ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

IMPACT OF FOREIGN CAPITAL INFLOW ON DOMESTIC SAVINGS IN ETHIOPIA

BY

YORDANOS ASSEFA

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DECLARATION

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DAC   Development Assistance Committee

FCI   foreign capital inflows

FDI   Foreign direct investment

LDCs   Least Developed Countries

MNEs   Multinational Enterprises

ODA   Official Development Assistance

ABSTRACT

The purpose of this research was to analyze the impact of capital inflow (FDI, foreign loan and foreign aid) on domestic savings. A Time series data of 33 years ranged from 1982 to 2015 were employed. To analyze the data, Vector Error Correction Model was employed and all the required procedures were applied. The results of the study show that loan, foreign aid and FDI had both long and short run effect on domestic saving. However, government expenditure had only a short run effect on domestic saving; Conversely, GDP had only long run effect Government should strive to increase its domestic saving via loan, as well as aid. Apart from the aid the government should encourage FDI into other sectors of the economy in order to support the domestic saving apart from the aid.

Key words: *Capital Inflow, Domestic Saving and Vector Error Correction Model*

CHAPTER ONE: INTRODUCTION

1.1. Background of the Study

Developing countries are entrapped by the vicious circle of poverty. They already lack the capital resources and the incomes of the people are very low. Because of low incomes, the saving ratios also remain low, resulting in low investment levels. At the same time, due to low income the taxable capacity remains lower, i.e. government earnings also remain low (Basnet, 2013). Regardless of the fact that all the under developed countries need foreign capital inflows (FCI) for their development. The amount and the form of the foreign economic assistance of the country differ from country to country. The country size and the economic circumstances of the country are the major determinants of the volume and the form of the FCI (Chong *et al*., 2009).The need for foreign capital to supplement domestic resource is being felt by the developing economics, in view of the growing mismatch between their domestic capital stock and capital requirements. This was evidenced by the attention giving to the drive for foreign capital especially in developing countries. Foreign capital inflow has been identified as an important vehicle for augmenting the supply of fund for domestic investment (Fosu and Maguns, 2006). African countries and other emerging economies need substantial inflow of capital to fill their saving gap (Levine, 2001).

The debate over the increase in capital inflow into developing countries and its implication for domestic saving has resumed with renewal interest in the 1990s as capital mobility has become significant. The Asian financial crises due to the withdrawal of capital flow or foreign savings have reminded us of the risk of flows capital (Reisen and Soto, 2000). There is now a large literature on the role of foreign capital (or aid) in determining the host country's economic growth an saving. Consensus on whether foreign capital inflow is directly or inversely related to domestic saving has been eluding the academic community. Several theories have been used to establish the link between foreign capital inflow and domestic saving. Theory shows that the impact of foreign capital inflow and domestic saving is ambiguous and complex (Feldstein, 2000).

On the importance of foreign capital, an International Monetary Fund study (IMF) (2010) states: These flows and capital mobility more generally, allow countries with limited savings to attract

finance for productive investment projects, foster the diversification of investment risk, promote inter-temporal trade, and contribute to the development of financial markets (Siddiqui 2010). The proponents of foreign capital argue that foreign capital can supplement domestic investment and thus lead to higher growth rates. It can also reduce the potential balance of payments constraints on growth.

Developing countries, mainstream economists argue, require more economic integration through trade and investment in order to build a competitive and efficient economy. It is claimed that following such policies would lead towards a surge in exports and attract foreign capital investment to augment domestic savings (Siddiqui, 2012). It would ultimately increase the overall domestic investment in developing countries (Malik, 2012) further, is said that many developing countries face shortages in domestic savings, trade imbalances and a foreign exchange crisis. It is assumed that in the absence of foreign capital, the shortages of external financing are likely to put constraints on the economic growth and living conditions of the people. It is claimed that failing to attract foreign capital implies that national income and living standards will be negatively affected (IMF, 2010).

The reallocation can improve living standards by mobilizing global saving to finance investment, growth and saving in countries where the productivity of investment is relatively high. Foreign capital flow may be associated with increased efficiency of production and thus with higher growth rate and consequently domestic saving. Increase in productivity through the transmission of ideas across national borders offset an apparently costless way for developing countries to catch up and generating. An intense debate has emerged on the effects of foreign capital flows on developing economies; however, much of that debate has been based on limited empirical evidence, as most of these studies were either cross-country analysis or concerned with one type of capital flow. One important feature of the Ethiopian economy is the presence of resource (financial) gap. The resource gap can be explained as the presence of savings investment gap, foreign exchange gap and fiscal gap. The presence of resource gap (gross domestic investment-gross domestic savings) forces the country to rely on an inflow of foreign finance (specifically foreign aid) to bridge theGap (Tadesse, 2011).

1.2. Statement of the Problem

Ethiopia is one of the African countries that uses foreign capital inflow for bring high economic growth like other developing countries, but Ethiopia is still ranks the highest among the poorest countries of the world and also the country's domestic saving is the lowest as compared to the percent of foreign capital inflow. Foreign capital inflows are receiving due attention because of their potential to finance investment and perceived to promote economic growth in the recipient country. The growing divergence in saving and investment rates, export-import gap (foreign exchange constraints to import capital goods) and budget deficits in developing countries make them to depend highly on inflow of foreign capital.

The ultimate goal of any country is to achieve sustainable economic development. But economies of Least Developed Countries (LDCs) are characterized by balance of payment deficits, which arise from the general structure of the economy as well as international economic relations. This is because LDCs are dependent on the primary production for their foreign exchange requirements. Moreover, when saving is considered, the rate of saving in LDCs is not sufficient enough to finance the necessary level of investment. So it has been very difficult to get in to what is known as sustainable economic growth and development.

Ethiopia, being one of the less developed countries in the world is characterized by low level of saving and low investment activities that negatively affect economic growth in the country. Therefore, to fill the saving and investment gap that helps to achieve sustainable growth and development the country is in need of foreign capital from developed countries. Though capital inflow has its own importance in some aspects, it is in question that whether capital inflow assists generally LDCs and particularly that of Ethiopia in accelerating economic growth by positively affecting saving and investment in the country.

It is perceived that foreign capital helps ease the saving constraint by snowballing the availability of savings and it also help to ease trade constraint by expanding the capacity of imports of the recipient country. In this way foreign capital inflow (FCI) impacts on the national savings and investment and promote economic growth.

The available empirical evidence of the impacts of FCI on the domestic savings and other economic performance of a recipient country is mixed. While a number of studies have found that FCI supplements domestic savings, others have found that FCI displaces savings. In terms of growth performance of different FCIs the findings are mixed as well. While a number of studies have found that FCI accelerates growth performance of the economy, some others have found that FCI retards growth by crowding out domestic savings,

There are many problems which hinder the economic growth of the country. For instance, the foreign capital inflow in Ethiopia impact on domestic saving currently has not been studied well. Although, it has been addressed by some authors formerly, especially, the current impact is still poorly known. Therefore, the present study attempts to fill this identified gap. Thus, the researcher tries to answer the question "Does foreign capital inflow affect domestic savings?" by using the longest time period and different economic variables.

1.3. Research Hypothesis

- capital inflow had a positive effect on domestic saving
- capital inflow had both short and long run effect domestic saving
- government expenditure determine domestic saving negatively
- GDP affects domestic saving positively

1.4. Objectives of the Study

1.4.1. General Objective

- The general objective of this research is to investigate how foreign capital inflow affects domestic saving.

1.4.2. Specific Objective

- To examine the effect of capital inflow on domestic saving
- To investigate the short and long run effect of capital inflow on domestic saving
- To identify to what extent government expenditure determine domestic saving
- To examine how GDP determines domestic savings

1.5. Significance of the Study

The paper addresses the impact of foreign capital inflow on domestic savings in Ethiopia. The author also planned to analyze the effectiveness and impact of the foreign capital inflows (FCI) on domestic saving of the country using detailed survey of the related literature on this topic which signifies the trend and pattern of different capital flows impact on domestic saving. Such empirical work results, using time-series data more shows, foreign capital inflow has a significant positive or negative effect on savings and in turn on the economic growth rate. Therefore, a study has to be done to evaluate the impact of foreign capital inflow on domestic saving and recommend its positive impact as to use wisely to improve our economic growth.

1.6. Scope and Limitation of the Study

The study would explore the possible ways through which foreign capital affects Domestic savings. To achieve this objective, the period range from 1981/82 to 2014/15 is chosen. This period is chosen based on availability of data. Although this study attempts to shed on the impact of foreign capital inflow on domestic savings in Ethiopia, yet it suffers from certain limitations. The first problem arises from the problem of inconsistent in data by different institutions. Even data arises from the annual reports of the National bank of Ethiopia shows different figures for the same year. The other problem is that, due to the lack of data the foreign portfolio investment variable is excluded and FDI was used instead as a proxy for foreign private investment.

