(1 - 0.74^2)/(20 - 2)}}$$

Hence, *t* = *2.846154*

Referring to the table of t-distribution for (n-2) degrees of freedom, the critical value for t at any desired level of significance (5% level of significance is commonly used) can be found. The criterion applied is if the calculated value of t (as obtained by above equation) is less than or equal to the table value, the hypothesis (Ho: the correlation coefficient equals zero) shall be accepted, meaning that the correlation between the variables is not significantly different from zero:

However, our correlation coefficient of *r=0.746* for a sample of size 20 and *t=2.8464*, then from the t-distribution with 18 degrees of freedom for a 5% level of significance, the table value is*2.101*, thus we conclude that we reject the null hypothesis that the two variables are not associated, i.e. r = O.

We can thus say and conclude that there is a high degree of correlation between the provision of loans and advances and amount of investment projects in the country.

4.3.4 Regression

Estimated regression line based on sampling is written as Y = a + $bX_i$where *a* and*b* are estimates of β_0 and β_1 obtained through the method of least square by minimizing the error sum of squares. The normal equations applied for obtaining the regression line are the following:

$$\sum Y = na + b\sum X_1$$

$$\sum X_1 Y = a\sum X_1 + b\sum X_1^2$$

Table 14 Regression Computation

Year	(Xi)	(Yi)	**YX**	**X^2**
1993	7,995	3,983	31,844,085.00	63,920,025.00
1994	7,025	3,421	24,032,525.00	49,350,625.00
1995	9,078	5,338	48,458,364.00	82,410,084.00
1996	12,186	6,490	79,087,140.00	148,498,596.00
1997	13,373	6,722	89,893,306.00	178,837,129.00
1998	15,435	9,939	153,408,465.00	238,239,225.00
1999	18,271	10,060	183,806,260.00	333,829,441.00
2000	19,680	14,127	278,019,360.00	387,302,400.00
2001	24,977	8,856	221,196,312.00	623,850,529.00
2002	26,433	9,190	242,919,270.00	698,703,489.00
2003	28,399	13,438	381,625,762.00	806,503,201.00
2004	28,399	21,220	602,626,780.00	806,503,201.00
2005	29,026	36,463	1,058,375,038.00	842,508,676.00
2006	40,453	80,036	3,237,696,308.00	1,636,445,209.00
2007	44,318	93,579	4,147,234,122.00	1,964,085,124.00
2008	48,242	170,379	8,219,423,718.00	2,327,290,564.00
2009	51,634	239,525	12,367,633,850.00	2,666,069,956.00
2010	62,281	96,415	6,004,822,615.00	3,878,922,961.00
2011	77,691	249,469	19,381,496,079.00	6,035,891,481.00
2012	110,201	113,046	12,457,782,246.00	12,144,260,401.00
SUMATION	**675,097**	**1,191,696**	**69,211,381,605.00**	**35,913,422,317.00**

∑X	675,097	∑Y	1,191,696	*∑YX*	*69,211,381,605*	$\sum X^2$	35,913,422,317
Ẋ	33754.85	Ȳ	59,584.80				

$$\sum Y = na + b \sum X_1$$

(i) $\sum Y = 1,191,696$ $\sum X = 675,097$ $na = 20a$

1,191,696 = 20a + 675097b

-20a=675097b-1197696

a=59884.8-33754.85b

$$\sum X_1 Y = a \sum X_1 + b \sum X_1^2$$

(ii) *∑YX = 69,211,381,605* ∑X = 675,097 $\sum X^2$ =35,913,422,317

69,211,381,605 = 675,097a+35,913,422,317b

Substitution: a=33754.85b-59884.8 in the above equation, we get

69,211,381,605 = 675,097x(**59884.8-33754.85b**)+35,913,422,317b

b=2.193

(iii) Substituting b=2.193 in the equation a*=33754.85b-59884.8, then* **a= 14,136.6**

(iv) The Regression equation is ***Y=2.193x+14,136.6***

(v) ***Validity of the equation: ANOVA calculation***

$$\text{Total sum of squares (TSS)} = \Sigma (Y - \bar{Y})^2$$ **= 117,533,314,341**

