COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF ACCOUNTING AND FINANCE

THE IMPACT OF PUBLIC SECTOR BORROWING ON ECONOMIC GROWTH IN ETHIOPIA

By

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ADVISOR: TEKALIGN NEGA (Phd)

A Research Project Submitted to Department of Accounting and Finance, Addis Ababa University in Partial Fulfillment of the Requirements for the Degree of Masters of Science in Accounting and Auditing

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Approval

The undersigned certify that they have read and here by recommend acceptance of the research project submitted by Yohannes Hailu, entitled the impact of public sector borrowing on economic growth in Ethiopia in Partial fulfillment of the requirements for the Degree of Masters of Science in Accounting and Auditing.

Approved by Examining Board

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Declaration

This research project is my original work, has not been presented for a degree in any other university and that all sources of material used for the research project have been properly acknowledged.

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This research project has been submitted for examination with my approval as the research Advisor.

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List of Abbreviations and Acronyms

DRI	Debt Relief International
DSA	Debt Sustainability Assessment
EDS	External Debt Service
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GNP	Gross National Product
GTP	Growth and Transformation Plan
HIPCs	Highly Indebted Poor Countries
IMF	International Monetary Fund
LICs	Low Income Countries
MDRI	Multilateral Debt Relief Initiative
NI	National Income
PCGDP	per Capital Gross Domestic Product
R&D	Research and Development
TDO	Total Debt Outstanding
WB	World Bank

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Abstract

This research was based on Debt Overhang Theory and Dual Gap Theory. This study adopted a descriptive research design; secondary data was collected in this study. The study used secondary data on external borrowing from the Ministry of Finance Ethiopia National Bureau of Statistics, and National Bank of Ethiopia, IMF website, world development indicators and World Bank data. The data was collected from 1991 to 2018, with GDP growth rate as a function of Public Debt. Data was analyzed using STATA version 14.

This study is therefore an effort to determine the effect of Public Debt on Economic Growth in Ethiopia. Specifically, the study tries to answer the question Public external debt; Public domestic debt and debt servicing have any significant effect on Economic Growth. The study uses a linear regression model to analyze Ethiopian data from the economic years 1991 to 2018.

CHAPTER ONE: INTRODUCTION

1.1.Background of the study

Developing countries are characterized by being less developed industrially and a lower Human Development Index when compared to other countries. However, developing countries do have the potential for high growth and security when evaluating factors including the standard of living, gross domestic product and per capita income.

Most countries across the world borrow funds to meet their financing needs and close the budget deficit. To cover up the gap between its expenditures and revenues, it has to borrow one way or another from internal and external resources.

Public sector borrowing is the debt owed by a central government. Government debt constitutes both domestic and external debt. External debt can be from bilateral, multilateral or commercial sources. Bilateral sources include government to government while multilateral sources include government to a conglomeration of countries or agencies that have created a pool of resources from which they lend. Multilateral debt could be sourced from financial institutions such as the IMF, African Development Bank and the World Bank among other Institutions (Polly, 2009). Domestic debt includes funds raised through financial assets such as Treasury bills and bonds and money borrowed from other locally owned financial institutions. Similarly, Domestic debt is used to fill the financing gap developing countries face due to low savings, since their financial sector is not deepened.

External debt has debt overhang effect if it is not utilized effectively and efficiently until optimal amount, according to Krugman's hypothesis (2008), there is likelihood that external debt will impact economic growth in the long run.

Economic Growth can be defined as a sustainable increase in real Gross Domestic Product (GDP) and real GDP per capita. GDP is the total market value of all final goods and services produced annually by resources located within a country, regardless of their ownership. Real GDP is GDP adjusted for inflation, that is, nominal GDP divided by the price index. Real GDP per capita is simply real GDP divided by the total population. Thus, economic growth is a quantitative measure Girma (2018).

Later on due to created fiscal spaces the government has borrowed substantial resources from concessional sources as well as provided consent and guarantees to SOEs to borrow from non-concessional sources to implement priority mega projects. These subsequent borrowing created to some extent in increments of debt volume of the country within short period of time.