1.7. Organization of the thesis

This paper organized in to five chapters. The first chapter is the introduction part which contains background of the study, statement of the problem, objective of the study, significant of the study, the research question and organization of the paper, the second chapter deal with theoretical and empirical reviews related to the title. Chapter three contain methodology part comprises of data description and data source, model specification and method of data analysis and result. Chapter four contains result and discussions. The last chapter contains conclusion and recommendation.

CHAPTER TWO: LITERATURE REVIEW

2.1. Theoretical Literature

2.1.1   Concept and Effect of Foreign Capital Inflow

There is no strict definition of capital flows in the international economics literature. Definition and measurement of capital flows can have slight differences among the records of international institutions, such as the World Bank and the IMF, through time. Calvo *et al*. (1994a), defines capital flows as the increase in net international indebtedness of a country at a given period of time. Capital flows are calculated as the surplus in the net capital account item of the balance of payments identity.

Calvo *et al.* (1993) argues that capital inflows to developing increase the availability of capital. The newly available capital finances investment in developing countries, contributing to their economic growth. In addition, capital flows can enable developing country households to smooth out their consumption over time, increasing their welfare. For the developed countries on the other hand, capital flows enable them to diversify their portfolios, benefit from increased profit opportunities, and moreover, support the pension funds and the retirement accounts of the developed country households (Calvo *et al*., 1996). In addition, the free mobility of capital enables funds to flow from high-saving countries to low-saving countries. Excess funds from developed countries are supposed to move to high return offering developing countries which have scarce capital, and in the long term this is supposed to work for the global equalization of the interest rates(Kara, 2007).

Capital should move from the countries that have low marginal product of capital to the countries that have high marginal product of capital. Lucas (1990) underlined the fact that capital movements fail to accord with the expectations of the neoclassical models that there should be huge capital flows from rich countries to poor countries, in which marginal product of capital is far above than it is in rich countries. This fact that capital movements from rich to poor countries is below the level that should be under free mobility of capital is known as the "Lucas Paradox". Alfaro, KalemliÖzcan, and Volosovych (2003) note that this paradox can be explained by: (i) The differences in the economic fundamentals of countries that can affect the production

structure, such as, omitted factors of production, government policies, and institutions; and (ii) international capital market imperfections that lead to market failures, such as sovereign risk and asymmetric information. They figure out that international capital channels to countries with higher institutional quality. Since rich countries have well-established institutional structures, they may receive higher flows of capital than the developing countries, which have progressing institutions. Reinhart and Rogoff (2004) argue that it is not a paradox that poor countries receive low levels of foreign capital. Instead, it is a paradox of international economics such that some serial defaulters - mainly the developing countries - continue to receive relatively high amount of foreign capital, especially in the form of debt flows.

2.1.2 Importance of Foreign Capital Flows

The purpose of the flow of capital to under developed countries is to accelerate their economic development up to a point where a satisfactory growth rate can be achieved on a self sustaining basis. Capital flows in the form of private investment, foreign investment, foreign aid and oreign loan are the way which resources can come from the rich countries to the poor countries. It also use for the transmission of technology, ideas and knowledge. When discuss about the constraint of economic growth one should refer to the saving gap and foreign exchange gap of the country. A net capital inflow contributes to the filling of both gaps. The capital flows of countries increase due to the amount of resource available foe capital formation above what can be provided by domestic savings.

2.1.3   Theoretical background on Capital Inflows

2.1.3.1 Foreign Direct Investment

Foreign direct investment (FDI) is an inflow of investment by a foreign investor to gain a lasting control over the management of an enterprise which is usually at least 10% of voting stock in an enterprise operating in an economy other than that of the investor. It is usually the sum of equity capital. It is the reinvestment of earnings, other long-term capital, and short-term capital as can be seen in the balance of payments (World Bank, 2013). FDI can be measured as stock or flow. The stock of FDI is the accumulation of FDI existing in an economy over a period of time. The flow of FDI is what is generated within a year which could either be inwards, meaning what

comes in for the particular year; or outwards, what goes out in that year. Here, we are concerned with the stock of inward FDI.

According to Dunning and Lundan (2008), FDI is usually embarked upon due to different motivations by Multinational Enterprises (MNEs) such as market seeking, resource seeking, knowledge seeking and efficiency seeking. When MNEs embark on FDI for the purpose of getting a larger market, it is referred to as market seeking FDI. Resource seeking FDI is embarked on for the purposes of tapping into the natural resources of the host locations such as oil, gold, iron ore etc. Embarking on FDI for better improvement of skills through research and development, and improved technology is referred to as knowledge seeking. Efficiency seeking is the motivation where MNEs relocate to places where they can maximize their production cost for instance location with cheaper man power.

Aggregate production is the combination of human capital and physical capital. Physical capital can either be domestic or foreign owned capital in the form of FDI. Positive effects of FDI on economic growth can occur directly by increasing the stock of physical capital in the recipient country as foreign capital is accumulated indirectly by encouraging human capital development and strongly boosting technological upgrading. According to De Mello (1997: 8-10; 1999), FDI leads to growth through two processes:

(i)   Capital accumulation – this is expected to lead to growth in the host country through the existence of foreign technology and new inputs in the receiving country's production function; and

(ii)   Knowledge transfers – FDI is expected to increase the present stock of knowledge in the host economy via labor training and skill acquisition, and through the introduction of alternative management practices and organizational arrangements.

FDI can improve growth through increases in technology, assist in human capital formation, contribute to international trade integration, employment generation and growth, knowledge spillover and supplementing domestic savings among others (Barrel and Pain, 1997; De Mello, 1999; Gorg and Greenaway, 2004). All of the above benefits of FDI contribute to higher economic growth, which is an important tool for poverty alleviation (OECD 2002).

On the other hand, the risk of capital flight has constituted a negative effect of FDI on the growth of an economy as observed by Akinlo (2004) on the study of economic growth and FDI in Nigeria. Kant (1996) and Stiglitz (2000) also identified capital flight as detrimental to economic growth. Capital flight implies that investors exploit the host economy and transfers gains to the home economy thereby leading to reduction of capital in the host economy. Foreign presence may furthermore reduce productivity of domestically owned firms especially in the short-run where there is no technology spillover whereas in the long-run, labor mobility may occur and lead to spillovers (Aitken and Harrison, 1999:607), although if FDI is concentrated in a specific sector, it might not have spillover effects. FDI is therefore expected to complement domestic capital rather than replace it.

Merits of foreign direct investment /FDI/

Several advantages can be claimed for foreign direct investment /FDI/.

- Such investment does not burden the tax payer since no interest at fixed rate is to be paid as in the case of foreign borrowing. The foreign investor is compensated by the profit he gets.

- In private investment the investor is actuated by the profit motive hence the business operations are subjected to careful calculations. This is guarantee that the capital resources are mostly efficiently employed and are not frittered away in some reckless investment as many happen in the case of borrowing.

- Direct investment by foreign companies introduces in the developing country new technology, modern skills, innovations and new ideas. This is a great gain because the developing country is backward in technology and skill.

- Another advantage is that a part of the profit is ploughed back into business and is not drained off from the country as it happens in case of portfolio investment. The profits are invested either in modernization and expansion of existing concerns or for establishing ancillary or subsidiary concerns in related fields. There is thus a continuing advantage for the developing country.

- Foreign direct investments are most likely to flow into export industries. By increasing export and reducing imports it will improve balance of payments of the developing

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country. It has a especially favorable effect on balance of payment position during recession because direct investment is serviced by dividends which are related to profit and not by fixed interest charges as in the case of loans. This flexibility of pressure on the balance of great advantage.

- Even otherwise flexible return on direct investment is a great advantage as compared with rigid interest and amortization requirements associated with public foreign loans.

- Direct foreign investment induces domestic investment also either in the form of joint participation or in local ancillary industries. This foreign capital activates otherwise inert domestic capital.

- The direct foreign investment makes a real addition to the productive capacity of the capital importing country. There is no question of foreign capital coming in this form being used for unproductive purposes. In the case of other types of foreign borrowings there is nothing to prevent them from being utilized unproductively.

- Another important advantage of direct foreign capital is that it can be induced to be invested in infrastructure such as power, telecom, and development of ports which is an obstacle to accelerate economic growth in the developing counties.

2.1.3.2 Foreign Debt Flows

Debt includes instruments such as debentures, bonds, etc., money market, negotiable debt instruments and foreign bank deposits. Foreign or external debt flows are classified into long-term and short-term debt flows based on their initial maturity period for repayment. They attract debt servicing charges owed to foreign investors.

Long-term debt flows – Long-term external debt is defined as debt that has an original or extended maturity of more than one year and that is owed to foreigners by residents of an economy and repayable in currency, goods, or services. The debt flows in form of long-term debts have to do with investment in bonds and other debt instruments.

Short-term debt flows – This is a form of foreign portfolio debt investment sometimes generally referred to as debt flows or foreign bank lending (World Bank, 2013). Short-term external debt is defined as debt that has an original maturity of one year or less.