Table 15Total sum of squares-TSS

Year	$y=Y-\bar{Y}$	y^2
1993	-55,602	3,091,560,163
1994	-56,164	3,154,372,430
1995	-54,247	2,942,715,310
1996	-53,095	2,819,057,787
1997	-52,863	2,794,475,624
1998	-49,646	2,464,705,458
1999	-49,525	2,452,705,815
2000	-45,458	2,066,411,581
2001	-50,729	2,573,411,149
2002	-50,395	2,539,635,867
2003	-46,147	2,129,527,150
2004	-38,365	1,471,857,879
2005	-23,122	534,617,635
2006	20,451	418,251,581
2007	33,994	1,155,605,634
2008	110,794	12,275,354,754
2009	179,940	32,378,475,576
2010	36,830	1,356,463,632
2011	189,884	36,056,009,410
2012	53,461	2,858,099,905
SUMATION	**0**	**117,533,314,341**

Regression sum of squares (RSS) = $\sum(Y-\bar{Y})^2$
= 79,456,363,946.31

$\hat{Y}$ ***= 2.193x+14,136.6***

Table 16Regression sum of squares: actual versus predicted values

ActualY	Predicted Y $\hat{Y}$	Error /actual-predicted/ $Y - \hat{Y}$	(Error- $\bar{Y}$)^2
3,983	31,669.64	(27,686.64)	779,256,436.98
3,421	29,542.43	(26,121.43)	902,544,295.64
5,338	34,044.65	(28,706.65)	652,299,057.70
6,490	40,860.50	(34,370.50)	350,599,485.39
6,722	43,463.59	(36,741.59)	259,893,444.11
9,939	47,985.56	(38,046.56)	134,542,484.57
10,060	54,204.90	(44,144.90)	28,943,291.73
14,127	57,294.84	(43,167.84)	5,243,916.80
8,856	68,911.16	(60,055.16)	86,981,009.50
9,190	72,104.17	(62,914.17)	156,734,600.16
13,438	76,415.61	(62,977.61)	283,276,064.27
21,220	76,415.61	(55,195.61)	283,276,064.27
36,463	77,790.62	(41,327.62)	331,451,809.05
80,036	102,850.03	(22,814.03)	1,871,880,040.42
93,579	111,325.97	(17,746.97)	2,677,149,086.90
170,379	119,931.31	50,447.69	3,641,700,786.41
239,525	127,369.96	112,155.04	4,594,828,187.37
96,415	150,718.83	(54,303.83)	8,305,411,970.85
249,469	184,512.96	64,956.04	15,607,045,910.55
113,046	255,807.39	(142,761.39)	38,503,306,003.64
$\bar{Y}$ 59,584.80			**79,456,363,946.31**

ESS Error sum of squar $\Sigma (\hat{Y} - Y)^2$ 7,688,084.46

Table 17 ESS Error sum of squars

	Actual Y	Predicted $\hat{Y}$	$Y - \hat{Y}$ Error /actual-predicted/	Square of error
	3,983	31,669.64	(27,686.64)	766,549,757.62
	3,421	29,542.43	(26,121.43)	682,328,844.03
	5,338	34,044.65	(28,706.65)	824,071,983.88
	6,490	40,860.50	(34,370.50)	1,181,331,132.77
	6,722	43,463.59	(36,741.59)	1,349,944,362.24
	9,939	47,985.56	(38,046.56)	1,447,540,347.37
	10,060	54,204.90	(44,144.90)	1,948,772,460.88
	14,127	57,294.84	(43,167.84)	1,863,462,410.27
	8,856	68,911.16	(60,055.16)	3,606,622,362.74
	9,190	72,104.17	(62,914.17)	3,958,192,660.96
	13,438	76,415.61	(62,977.61)	3,966,178,983.45
	21,220	76,415.61	(55,195.61)	3,046,555,032.10
	36,463	77,790.62	(41,327.62)	1,707,972,009.55
	80,036	102,850.03	(22,814.03)	520,479,919.21
	93,579	111,325.97	(17,746.97)	314,955,086.16
	170,379	119,931.31	50,447.69	2,544,969,829.92
	239,525	127,369.96	112,155.04	12,578,752,548.78
	96,415	150,718.83	(54,303.83)	2,948,906,278.49
	249,469	184,512.96	64,956.04	4,219,286,742.75
	113,046	255,807.39	(142,761.39)	20,380,815,331.30
$\bar{Y}$	**119,169.6**			**69,857,688,084.46**

ANOVA Computation

$$\sum Y = na + b \sum X_1$$
$$\sum X_1 Y = a \sum X_1 + b \sum X_1^2$$

Solve these two simultaneous equations you get the values of a and b.