Debt ratios are commonly used in the analysis of debt sustainability because they provide a relative measure that is standard and comparable. For instance external debt as a percentage of Gross Domestic Product (GDP) shows how much of the wealth created by the nationals of a country compare with the foreign indebtedness.

To make matters worse, Ethiopia has been paying its external debts taken by SOEs to finance its development projects by borrowing from domestic sources such as CBE that could be a vicious circle and even unable to further borrow from external sources. Moreover, ministry of finance started coupon bond to finance SOEs, such as electric power generation, on development projects.

Debt, both external and internal, currently, affecting Ethiopia's position in debt sustainability and distress IMF (2018), through, low export performance, delays in high public led development projects.

1.2.Research Problem

Ethiopia is facing challenges in servicing external debt due to decline in export bills in the past decade and is ranked as "High risk" (IMF, 2018). In its Debt sustainability analysis (DSA) report on Ethiopia, the DSA document even emphasizes that risks have increased in terms of debt distress in the future.

Depending on both external and domestic borrowing for its developmental purpose, Ethiopia's debt rise over the years, reaching over 44% of GDP in 2018. The record of some debt relief in terms of loans among others has proven futile in a bid to relieve the economy of its suicidal debt distress.

This continuous rise in the domestic and external debt of Ethiopia has brought to the fore the need for the government of Ethiopia to formulate and implement practical debt management strategies to moderate the effects of the debt of the economy. The need to finance rising government expenditure has been identified to be responsible for the rapid increase in the stock

of Ethiopia's domestic and external debt. Due to the required huge amount of financing for public sector enterprises, the countries labeled to high risk rate by International Monetary Fund (IMF).So, it needs to be done something with all urgency.

Ethiopia's external debt size is currently 26.4 Billion USD, (Inc. Ethio-Telecom & EAL) (31.3% GDP,), and that of domestic debt stood at 20.46 BillionUSD (16.9% GDP) and a total of 48.2% to countries' Plan & Development (2018), and present value of total debt is 44% of GDP.State Owned Enterprises took lion share, Planning Development Commission (2016/17). This could be more serious issue if we further notice HIPC and MDRI are no longer active to issue debt write-off since 2014.

Ethiopia being a developing country compliments its revenue through export of few commodities. In attempt to add to available domestic resources, successive governments have acquired huge sums of Public Debt to finance National Development Plans. A high level of debt in Ethiopia poses a great challenge for the economy because a large portion of revenues is devoted to servicing the debt instead of being put into domestic investment, thus reducing the prospects of economic growth. The conventional view is that a high level of debt may lead to crowding out and also constrain the scope of counter cyclical fiscal policies, which may result in higher volatility and adversely affect economic performance. This study is therefore an effort to determine the effect of Public Debt on Economic Growth in Ethiopia.

However, the most critical aspect of external debt that requires greater emphasis is the risk exposure of the economy to unsystematic risk. Risk refers to the potential for the cost of debt to deviate from its expected outcome. This stems from unexpected variations of different economic variables such as interest rate and exchange rate. Market risk, operational risk and liquidity risk are the types of risks associated with public debt portfolio.

Studies conducted previously in Ethiopia came to different results, Desta (2005) used co integration& ECM approach and OLS and reported that external debt stock impact economic growth positively.

Studies conducted previously in Ethiopia came to different results, Desta (2005) used co integration& ECM approach and OLS and reported that external debt stock impact economic growth positively.

Some researchers such as Hana(2013) used co integration approach and deployed only data up 10 years to 2010, and concluded external debt servicing impacted economic positively even if the result deviated from theory of crowding out effect. And others concluded external debt has negative impact on economic growth of Ethiopia using data from (1985-2015) and VECM model, Tsigereda (2017).