According to Pattillo, Poirson and Ricci (2002: 4-6), there are different theories on foreign debt flows and economic growth. One theory suggests that a rational level of debt is expected to have a positive effect on growth, while another posits that large accumulated debt stocks may be a deterrent to growth. The third theory combines these two postulations. Ajayi and Oke (2012: 299) used the dual-gap theory or two-gap approach developed by Chenery and Strout (1966) to explain how foreign debt leads to economic growth. The dual gap analysis shows that development is a function of investment and that such investment, which requires domestic savings, is not sufficient to ensure that development takes place. Foreign capital features where there is a savings-investment gap and where an import-export exchange gap exists. The excess of investment over domestic savings is said to be equivalent to the surplus of import over export. This is then where the maximum level of import required to meeting growth targets is higher than the maximum level of export. This has also been used to explain foreign aid.

The channels through which government debt (level or change) can have an impact on the economic growth rate are through private saving; public investment; total factor productivity (TFP) and sovereign long-term interest rates (both nominal and real). The results provide further arguments for debt reduction to support longer-term economic growth prospects from a policy perspective.

A depreciation of the exchange rate can lead to increase in a country's external debt , and often leads to government cutting back on public spending (including social expenditure) in order to meet increased debt service obligations. On the other hand, sudden and large inflows of private capital will lead to inflationary pressures, real exchange-rate appreciation, a deterioration of the current account and a boom in bank lending (World Bank, 2013). Debt flows are more volatile than equity flows during times of crisis and therefore can be easily reversible (Reisen & Soto, 2001). This is common with short-term debt flows. Generally, short-term debt flows can have varying effects on economic growth in the long-run based on its volatility that is the ability to be easily withdrawn (Reisen and Soto, 2001). Short term debt flows depend on the absorptive host country capacity (Durham, 2004). Due to the absorptive capacity of a country, this type of capital flow may not be linked to increase in growth. According to a World Bank report (2013), international bank lending and portfolio flows are more productive in a more developed financial environment. In spite of the strong evidence that capital flows have positive influence on economic growth, Stiglitz

(2000) in his study on capital market liberalization, economic growth and instability suggests otherwise. He argued after observing the Asian financial crisis that capital flow especially short-term

Flows, in particular, creates financial instability and therefore has a negative impact on economic growth

2.1.3.3 Foreign Aid

Foreign aid is one of the foreign capital flows to developing countries. It is an official grant or loan received by a country (mostly developing) for the promotion of economic development, wealth and growth. There are two major forms of foreign aid:

Official Development Assistance - Official Development Assistance (ODA) is the aid given to developing countries for development purposes. It can be from bilateral donors (given by a single donor country to a developing country) or multilateral institutions (given by a body or an organization for example the World Bank or African Development Bank). It consists of disbursements of loans made on concessional terms (net of repayments of principal) and grants by official agencies of members of Development Assistance Committee (DAC), by multilateral institutions, and by non-DAC countries to promote economic development and welfare in countries and territories in the DAC list of ODA recipients. It includes loans with a grant element of at least 25percent (World Bank, 2013).

Official aid received – This is the other type of aid given to a country to meet specific needs such as donations after a natural disaster, and aid for specific projects.

Foreign aid is one of the foreign capital flows to developing countries. It is an official grant or loan received by a country (mostly developing) for the promotion of economic development, and growth. Foreign aid is a major source of capital (average of 53.8% of government expenditure of 50 aid dependent countries from 1975 to 1995) to the government (Svensson, 2000). It mostly goes into an economy through the public sector and it is used for public expenditure in most cases. It is mainly known to be used more for consumption purposes rather than investment.

The argument for aid is that it can be put to use where private capital cannot and Temple (2010) emphasizes four main ways which is usually known as Bauer's paradox. These are: Poverty

traps; the possibility of vicious circles; growth that is hindered by one or more binding constraints; and the role of complementary inputs, such as infrastructure or institutions. There is also the possibility of Dutch disease effect which depends on the portion of aid spent on productive investment in relation to that spent on consumption of final goods (Younger, 1992).

Foreign aid affects the growth of an economy mainly through development projects and investment rather than consumption. Foreign aid is usually used to fill in gaps in the economy, such as the savings gap (S-I)3, which is a combination of the foreign exchange gap or external financing gap (X-M)4, as well as the fiscal gap (G-T)5. The "two-gap" model specified in Easterly (2003: 30-31), as developed by Chenery and Strout (1966), has been employed to explain the link between foreign aid and economic growth. This is shown as: $g = (I/Y) / \mu$; and $I/Y = A/Y + S/Y$, where I = required investment; Y = output; g = targeted GDP growth; A = aid; S = domestic savings and μ = Incremental capital-output ratio (ICOR). This model explains how foreign aid increases investment and how investment leads to increase in economic growth.6 This has also been used to explain foreign debt flows. Morrissey (2001) identified a number of mechanisms through which aid can contribute to economic growth, namely: "aid increases investment in physical and human capital stock; aid increases the capacity to import capital goods or technology; aid does not have indirect effects that reduce investment or savings rate; and aid is associated with technology transfer that increases the productivity of capital and promotes endogenous technological change". The general theory behind the aid-growth theory is that physical capital leads to economic growth.

McGillivray *et al*. (2006) identified four main alternative views on the effectiveness of aid which are:

(i)   Aid has diminishing returns
(ii)   Aid effectiveness is influenced by external and climatic environments
(iii)   Aid effectiveness is subjective by political situations
(iv)   Aid effectiveness is dependent on the quality of institutions

The transfer of aid, might result in increase of national income, drive the relative price of non-traded goods and increase the returns to factor in the non-traded sector. The consequence will be a real exchange rate appreciation, and a decrease in the output of the traded goods sector, as

factors of production move into the non-traded sector. An appreciation of the real exchange rate will have a negative impact on the competitiveness of an economy.

2.1.4   The Effects of Capital Flows on Domestic Savings

One of the important aspects of increase in national saving rate for domestic investment and less dependent on external financial resources is that it may facilitate stable economic growth in a country. Dependency on external financial resources could increase vulnerability in those small open economies, which are easily affected by the global economic and market conditions, and it could have significant effects on the domestic economies. In this respect, capital flows in the global market should be focused in the analyses of the effects of investment and savings on economic growth in genera Rajan *et al.* (2006) has already pointed out the fact that capital inflows in developing and emerging economies has not always contributed to increase GDP growth, and that those countries which are not dependent on external capital are likely to have higher growth. This paper will analyze recent trends of investment-saving nexus, and focus on the overall effects of domestic savings / investment and capital inflows (net) on GDP growth in advanced and emerging economies during the period 1980-2013 in the following sections.

2.1.5   The Relationship between Domestic Saving With Other Variables

2.1.5.1 Foreign Capital and Domestic Savings

The role of foreign capital inflow in the economic development of a poor country such as Ethiopia is unquestionable. Foreign inflow can be put to use in the economy where there exists a resource gap. Out of the literature review we need to develop the theoretical framework for our study because it is necessary to make logical sense of the relationship between variables and factors that have been relevant to the problem. Primarily this should resolve around the theories that have been put forward for the relationship between variables.

2.1.5.2 Foreign Investment and Domestic Saving

Shields (2013) put forward the opinion that there is an inverse relationship between foreign direct investment flow and the saving rate of the country. Foreign direct investment inflow provides additional resources in the sense that it slackness the pressure put by development program for a

saving rate as high as possible. Over time, the private saving effect of foreign direct investment is given by the increase in income imputable to the foreign direct investment through the marginal propensity to saving. With regards to public savings, the effect of foreign direct investment is as a result of the difference between tax revenue from foreign direct investment and government expenditure on foreign direct investment (Antwi et al., 2013). They further maintained that foreign direct investment could have effect on domestic savings cumulative effect on private savings is directly related to income through the marginal propensity to saving. The cumulative effect on public saving is given by the direct effect trace to foreign direct investment plus in indirect effect on indirect taxation on taxes on profits, on taxes on wages and taxes on imports attributed to foreign direct investment. The marginal effect of looks at the change that foreign direct investment makes on the current year over the previous year. The marginal effect on private saving once more is directly related to the marginal income effect. The marginal effect on public saving is given by three additive terms. These are the direct tax effect of foreign direct investment, the increase in tax profit and wages, indirect taxes on imports and increase in public expenditure indirectly related to foreign direct investment. Mishra, Mody and Murhiod (2000) argue that when a country is poor and saves little additional foreign direct investment from outside country can help realize its investment opportunities to generate more saving through employment, output and income.