Total sum of squares $= \Sigma (Y - \hat{Y})^2$
(TSS)

Regression sum of squares $= \Sigma (\hat{Y} - \overline{Y})^2$
(RSS)

Error sum of squares $= \Sigma (Y - \hat{Y})^2$
(ESS)

Form the ANOVA Table for Regression

Source	D.F.	Sum of squares	Mean squares	F ratio
Due to Regression	1	RSS	$\frac{RSS}{1}$	$\frac{RSS}{1} \div \frac{ESS}{(n-2)}$
Due to Error	$n-2$	ESS	$\frac{ESS}{n-2}$	
Total	$n-1$	TSS		

H_0 $\beta_1 = 0$ There is no linear relationship between Y and X_1 (Y & X_1 are independent).
H_1 $\beta_1 \neq 0$ There is linear relationship between Y and X_1 as stated in our model.

If the calculated F exceeds Table F $(1, n-2)$ at 5% level, reject H_0 and accept H_1.

Table 18ANOVA Computation

Source	Degree of Freedom	Sum of Squares	Mean Squares	F ratio
Due to regression	1	RSS=**79,456,363,946.31**	**79,456,363,946.31**	RSS/(ESS/n-2) =20.47325914
Due to error	n-2=20-2=18	ESS=**69,857,688,084.46**	= ESS/**n-2** =**3,880,982,671.3**	
Total	n-1=20-1=19	TSS=**117,533,314,341**		

4.6 Interpretation of results

The calculated F = 20.47 exceeds Table F (1, 18) = 4.41 at 5% level. Then , we reject Ho and accept H1. It is can be concluded that Y is a linear function of X_1 with a confidence level of 95%. In other words, investment projects Y is linearly related to availability ofloans and advances (X1) with a confidence level of 95%. Thus, the equation is a valid one.

i) Strength of association

In order to determine the strength of association, co-efficient of determination is computed as follows.

Co-efficient of determination r^2 = RSS/ TSS=**79,456,363,946.31/117,533,314,341=0.68**

This implies that 68% of the variation in Y is explained by the regression and only 37.7% of the variation is explained by error. The association is strong to enable X to predict Y.

The linear equation has been tested, contribution made by regression in explaining variation in dependent variables and strength of association have all been explained using ANOVA table.

Chapter Five

Conclusion and Recommendation

The study found a strong positive co-relation between the availability of credit and growth of investment projects in Ethiopia. It is can be concluded that the growth in investment projects is a linear function of availability of credit with a confidence level of 95%. In other words, investment projects are linearly related to availability of loans and advances with a confidence level of 95%.

The increase in loans and advances by the banking sector, positively impact the growth of investment activities in the country. For an increase in availability of loans and advances brings about a positive change in the overall investment projects, keeping other factors intact.

From this study, we conclude that since a positive change in the availability of loans and advances brings about a positive change in investment, the availability of credit can serve as an incentive for promoting investment in Ethiopia.

Accordingly, banking financial institutions should strive to mobilize as much deposits as possible to make available loanable funds for investors borrowers to bring about a positive change in the overall investment initiative of the country..

It is well known that the banking industry is dominated until very recently by the public owned commercial banks namely Commercial Bank of Ethiopia and Development Bank of Ethiopia. The sector was opened for private investors since the 90s. Some 19 private banks have since established and have been a significant engine for the growing economy. Their share of the market is still low, but their continued contribution to the mobilization of capital, monetization of the economy and the modernization of the economy is evident. Government should think of creating markets for raising up capital for the private sector.

Apart from this, it is advisable for the government to design policy for setting up setting up stock market as alternative sources of raising capital for investment. Moreover, as a policy recommendation the government should promote competition in the banking sector by relaxing its stringent controlling mechanisms, of course, without compromising safety and stability of the financial system.

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Annexure

T-distribution Table

Note that the last row also gives critical points: a *t*-distribution with infinitely many degrees of freedom is a normal distribution. The first column is the number of degrees of freedom.