This study focuses on examining the recent debt changes as the previous studies on "impact of external debt on Ethiopian economic growth", found different results and the current issues on debt sustainability issues regarding external debt accumulation and debt service by government of Ethiopia and financing development projects to boost economic growth and exports by state owned enterprises rationalize to conduct in-depth study to show which one of the previous studies findings are supported.

The study also focuses on impact of domestic debt on economic growth as domestic debt in recent times is the issue in making it an alternative financing source, according to Paniza (UNCTD, 2008) and 43 % of Ethiopia's total debt is financed from domestic debt since demand of domestic debt is growing recently though developing countries are characterized by low domestic saving, and as far as the researcher's knowledge is concerned. There are no previous studies conducted in Ethiopia on the effect of domestic debt on economic growth.

1.3. Research Objective of the Study

1.3.1. General Objective

The main study's was to determine the effects of external and domestic public debt on economic growth in Ethiopia.

1.3.2. Specific Objectives

The study addressed the following research questions.

i. To establish the relationship between external public debt and economic growth in Ethiopia.

ii. To establish the relationship between domestic public debt and economic growth in Ethiopia.

iii. To establish the relationship between total public debt and economic growth in Ethiopia

iv. To recommend an optimal policy prescription for prudent management of public debt component.

1.4. Significance of the Study

Ethiopia has increasingly accumulated both external and domestic debt over the years. The volume of outstanding external obligations is raising concern about the future sustainability. Given the weak institutional and regulatory framework governing debt management, it is important to establish a stable causal relationship between public debt and economic growth. This will not only provide a more prudent approach to debt management but also help improve the rating of creditworthiness of the country. This study is therefore crucial for the country to promote policies that will ensure countries are leveraged towards enhancing economic growth through capital accumulation, domestic investment and productivity growth. It is important to assess the risks associated with the debt portfolio because such information enables decision makers to design forward looking strategies on the optimal debt structure in terms of maturity, interest rate and exchange rate.

1.5. Scope and Delimitation

The study pursues analysis of Ethiopia debt and its impact on its economic Growth. In order to fully capture its effect on the economy, a thorough empirical investigation was conducted with data covering a period of 28 years that is from(1991-2018) . Moreover, only government and government guaranteed debt is considered in this research as it focuses on public debt. The study focuses on selected variables only; since the data collected from different sources had some inconsistency and lack of data to use time series data longer than 28 years.

CHAPTER TWO: LITIRATURE REVIEW

2.1 Introduction

This chapter conducts a review of literature on the relationship between public debt and economic growth as established by other researchers. Theoretical literature review will concentrate on the scientific theories while empirical literature review will be based on findings from experiments and observations by other researchers. The literature, in particular the empirical part, on the relationship between total Public debt (External and Domestic) and economic growth is scarce. Most studies emphasize on the impact of external debt on economic growth or impact of domestic debt on economic growth.

This section discusses the, theoretical, empirical and conceptual framework of previous works.

2.2 Theoretical Literature Review

Developing economies are characterized by low income, saving and expenditure management system that leads to have low domestic investment as a result of poor resource mobilization capacity due to mentioned reasons above. Solow (1956) neoclassical model asserts that economic growth can be brought by expansion of investment. The model emphasizes that to achieve economic growth by increasing the amount of savings and investment. To realize this, countries have two options to mobilize resources, domestic and external, that can be generated through taxes, non-tax revenue sources, grant, remittances and debt. In case of developing countries, governments finance their deficit using taxes, non-taxes and domestic borrowing, however, realistically low saving make it difficult to fill the finance gaps, and to seek alternative finance from abroad in terms of external debt for financing development projects and consumption.

As Befekadu (1992) identified, the less developed countries like Ethiopia suffer from an overriding vicious circle of low production and absence of surplus for economic development. Therefore, there is small capacity to save, resulting from low level of real income which is an indication of low productivity, which in turn is due to mainly to the lack of capital. Keeping this in mind, the lack of capital is also a result of small capacity to save.