2.1.5.3 Aid and Grants and Domestic Savings

Taslim and Weliwita (2000) traced the theoretical relationship between foreign aids and domestic savings to both the vicious circle of poverty theory. The vicious circle of poverty theory holds that poverty is both a cause and consequences poverty. Poor countries with limited capital stock can save little as their incomes are barely enough to ensure subsistence needs. Low savings imply a low level of capital accumulation in these countries. This in turn implies that productivity stagnates at low level such that income remains low. They are, therefore trapped in vicious circle of poverty that can be broken only by exogenous interventions. When aids are channeled in to such a country it could raise incomes above subsistence (Moreira, 2005). The initial savings could increase investment, which would in turn generate further savings in the aid recipient country. The two gap theory states that investment effort in poor countries in the early stages of development is limited by two constraints. First, these countries may be unable,

perhaps due to poverty, to save sufficiently from current income to provide investment needed to achieve a target rate of growth. Second, investment (and output) could be limited by the unavailability of sufficient amount of imported inputs due to a balance of payment constraint. The paucity of both saving and foreign exchange (to pay for imported materials) could be overcome by an inflow of foreign aids. By providing additional resources, aid would also rise as the realized incremental investment raises domestic output through higher productive capacity as well as the multiplier effect in the case of underutilized capacity (Uneze, 2010). This was, and continues to be one of the most forceful arguments in favor of foreign aid to developing countries.

Savings, investment and growth have been at the heart of economic development since the beginning of the discipline. This is not surprising because in practice the three are closely associated. Across countries and over time higher economic growth rates are associated with higher investment, higher investment with higher savings and higher saving with higher economic growth rates. Moreover, a country with higher level of per capital income tends to save and invest a larger fraction of national income (Ahmad and Ahmed, 2006).

Foreign capital flow has been seen as the main activities that enhance economic growth of any nation from the developing world. Capital needed for investment, employment creation, managerial kills and transfer of technology can be achieved through foreign capital inflows (Djokoto, 2011).

Shields (2013) tried to find the relationship between foreign aid, savings and growth in the presence of policy variables. Their sample covered 52 countries of the Asian region for the period 1968 – 79. They performed al OLS regression using standard explanatory variables, i.e. foreign aid, other capital inflows and savings and four policy variables. All three variables were found to be positive and significantly related to economic growth. They reported that economic policies have been conductive to a productive allocation of foreign aid and other resources.

2.1.5.4 Foreign Capital and Economic Growth

Many studies have been conducted about the link between foreign capital inflow and economic growth. Some of these include Papanek (1973) disaggregated foreign capital inflow in to three

principal components foreign aid, foreign direct investment and all other foreign inflow. He used cross sectional data of 34 countries in the 1950s and 51 countries 1960s. He found that all three flows (foreign aid, foreign direct investment and other foreign inflow) had a statistically significant positive impact on growth and the effect of foreign aid on economic growth was stronger than other factors (Antwi, 2013).

2.2   Empirical Literature

AHMAD and AHMED, (2002) made as assessment entitled with Foreign Capital Inflows and Domestic Savings in Pakistan: Co-integration Techniques and Error Correction Modeling. They used a causal research design.   In their paper they found by applying three variants of co-integration techniques to time series data for the 1972–2000 periods and in every case a valid long run relationship among the variables was found. Three variants of co-integration technique also found inverse relationship between saving rate and foreign capital inflows. The Unrestricted Error Correction Model found short run significance inverse relationship between domestic saving and foreign inflows but Short-Run Dynamic Engle-Granger procedure found insignificant inverse relationship between foreign capital inflow and domestic saving. Their findings further revealed that that foreign capital may in fact substitute for domestic saving. One explanation, which has attracted some attention, is that by making recourses easily available, external flows permitted a relaxation in saving effort and encourage an increase consumption and therefore, external flows may particularly impedes the public saving as well as private savings

Maryam and Javed, (2013), study analyze the effect of foreign capital inflows on domestic saving along with other variables by using time-series tools i.e Co-integration and ECM on time series data for the period of 1980-2010. In this study five variables are used, dependent variable is gross domestic saving and explanatory variables are foreign direct investment, remittances, trade openness and GDP per capita. The result shows that foreign direct investment has positive and significant impact on gross domestic saving. Trade openness and GDP per capita positively associated with gross domestic saving but remittances negatively linked with dependent variable. In the context of policy implication, there is need to focus on the national economic policies, as foreign capital inflows can be more helpful in boosting domestic saving rate of a country in the

existence of suitable national economic policies. Residual test are used to check the fitness of model.

Onyekachi and Vincent, (2017) examines the causal and long-run relationship between foreign capital inflow and domestic savings in Nigeria. The study employed the annual time series data from 1970 to 2014for the following variables: Domestic Savings (S), Foreign Direct Investment (FDI), Home Remittances (REM), Official Development Assistance (ODA) and Portfolio investment (PTF). Using econometric procedures, unit root test of ADF revealed that all the variables were integrated at level. Johansen Co-integration test showed the existence of long-run relationship among the variables. In testing for causality with the use of granger causality test, the results obtained indicate that there is an existence of uni-directional relationship between foreign capital inflow and domestic savings in Nigeria, meaning that foreign capital inflow causes domestic savings in Nigeria while domestic savings does not cause foreign capital inflow. The policy implication as evidenced from the results of the study is that government should endeavor to attract more remittances and FDI from international community into the country since these two variables showed positive relationship with domestic savings.

Most of the earlier examined the direct impact inflows especially aid on developing countries growth in the context of a neoclassical framework with growth in capital and labor inputs explaining output. However, they disaggregated domestic and imported capital and other variables that aim to capture other aspects of developing country performance, especially those that are indicative of efficiency in resource allocation. They also disaggregated the foreign capital inflow into its components to assess the most influential flows (Hasan, 2012).

Yasmmen (2005) was analyzed the impact of foreign capital inflow on economic growth of by using simultaneous equation model on the time series data for the year's 1970/71 – 2000/01 for foreign capital inflow, gross national product and savings. A positive and statistical significant relationship appears between foreign capital inflow and growth and savings appear as a complementary of foreign direct investment.

The causal relationship between foreign direct investment (FDI) and domestic savings in Jordan over the periods 1971 – 2005 was analyzed by Bashier et al. (2007) and stressed that there is a positive relationship runs from foreign direct investment to domestic savings by using Johansson

co-integration test and error correction model. The estimation result of the ECM shows that a causality relationship runs from the foreign direct investment to the net domestic saving but not from domestic saving to foreign direct investment, the positive relation implies that foreign direct investment simulates domestic savings.

The impact of remittances on gross domestic saving analyzed by Nosheen (2013) and found that the aggregate savings for India during the 1980s did not rise with remittances. Foreign capital inflows in the farm of remittances negatively linked with gross domestic saving and have supplementing effect on consumption.

The impact of foreign capital inflows on domestic saving was examined by Baharumshah and Thanoon (2000) and his sample is 44 underdeveloped countries. He used a model, which consist of seven equation and nine variables. The study stresses that foreign capital inflow with all available resources to a country has the capacity to increase total amount of domestic expenditure. The numerical results indicate that impact of foreign capital inflow on domestic saving is significantly negative.

2.3   Conceptual Frame Work

Based on the reviewed literature the researcher develops the following conceptual frame work to be tested in the model
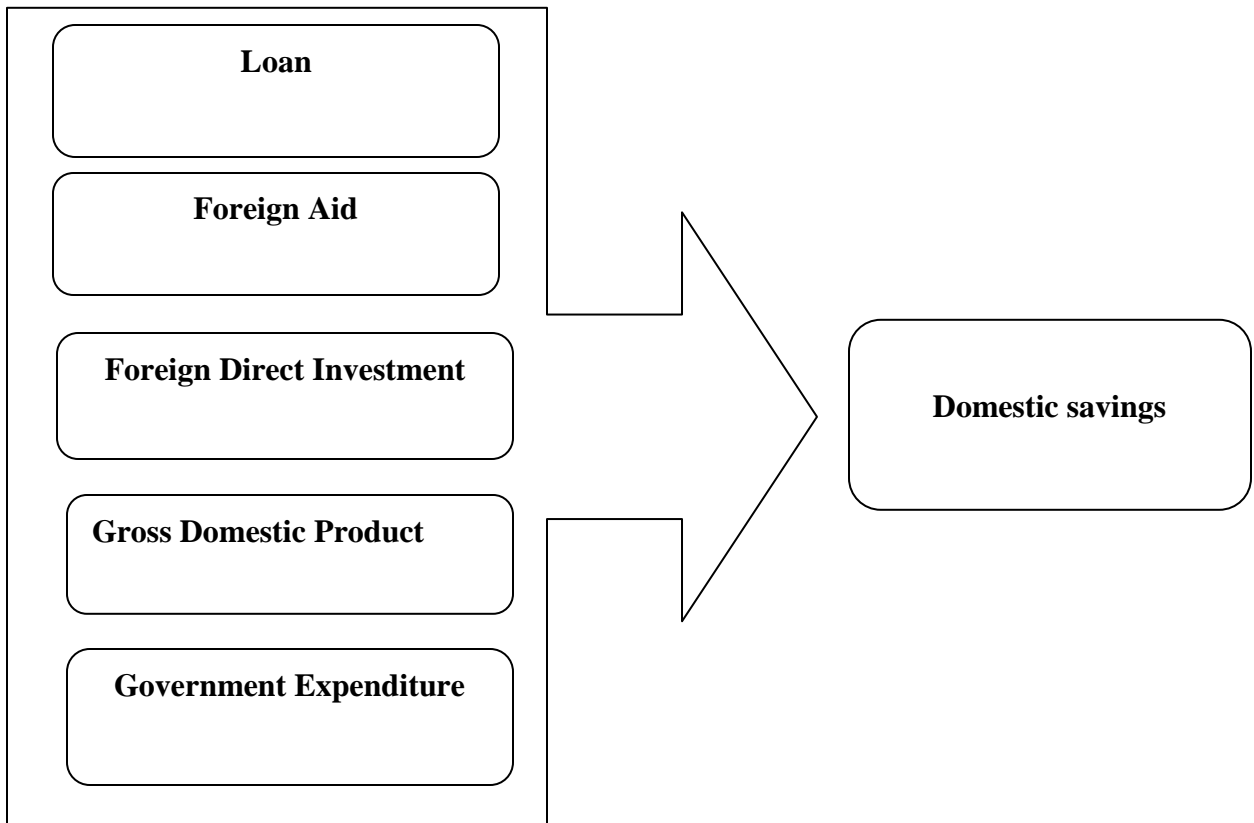
Fig. 1: Conceptual frame work