One Sided	**75%**	**80%**	**85%**	**90%**	**95%**	**97.5%**	**99%**	**99.5%**	**99.75%**	**99.9%**	**99.95%**
Two Sided	**50%**	**60%**	**70%**	**80%**	**90%**	**95%**	**98%**	**99%**	**99.5%**	**99.8%**	**99.9%**
1	1.000	1.376	1.963	3.078	6.314	12.71	31.82	63.66	127.3	318.3	636.6
2	0.816	1.061	1.386	1.886	2.920	4.303	6.965	9.925	14.09	22.33	31.60
3	0.765	0.978	1.250	1.638	2.353	3.182	4.541	5.841	7.453	10.21	12.92
4	0.741	0.941	1.190	1.533	2.132	2.776	3.747	4.604	5.598	7.173	8.610
5	0.727	0.920	1.156	1.476	2.015	2.571	3.365	4.032	4.773	5.893	6.869
6	0.718	0.906	1.134	1.440	1.943	2.447	3.143	3.707	4.317	5.208	5.959
7	0.711	0.896	1.119	1.415	1.895	2.365	2.998	3.499	4.029	4.785	5.408
8	0.706	0.889	1.108	1.397	1.860	2.306	2.896	3.355	3.833	4.501	5.041
9	0.703	0.883	1.100	1.383	1.833	2.262	2.821	3.250	3.690	4.297	4.781
10	0.700	0.879	1.093	1.372	1.812	2.228	2.764	3.169	3.581	4.144	4.587
11	0.697	0.876	1.088	1.363	1.796	2.201	2.718	3.106	3.497	4.025	4.437
12	0.695	0.873	1.083	1.356	1.782	2.179	2.681	3.055	3.428	3.930	4.318
13	0.694	0.870	1.079	1.350	1.771	2.160	2.650	3.012	3.372	3.852	4.221
14	0.692	0.868	1.076	1.345	1.761	2.145	2.624	2.977	3.326	3.787	4.140
15	0.691	0.866	1.074	1.341	1.753	2.131	2.602	2.947	3.286	3.733	4.073
16	0.690	0.865	1.071	1.337	1.746	2.120	2.583	2.921	3.252	3.686	4.015
17	0.689	0.863	1.069	1.333	1.740	2.110	2.567	2.898	3.222	3.646	3.965

18	0.688	0.862	1.067	1.330	1.734	2.101	2.552	2.878	3.197	3.610	3.922
19	0.688	0.861	1.066	1.328	1.729	2.093	2.539	2.861	3.174	3.579	3.883
20	0.687	0.860	1.064	1.325	1.725	2.086	2.528	2.845	3.153	3.552	3.850
21	0.686	0.859	1.063	1.323	1.721	2.080	2.518	2.831	3.135	3.527	3.819
22	0.686	0.858	1.061	1.321	1.717	2.074	2.508	2.819	3.119	3.505	3.792
23	0.685	0.858	1.060	1.319	1.714	2.069	2.500	2.807	3.104	3.485	3.767
24	0.685	0.857	1.059	1.318	1.711	2.064	2.492	2.797	3.091	3.467	3.745
25	0.684	0.856	1.058	1.316	1.708	2.060	2.485	2.787	3.078	3.450	3.725
26	0.684	0.856	1.058	1.315	1.706	2.056	2.479	2.779	3.067	3.435	3.707
27	0.684	0.855	1.057	1.314	1.703	2.052	2.473	2.771	3.057	3.421	3.690
28	0.683	0.855	1.056	1.313	1.701	2.048	2.467	2.763	3.047	3.408	3.674
29	0.683	0.854	1.055	1.311	1.699	2.045	2.462	2.756	3.038	3.396	3.659
30	0.683	0.854	1.055	1.310	1.697	2.042	2.457	2.750	3.030	3.385	3.646
40	0.681	0.851	1.050	1.303	1.684	2.021	2.423	2.704	2.971	3.307	3.551
50	0.679	0.849	1.047	1.299	1.676	2.009	2.403	2.678	2.937	3.261	3.496
60	0.679	0.848	1.045	1.296	1.671	2.000	2.390	2.660	2.915	3.232	3.460
80	0.678	0.846	1.043	1.292	1.664	1.990	2.374	2.639	2.887	3.195	3.416
100	0.677	0.845	1.042	1.290	1.660	1.984	2.364	2.626	2.871	3.174	3.390
120	0.677	0.845	1.041	1.289	1.658	1.980	2.358	2.617	2.860	3.160	3.373
∞	0.674	0.842	1.036	1.282	1.645	1.960	2.326	2.576	2.807	3.090	3.291