It is evident that to break out of this vicious circle, the country must enlarge its savings, since the crucial role of capital in the production process is unquestionable. Given the need for huge capital stock and the inadequacy of domestic saving to finance investment that would make this possible, domestic saving should be supplemented by foreign resources. The extra need of investment is quite increasing the call for external debts also. Even domestic saving rates are high enough; necessity of foreign exchange is still inevitable because of requirement of importing investment goods. In this framework for the lack of savings and foreign exchange, the needs for external sources come into being so this incident makes the external debts inevitable.

In order to enhance economic performance most of the poor countries engage investments that are greater than their domestic savings, foreign finance in the form of external debt becomes extremely necessary. Chenery and Strout (1996) showed that this finance in the form of aid contributes to growth by relieving some of the potential bottlenecks of savings and foreign exchange. However, many bankrupt African nations witnessed slow growth in the late 1970s and early 1980s. This slow growth resulted in wide spread poverty and inability to reputation the foreign liabilities incurred.

Accordingly, some findings advocate that, reasonable levels of debt, further borrowing would be expected to have a positive effect on growth. However, others stress that large accumulated debt stocks may be a barrier to growth. Both these elements together imply that debt is likely to have non linear effects on growth. External debt has an inverted U-shaped relation with economic growth. The effect is initially positive, but as debt ratios increase beyond the turning point of the debt stock curve, debt eventually slows growth. When debt stock reaches beyond the level of inability to meet debt servicing obligations, the overall contribution of debt turns negative. Therefore, the need for external borrowing depends on both level of past accumulated debt and the productivity of future borrowing.

According to Krugman (1988) and Serven (1997), both high levels of public debt and swift changes in domestic and foreign government indebtedness, increases resources misallocations, capital inefficiencies and economic uncertainty since the government might adopt distortionary measures to finance the debt repayments – leading to slowdown in economic growth. The economic uncertainty will either discourage potential investors from investing, preferring to

wait, or will cause capital flight as the private investors would want to avoid the potential increase in taxes (Serven, 1997).

Several theoretical contributions have focused on the adverse impact of external debt on the Economy and the circumstances under which such impact arises. In this line of research Krugman(1988) coins the term of "debt overhang" as a situation in which a country's expected repayment ability on external debt falls below the contractual value of debt Cohen's (1993) theoretical model posits a non-linear impact of foreign borrowing on investment (as suggested by Clements et al. (2003), this relationship can be arguably extended to growth). Thus, up to a certain threshold, foreign debt accumulation can promote investment, while beyond such a point the debt overhang will start adding negative pressure on investors' willingness to provide capital.

The late 20th and the early 21stCenturies arguments on the impact of government debt service costs on economic growth are also centered mostly on the utilization of domestic factors of production. The debt-resource-hypothesis states that excessive indebtedness amplifies the rate of both natural resource exploitation and more unsustainable patterns of resource use (Neumayer, 2005). Countries with high debt payment costs supposedly increase their extraction of fossil fuels and mineral resources, as well as their production, in order to meet debt payment commitments (Cunningham, 1993).

According to Karagol (2002) and Cunningham (1993), labor and capital exploitation in the production process depend largely on the country's debt service burden and the size of the economy. In particular, public debt service costs negatively affect labor and capital productivity, with service payments benefiting foreign creditors rather than domestic investors. In other words, when foreign creditors rather than domestic investors profit from the rise in productivity, increase of capital and labor force will be discouraged – leading to depressed long-run economic growth rates in debtor countries (Cunningham, 1993). Cunningham (1993), thus, extended the traditional growth models by adding public service as an independent input in the production process: $Y = f(K, L, DS)$, where Y is the rate of economic growth, K is capital, L is labor and DS is public debt service payments.