CHAPTER THREE: RESEARCH METHODOLOGY

3.1. Research Design

For the purpose of analyzing the impact of foreign capital inflow on domestic saving in Ethiopia, the appropriate longitudinal research design since it involves a time serious data. Explanatory research design was used.

3.2. Type of Data and Sources

A time series secondary data ranged from 1982 to 2015 were used for the purpose of this study. The major data source for the investigation was the National Bank of Ethiopia.

3.3. Method of Data Analysis

For the proper investigation of the objective of the study, the method of data analysis that employed for this particular study was quantitative data analysis techniques. To examine the impact of foreign capital inflow on domestic saving in Ethiopia co-integration and vector error correction model were employed. Simple econometric model analysis will conduct. Hence a time series data ranging from 1982-2015 used to undertake the econometric (multiple regression) analysis. In order to analyze the econometric models the researcher used co-integration and vector error correction estimation techniques. Further, the estimation was done by using STATA software.

3.3.1. Model Specification

This study uses annual data to examine the determinants of domestic saving in Ethiopia. The co-integration procedure requires time series in the system to be non-stationary in their levels. Moreover, it is imperative that all time series in the co-integrating equation have the same order of integration. Thus, the study first ascertains the time series properties of domestic saving and other explanatory variables by using the augmented Dickey-Fuller (ADF) test for stationary (Dickey and Fuller, 1979 and 1981). The equation estimated for the ADF test is stated as follows:

$$\Delta X_t = \phi_0 + \beta_1 X_{t-1} + \delta t + \sum_{i=1} \theta_i \, \Delta X_{t-1} + \varepsilon_t \, \dots\dots\dots\dots\dots\dots\dots\dots\dots \, (1)$$

Where, for example Xt=LDS is the domestic saving in natural logarithmic, D is the first difference operator, t is the time trend, β, δ and θ are parameters, e is the stationary random error and n is the maximum lag length. The null hypothesis is that the series contains a unit root which implies that $\beta_1 = 0$. The null hypothesis is rejected if β_1 is negative and statistically significant. To determine the long run relationship between domestic saving and explanatory variables, the Johansen co-integration procedure is used (Johansen and Juselius, 1990 and Johansen, 1991). The procedure involves the estimation of a VECM. Suppose that the two I(1) variables yt and zt are co-integrated and that the co-integrating vector is (1,-θ). Then all three variables Dyt=yt-yt-1, Dzt and (yt-θzt) are I(0). The VECM used in the study is specified based on Green (2004) as follows:

$$\Delta y_t = x'_t f3 + y(\Delta z_t) + (y_{t-1} - 0 z_{t-1}) + \pounds_t \qquad (2)$$

Where, yt is the dependent variable, zt is the explanatory variables, x'tβ is the trend component, and D is represents the difference operator. The model describes the variation in yt around its long run trend and the vector error correction (yt- θzt), which is the equilibrium error in the model of co integration. The VECM allows causality to emerge even if the coefficients of the lagged differences of the explanatory variable are not jointly significant (granger, 1983; Engle and granger, 1987; Miller and Russek, 1990; Miller, 1991; Dawit, 2003).

In relation to approaches followed by the other empirical works on the impact of foreign capital inflow on domestic saving, in this study the researcher took domestic saving function in the aggregate and specified as function of some independent variables used in econometric modeling of the impact of foreign capital inflow represented as dependent variable to other explanatory variables. So by assuming domestic saving is dependent variable, the empirical formulation of this model is given by the following function. To estimate the long run and short run association co-integration test of long run and vector error correction method were employed.

St= f (GDP, Faid, Flt, FDI, Get)

Where

St – gross domestic saving, FDI – Foreign direct investment, Faid – foreign Aid, Flt – foreign loan, Get – government expenditure, GDP- Gross domestic Product

3.3.2. Estimation Procedure

Many economic and financial time series exhibit trending behavior or non-stationery in the mean. Therefore, it is necessary to test the stability of the series before identification of the relationship between variables. The regression analysis among the variables would not be consistent and spurious regression problem would occur if unstable data are used. So the data must be transformed to stationary form prior to analysis.

3.3.3. Stationary (Unit Root)

A time series is said to be stationary if its mean and variance are constant over time and the value of covariance between the two periods depends only on the distance or gap or lag between the two time periods and not the actual time at which the covariance is computed (Gujarati, 2004).

Checking the time series properties of the variable is important since it affects the estimation procedures. Time series data for most developing countries such as the Ethiopia are non-stationary. For this reason stationary test shall be conducted. Thus to make sure that stationary condition has been fulfilled a unit root test will be undertaken. The study first investigates the time series properties of the data by using Augmented Dickey-fuller (ADF) and Phillips Perron (PP) tests before any estimation is undertaken.

3.3.4. Diagnostic tests

Diagnostic tests like serial correlation, functional form, normality distribution of the residuals and hetroscedacity tests are checked because they affect the model's precision.

3.4.   Definition of Variables

Gross Domestic Savings: is GDP minus final consumption expenditure. It expressed as a percentage of GDP. It consists of saving of household sector, private corporate sector and public sector.

Foreign capital (FC): defined here as either net capital account or net foreign investment which is the sum of foreign direct investment (FDI), foreign aid (FA), foreign loan (FL) as well as borrowing by private firms from foreign commercial banks (FCB) and government expenditure. In short foreign capitals (savings) are the flow of savings of other countries which flow into another country.

Loan is defined as a net incurrence of government liabilities from abroad. This is expected to have a negative impact on output growth because of debt service repayment cost on loan. A loan to a country or organization made by a foreign government or financial institution.

Government Expenditure: Government expenditure refers to the purchase of goods and services, which include public consumption and public investment, and transfer payments consisting of income transfers (pensions, social benefits) and capital transfer

GDP: represents the monetary value of all goods and services produced within a nation's geographic borders over a specified period of time. It is the way of measuring a country's economy. It is the total value of everything produced by all the people and companies in the country. It doesn't matter if they are citizens or foreign owned companies. If they are located within the country's boundaries, the government counts their production as GDP.

FDI: is an investment made by a firm or individual in one country into business interests located in another country. It is an investment in the form of a controlling ownership in a business in one country by an entity based in another country.

Foreign Aid: a voluntary transfer of resources from one country to another which can take the form of a gift, a grant or loan. It is an international transfer of capital, goods or service from a country or international organization for the benefit of the recipient country or its population. It is defined as aid inflows from external assistance. Since Ethiopia is one of the poorest countries in

the world, it needs foreign assistance to fill its resource gap and budget deficits. Foreign aid expected to have positive impacts on economic growth as it is a source of additional finance to run capital and recurrent expenditures.

CHAPTER FOUR: RESULTS AND DISCUSSIONS

This part is the main parts of the research where the collected data is analyzed and interpreted; accordingly, under this section, descriptive analysis of the data, stationary/unit root test, autocorrelation and hetorosckedasticity would be discussed and then finally the results of the co-integration and econometrics analysis of vector error correction method would be discussed. Apart from this, the trend of each variable would be discussed below.

4.1. Trend Analysis of the Variables

4.1.1. Trend Analysis Saving

Ethiopia is among the developing countries that needs fast and sustainable investment growth. However, her domestic saving rate was on the lowest for the past several decades. The average domestic saving rate was only 7.9% of the GDP during the past four decades (1970/71 to 2010/11). Splitting the available data among the three regimes of Ethiopia during the study period also shows that the average saving rate was 13.8% of GDP during the period from 1970/71 to 1973/74, 7% from 1974/75 to 1990/91 and 7.3% from 1991/92 to 2010/11. This classification implies that, though saving rate was relatively good during the Imperial period, it declined to lower percents during the Derg and the current regimes of Ethiopia (Ayalew, 2013). As shown in the figure below, although it had some fluctuations in the middle of the graph, however the saving rate of the country is still increasing for the last three decades. Furthermore, around 1992 the saving rate were low, however, since 1992 up to 2008 the saving rate increase with some fluctuations, and after the year 2008 the saving rate is show dramatic increases since the year 2015
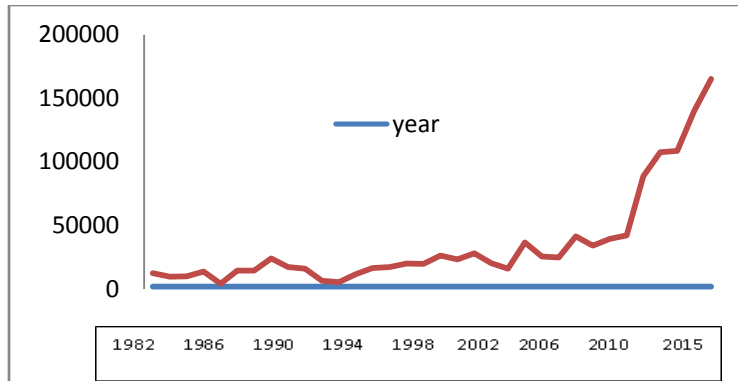
Figure 2: Trend of saving

Source: National Bank of Ethiopia

4.1.2. Trend of Loan

As shown in the graph below unit the year 1994 the loan rat was almost the same and constant that means the country is receiving a loan of the same amount. Further, since the year 1994 to 2008 the countries loan starts to increases with some smaller rate; however since the year 2008 the amounts of loan increases drastically.

Table 4.1: Trend of loan

Year	Loan	year	Loan
1982	2969.90	1999	15101.79
1983	2313.50	2000	15968.37
1984	3518.00	2001	15747.99
1985	3959.50	2002	15543.44
1986	4449.10	2003	17750.02
1987	5268.40	2004	21749.04
1988	5625.80	2005	26751.13
1989	3945.50	2006	31102.62
1990	3961.30	2007	41339.77
1991	4167.90	2008	46004.73
1992	5488.00	2009	54692.06
1993	4536.10	2010	73971.38
1994	6683.50	2011	110200.56
1995	9338.40	2012	135829.89
1996	11239.90	2013	168355.06
1997	13232.00	2014	217368.21
1998	15000.80	2015	263901.67

Source: National Bank of Ethiopia

4.1.3. Trends of Government Expenditure

Government expenditure is the amount of money the government spend on the economy; the trend of the graph below shows that the expenditure looks to have an increasing nature, although it had some fluctuations at the middle of the graph. In the first ten years it varies with in the same ranges, in the second ten years the range become wider than the later; this indicates the government increases the amounts of its expenditure. Since 2002 on ward the expenditure rate is increases at an increasing rate.
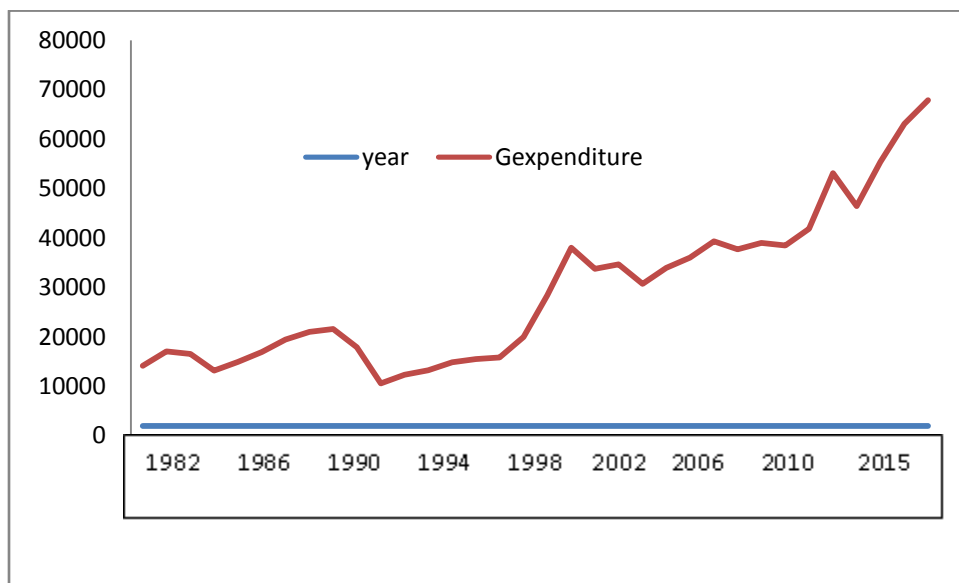
Figure 3: Trend of Government expenditure

Source: National Bank of Ethiopia

4.1.4. Trends of Income

The trend in the graph shown that in the first 12 year 1982 to 1994 the income rate seems constant; however, since the year 1994 to 2002 the income rate starts to increase at some rate. After the year 2002 the income rate of the country increases with high rate.

Table 4.2: Trend of income

year	Income	year	Income
1982	109170.34	1999	178512.68
1983	120201.80	2000	184880.72
1984	111615.52	2001	198595.16
1985	101802.62	2002	201840.04
1986	111910.16	2003	197604.40
1987	126610.94	2004	220782.11
1988	125935.92	2005	248698.26
1989	126867.76	2006	277396.49
1990	132336.16	2007	310115.10
1991	128347.23	2008	344775.46
1992	125406.28	2009	379362.44
1993	139411.50	2010	419217.77
1994	139480.18	2011	475647.50
1995	147454.54	2012	517026.54
1996	162373.14	2013	568432.35
1997	169246.88	2014	626977.14
1998	167917.47	2015	692221.86

Source: National Bank of Ethiopia

4.1.5. Trends of GDP

GDP indicates the gross national production the country, accordingly the trend graph show below indicated that from the year 1982 to 1994 the gross domestic product seems doesn't have significant change, and up to the year 2002 it shows some significant changes, however since the year 2002 the GDP had shown increment with an increasing rate.
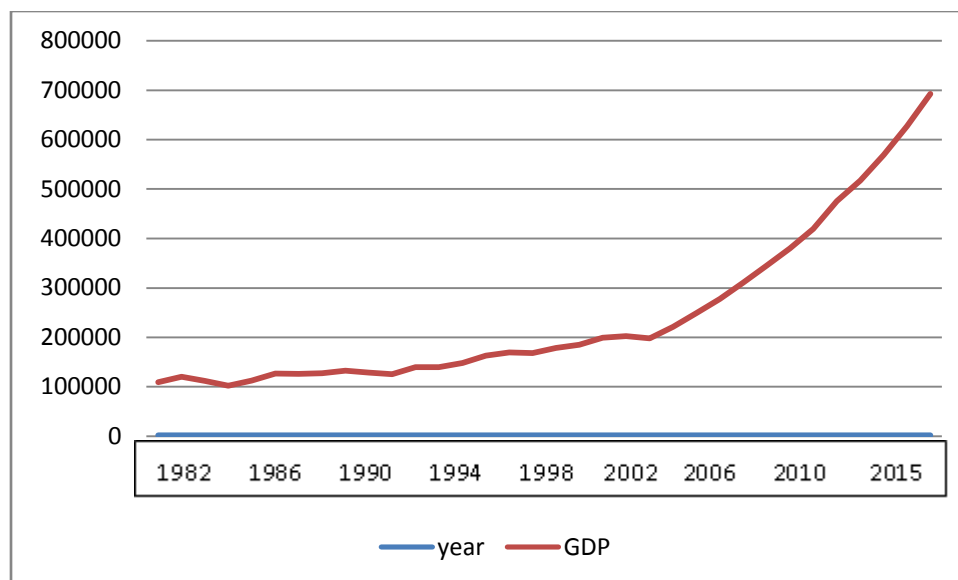
Figure 4: Trend of GDP

Source: National Bank of Ethiopia

4.2. Summary of Descriptive Statistics

In order to make the analysis a 34 year data were employed ranged from 1982 to 215. All of the statistics are in millions of birr. Accordingly the average domestic saving of Ethiopia in the last 34 years were 35533.84 (in millions of birr) with a standard deviation of 3921.17. Furthermore, the average Aid flow comes to the country in the last 34 years were 16139005.96 (in millions of birr), with a standard deviation of 11000000. The country also took a loan which amounts 40502.22 (in millions of birr) from abroad. Within the last thirty four years spend 29215.83 96 (in millions of birr) with a standard deviation of 15528.12. In addition to this in the last 34 years the government generates an average income of 243769.8 (in millions of birr).

Table 4.3 Descriptive statistics of all variables

Variable	Mean	Std. Dev.	Min	Max
Dsaving	35533.84	39210.17	4397.327	165250.6
Aid	16139005.96	1.107	1491296	3.12
Loan	40502.22	64353.89	2313.5	263901.7
Gexpenditure	29215.83	15528.12	10593.16	67894.25
GDP	243769.8	163234.9	101802.6	692221.9

Source: Compiled from secondary source

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4.3. Econometrics Results

4.3.1. Unit Root Test

In order to use a time series data for regression the data should be free from unit root problem; for the purpose of this study Augmented Dickey-Fuller Unit-root test is used. In order to avoid the problem of unit root the researcher uses the log of all variables. Although, the researcher expects the taking the log of each variable makes free of unit root problem, however, all of the variables had got a unit root problem at log level, therefore in order to avoid the problem first difference of the variables were taken, and the variables become free from unit root problem

Table 4.4: Unit Root Test Summary Results with trend & constant

	At log level	**1st difference**
LogDsaving	0.33	0.01
logAid	0.49	0.00
logGexpend	0.24	0.00
logFDI	0.30	0.023
Logloan	0.39	0.014
logGDP	0.063	0.021

Source: model results

4.3.2. Diagnostics Test Results

4.3.2.1.Autocorrelation and Heteroskedasticity

Autocorrelation that means the error terms should not be correlated. In order to see that Breusch-Godfrey LM test for autocorrelation were employed, the result of the test indicated that there is no a problem of autocorrelation, the error terms are not correlated linearly. Furthermore, Breusch-Pagan / Cook-Weisberg test for heteroskedasticity were performed to test the problem of heteroskedasticity, as shown in the table below there is no a problem of heteroskedasticity in the data.

Table 4.5: Autocorrelation and Heteroskedasticity test results

Types of testes	Diagnostics test	Chi2	Prob> Chi2
Autocorrelation	Breusch-Godfrey LM test	0.098	0.7546
Heteroskedasticity	Breusch-Pagan	2.52	0.1121

Source: Model result

4.3.2.2. Test of Multicollinearity

The term *multicollinearity* is originally meant the existence of a "perfect," or exact, linear relationship among some or all explanatory variables of a regression model (Gujarati, 2003). For the purpose of testing the multicollinearity problem VIF test was performed. According to Gujarati, (2003), if the vif is greater than 10, it is the indication of the presence of multicollinearity. As shown in the table below none of the variable had a vif value of greater than 10, which indicate no more problem of multicollinearity.

Table 4.6: Multicollinearity test result

Variable	VIF	1/VIF
Logloan	6.37	0.156985
logGexpenditure	7.42	0.134835
LogAid	1.63	0.614782
logFDI	4.21	0.237529
logGDP	3.52	0.284090
Mean VIF	29.28	

Source: Model result

4.3.3. Long Run Test for Co-Integration

This technique is employed to test the presence of co-integration between the series of the same order of integration through forming a co-integration equation. The basic idea behind co-integration is that if, in the long-run, two or more series move closely together, it is possible to regard these series as defining a long-run relationship, as the difference between them is stationary. Lack of co-integration implies that such variables have no long-run relationship (Onyekachi and Vincent, 2017).

Under the Johansen co-integration Test, there are two co-integrating equations. In Johansen's Method, the trace statistic determines whether co-integrated variables exist. In Johansen's method, the Eigen value statistic is used to determine whether co-integrated variables exist. Co-integration is said to exist if the values of computed statistics are significant and different from zero. Also, their eigen-values are significantly greater than zero. For the purpose of decision we are going to compare the 5% critical value and trace statistics. The Likelihood ratio is higher than 5% critical value and the Eigen value are found as (0.82384, 0.71384, 0.64489, 0.49277, 0.33284 and 0.18892). The Likelihood Ratio of Loan, FDI, Government Expenditure, GDP and Aid are greater than the critical value at 5% level of significance. Also, the Eigen values of Loan, FDI, Government Expenditure, GDP and Aid are significantly greater than zero. In other words, the null hypothesis of no co-integration among the variables is rejected. The test result shows the existence of a long-run equilibrium relationship in one co-integrating equations at 5% significance level. From the result, co-integration is said to exist since the trace statistics one co-integrating. This implies that there is a long run relationship among the one dependent variable and three independent variables. Therefore, according to the result there is one co-integration equation for domestic saving, foreign direct investment, Aid, GDP, Government expenditure and loan. This variable are go together in the long-run.

Table 4.7: Cointegration test result

Johansen tests forcointegration					
Trend: constant					Numberof obs=32
		Sample: 1983 -2015			Lags=2
maximum rank	parms	LL	eigenvalue	trace statistic	5%critical value
0	56	-26.316223	.	171.0100	124.24
1	69	1.465301	0.82384	94.1569*	115.44
2	80	21.484615	0.71384	68.5283	75.40
3	89	38.049667	0.64489	42.2782	47.21
4	96	48.910352	0.49277	20.5568	29.68
5	101	55.386037	0.33284	7.6055	15.41
6	104	58.736233	0.18892	0.9051	3.76
7	105	59.188776	0.02789		

Source: Model result

4.3.4. Vector Error Correction Model Estimation

Once the data is passed co-introgression it is possible to use vector error correction method; that means is the variables are co-integrated in the long run we can still use VECM. For the purpose of analyzing the regression the researcher employed vector error correction model.

Table 4.8: Vector Error Correction model result

Sample: 1986 - 2015				No. ofobs=29			
				AIC=-101.6191			
Log likelihood = 1634.477				HQIC=-99.24175			
Det(Sigma_ml) = 4.47e-57				SBIC=-94.02826			
Equation	Parms	Coef.	RMSE	R-sq	chi2	P>chi2	
D_logloan	26	.0132122	.122197	0.9657	84.41389	0.0430	
D_logGexpendit~e	26	.1665045	.166981	0.9017	27.51901	0.0825	
D_logAid	26	.03517227	.689104	0.8795	21.89648	0.0000	
D_logFDI	26	.0494061	1.43748	0.5736	4.035621	0.0000	
D_logGDP	26	.01186613	2.67801	0.8115	12.9122	0.0000	

Source: Model result

As indicated above the signs of the coefficients are consistent with theoretical predictions. The likelihood ratio test statistics using $\chi2$ - distribution indicate that the coefficients of Aid, FDI and GDP were significant at 1 per cent level, while the coefficient of government expenditure and foreign loan is significant at 10 percent level and 5 percent significant level respectively. But the coefficients of terms of government expenditure don't have significant relationship with domestic saving. The analysis indicate that foreign aid, FDI, GDP and Loan had long run effect on domestic saving; whereas government expenditure had no impact on domestic saving in the long run.

The coefficient on loan for the domestic saving is positive and significant. Changes in loan affects domestic saving. Which indicates the more the country get loan the more will be the domestic saving. The analysis shows that as the loan increases by one percent the domestic saving would increase by 1.3 percent. The coefficient on foreign Aid also found for the domestic

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saving is positive and significant; which indicate since foreign aid and domestic saving had positive and significant association, as the foreign aid increases so do the domestic saving. It suggests that One percent increase in foreign aid will appreciates the domestic saving by 3.5 percent.

The coefficient of FDI was also positive and significant; which indicate foreign direct investment influence positively. The finding shows that as the FDI increases by one percent the domestic saving would increases by 4.9 percent. Apart from these the coefficients of GDP also shows a positive and significant relationship with domestic saving. The analysis shows that whenever the GDP grows by one percent the domestic saving also increases by 1.1 percent.

In addition to the long run effect, post estimation was also performed in order to see the short run effect of each variable on domestic savings. Accordingly, as shown in the table below except GDP all the other variables had a short run effect. The analysis shows that loan and aid had a short run significant effect at 1 percent level of significance; furthermore, government expenditure and FDI had significant effect at 5% level of significance.

Table 4.9: Post estimation of short run effect

	chi2(4)	Prob > chi2
D_logloan	46.56	0.0000
D_logGexpendit~e	17.13	0.0218
D_logAid	19.30	0.0007
D_logFDI	10.42	0.0339
D_logGDP	29.89	0.5210

Source: Model result

The analysis shows that loan and foreign aid had both long and short run effect on domestic saving. For instance, capital inflows in the form of concessional loans and foreign aid have an impact on national saving. As noted earlier, the usual rationale for granting aid or concessional loans has been to augment domestic saving. But if instead, as many researchers (Elbadawi and Mwega, 1998, Dayal-Gulati and Thimann, 1997, Schmidt- Hebbel et al, 1996, and Masson et al, 1995, for instance noted), foreign aid is used to smooth out consumption instead of investment, it

will have a crowding out effect on domestic saving. That is, foreign aid is a substitute and not complementary to national saving. Recent empirical evidence seems to support the crowding out effect of foreign aid on national saving than the complementarity hypothesis (For more details, see Dayal-Gulati and Thimann, 1997, Schmidt-Hebbel et al, 1996, Global Coalition (1993). Ahmad and Ahmed, (2002) said that domestic resource mobilization is one of the vital determinants of economic growth. Saving performance is deprived high growth. Therefore, countries heavily rely on foreign capital to fill the gap between domestic saving and domestic investment. According to Onyekachi and Vincent, (2017) foreign capital inflow is positively related to domestic savings, indicating that sound policies are needed to achieve economic growth through domestic savings which leads to the positive capital inflow had a role in stabilizing the economy through domestic savings.

The finding shows that FDI has also both long run and short run effect; and government expenditure didn't show a long run effect, however it had a short run effect on domestic saving. The past study by Ohta (2008) shows that among the capital flows FDI has close relationship with domestic investment and had positive correlation with domestic savings in both advanced and emerging economies. Bashier *et al.* (2007) also stressed that there is, a long run positive casual relationship runs from FDI to net domestic savings by using Johnson co integration test and error correction model. According to Maryam and Javed (2013) FDI had significant and positive relationship with gross domestic saving(GDS) in long run. Positive linkage between foreign direct investment and gross domestic saving is also consistent with Shahbaz *et al.* (2008).

GDP also shows only a long run effect on domestic saving; however it didn't show a short run relationship with domestic saving. In line with this, Beshir, (2016) also found out that GDP had both a long run and short run effect on domestic saving. Further, he argues that high correlation between growth and saving. However the causality issue (whether saving causes growth or the other way round) is not yet settled. But, in general most studies seem to suggest that income growth influences saving as indicated by the statistically significant growth coefficient in saving equations. According to Hta (2015)It is also to be noted that changes in the results of regressions including the variables of capital inflows; while the coefficient for capital flows was significantly positive during 1980-95 when substantial investment in FDI and other productive investment was made in many emerging countries, short-term capital investment has increased since late

1990s. As a result, capital inflows show no positive effects on GDP growth and the effect became insignificant since 2000 and onward. On the other hand, domestic savings have become significantly correlated with GDP growth during 2010-13 with higher coefficient of determination (0.5487) in emerging economies.

CHAPTER FIVE: CONCLUSION AND POLICY RECOMMENDATION

5.1. Conclusion

Domestic recourse mobilization is one of the vital determinants of economic growth. Therefore, this research was done in order to see the effect of capital inflow on domestic saving. Particularly the intention of the research was analyzing to what extent foreign capital inflow affects domestic saving, identifying the effect of foreign loan, foreign aid and FDI on domestic saving and determining the implication of government expenditure on domestic saving. Causal research designs were employed and a time series data ranged 1982–2015 were employed. Furthermore a co-integration and vector error correction method were employed for the purpose of data analysis. The findings of the study shows that among the explanatory variables loan, foreign aid and FDI had both long and short run effect on domestic saving however, Government expenditure had only a short run effect on domestic saving; conversely, GDP had only long run effect.

5.2. Recommendation

The intension of this study was to analyze the effect of capital inflow on domestic saving; therefore based of the findings of the study the following recommendations were forwarded

- As the finding indicated that capital inflow had a significant influence on domestic saving, although this research concentrate on foreign aid type of capital inflow, from the findings it is possible to generalize that foreign capital inflow had influence the domestic saving hence, the government should strive to increase its domestic saving via loan, as well as aid. However, the generated aid and loan should be invested and should be productive. Apart from the aid, the government should encourage FDI into other sectors of the economy in order to enable increase in economic growth as against only into one sector of the economy such as the agriculture sector.
- According to the regression result, domestic saving facilitates the economic growth process in Ethiopia. Therefore, to achieve this economic growth the government should give attention on rising the domestic saving of the country.

REFERENCES

Ahmad, M. H., and Ahmed, Q. M. (2000). "Foreign Capital inflow and Domestic Saving in Pakistan: Cointergration Techniques and Error Correction Modelling."The Pakistan Development Review 41: 825–836.

Aitken, B.J. & Harrison, A.E. 1999. Do Domestic Firms Benefit from Direct Foreign Investment? Evidence from Venezuela. *American Economic Review,* 89(3), 605-618.

Ajayi, L.B. & Oke, M.O. 2012. Effect of External Debt on Economic Growth and Development of Nigeria. *International Journal of Business and Social Science,* 3(12), 297-304.

Akinlo, A.E. 2004. Foreign Direct Investment and Growth in Nigeria: An Empirical Investigation. *Journal of Policy Modeling,* 26(5), 627-639.

Antwi, S., Mills, E. F. E. A., Mills, G. A., & Zahao, X. (2013). "Impact of foreign direct investment on economic growth:" Empirical evidence from Ghana International Journal of Academic Research in Accounting, Finance and Management Sciences 3: 18–25.

Baharumshah, A. Z., and Thanoon, H. (2000). "Foreign Capital, Savings and Economic Growth: A dynamic Panel Study on the East Asian Countries." Department of Economics. University of Putra. Malaysia.

Barrell, R. & Pain, N. 1997. Foreign Direct Investment, Technological Change, and Economic Growth within Europe*. *The Economic Journal,* 107(445), 1770-1786.

Chenery, H.B. & Strout, A.M. 1966. Foreign Assistance and Economic Development. *The American Economic Review,* 56(4), 679-733.

Chong C. 2009. Determinant of Bank Profitability in a Developing Country. *Asian Academy of Management Journal of Accounting and Finance,* 4(2), 91-112.

De Mello Jr, Luiz R. 1997. Foreign Direct Investment in Developing Countries and Growth: A Selective Survey. *The Journal of Development Studies,* 34(1), 1-34.

De Mello, L.R. 1999. Foreign Direct Investment-Led Growth: Evidence from Time Series and Panel Data. *Oxford Economic Papers,* 51(1), 133-151

Djokoto, J. G. (2011). Inward foreign direct investment flows grow security, and agriculture in Ghana: A granger causal analysis. International Journal of Economics and Finance 3 188–197.

Dunning, J.H. & Lundan, S.M. 2008. *Multinational enterprises and the global economy.* Edward Elgar Publishing

Feldstein, M. (2000). "Aspects of Global Economic Integration:" Outlook for the futureNBER (Working Paper. No.7899. National Bureau of Economic Research. Cambridge University Press. Baltimore.

Görg, H. & Greenaway, D. 2004. Much Ado about Nothing? Do Domestic Firms really Benefit from Foreign Direct Investment? *The World Bank Research Observer,* 19(2), 171-197.

Gupta, S., Pattillo, C.A. & Wagh, S. 2009. Effect of Remittances on Poverty and Financial Development in Sub-Saharan Africa. *World Development,* 37(1), 104-115

Hasan, M. S. (2002). "Concessional foreign capital inflows and domestic savings across countires:" Dependency hypothesis re-visited. Journal of Economic Studies, 29: 388–422.

IMF (2010) *report of world development* 2010/2011

Kant, C. 1996. *Foreign Direct Investment and Capital Flight.* Princeton Studies in International Finance. No. 80. ISSN 0081-8070; No. 80. ISBN 0-88165-252-0)

McGillivray, M., Feeny, S., Hermes, N. & Lensink, R. 2006. Controversies over the impact of development aid: it works; it doesn't; it can, but that depends. *Journal of International Development,* 18(7), 1031-1050.

Mody, A., Murshid, A. P., & Mishra, P. (2000). Private Capital Flows and Growth. Finance and Development 28: 129-178.

Moreira, S. B. (2005). "Evaluating the impact of foreign aid on economic growth." Journal of Economic Development 30: 25–48.

Morrissey, O. (2001). Does aid increase growth? *Progress in Development Studies*, 1(1), 37-50.

Nosheen, M. (2013). "Impact of Foreign Direct Investment on Gross Domestic Product." World Applied Sciences Journal24: 1358–136.

Reisen, H. & Soto, M. 2001. Which Types of Capital Inflows Foster Developing-Country Growth? *International Finance,* 4(1), 1-14.

Reisen, H., and Soto, M. (2000). "the poor countries' international financial transactions." In financing the poorest countries. the world bank.

Shields, M. P. (2013). "Foreign aid and domestic saving: the crowding out effect."   Discussion paper 35/07. Department of Economics. School of Business and Economics. Monash University.

Stiglitz, J.E. 2000. Capital Market Liberalization, Economic Growth, and Instability. *World Development,* 28(6), 1075-1086

Summer, L. (2000). "international finance crises, causes, preventation and cures." American economic review.90: 1-16.

Svensson, J. 1999. Aid, Growth and Democracy. *Economics & Politics,* 11(3), 275-297.

Taslim, J. T., and Weliwita, R. (2000). "foreign direct investment and prodactivity; evidence from selected countries." In building coalitions for effective development finance. Global development finance.

Temple, J.R. 2010. Aid and Conditionality. *Handbook of development economics,* 5, 4415-4523.

Uneze, E. (2010). Testing the impact of foreign aid on domestic private investment in West Africa. African Review of Money, Finance and Banking, 7–27.

World Bank 2013. World Bank Global Financial Development Database (GFDD). Washington D.C. World Bank

Younger, S.D. 1992. Aid and the Dutch Disease: Macroeconomic Management when Everybody Loves You. *World Development,* 20(11), 1587-1597.