The crowding out effect of foreign public debt payments on economic growth is supported in literature by Chowdhury (2004), Pattillo et al.(2004), Clements et al.(2003), Elbadawi et al.(1997), Fosu (1996) and Cohen (1993), among others. Chowdhury (2004) states that, high

levels of public debt stocks and debt service costs can squeeze investment through high levels of inflation and interest rates – which then ruin macroeconomic stability in debtor countries. Foreign public debt payments are assumed by Pattillo et al.(2004) and Cohen (1993) to cause severe domestic liquidity constraints. These liquidity constraints prompt a reduction in: (i) public expenditures on infrastructure development, (ii) human capital formation and (iii) the importation of critical industrial enablers, which lowers the rate of economic growth (Aizenman et al., 2007). According to the IMF (2018), public debt service payments in most developing countries have considerably minimized the fiscal space to fund social expenditure programmers' such as education and health, and have also reduced public allocations meant to embark on meaningful research and development.

According to Clements et al.(2003), high foreign public debt service costs cause an exponential increase in the government's interest bill leading to unsustainable fiscal deficits. The implication of rising government spending towards foreign public debt repayments is a reduction in public savings and soaring of domestic interest rates (Clements et al.,2003). Resultantly, the rising costs of borrowing crowd out private investment thus dampen the rate of economic growth. Clements et al.(2003) added that foreign public debt servicing costs crowd out economic growth by worsening the terms of trade of the debtor country, forcing up domestic tax rates, and depressing returns on investment. In extreme circumstances, where countries use natural resources, especially minerals, and agricultural output to pay foreign debts, the rate of resource depletion will be high (Clements et al., 2003).Similarly, Elbadawi et al.(1997) argue that foreign public debt payments cause uncertainties which can undermine the effectiveness and sustainability of otherwise credible economic reform programmes, with debt service payments crowding out public investment. Fosu (1996) highlights the negative impact of foreign public debt on investment choices due to the liquidity constraint effect stemming from debt service payments. According to Fosu (1996), a country suffering from large debt service payments is likely to have low productive investment mix due to foreign exchange liquidity constraints. The liquidity constraints are likely to reduce the availability of investment funds and amplify increased dependence on relatively short-term investments, rather than long-term investments, in order to service the debt (Fosu, 1996). The author added that high debt service may result in decreased capital and labor productivity and referred to this effect as the "direct effect of debt hypothesis".

Furthermore, Oks and Wijnbergen (1994) argue that high foreign debt repayments can lessen the government's incentive to implement important structural and fiscal reforms if the state anticipates that foreign creditors will benefit more than it.

Soydan and Bedir (2015) argue that debtor countries use a substantial amount of newly borrowed resources in debt servicing thus negatively affecting productive investments.

The growth in domestic public indebtedness, according to Clements et al. (2003), added to the growing uncertainty about actions and policies that the government will adopt in order to meet its debt servicing obligations – negatively affecting both private investment and foreign direct investment decisions.

Contrarily, the IMF(2012) argue that if borrowed public funds are used in productive activities, movements in future domestic interest rates, taxation rates and debt service payments will not be injurious to the economy. Feldstein (1988) added that when the national income increases at a rate higher than the domestic interest rate of public debt, then the government can increase its debt without reverting to distortionary taxation or issuance of new debt. Furthermore, Stein (1886: 230) points out that public debt servicing are harmless if "every debt-financing of public expenditure led to productivity increases that would cover the debt service". Conclusively, a large body of reviewed theoretical literature shows that: (i) debt-servicing ability and creditworthiness are compromised when public debt levels are growing faster than the economy, or when interest rates on public debt exceed economic growth rates (Baneth, 2003); and (ii) the negative impact of public debt service on real activity are mitigated when low-income countries are net recipients of resource transfers from donors - even when public debt repayments are high (Clemens et al., 2003: 3).

2.2.1 Debt Overhang Theory

Debt overhang hypothesis is the dominant theory underlying the adverse consequence of an excessive debt stock. Debt overhang is a situation in which the expected repayment of the external debt falls short of the contractual value of debt. As Krugman (1989) identified, if the country's debt level is expected to exceed the nation's repayment ability with some probability in the future, expected debt services is likely to be an increasing function of the country's output level. Thus some of the returns from the domestic economy are taxed away by

the existing foreign creditors, which discourage investment and economic growth. Sachs and Kenen (1990) concluded that the external debt overhang is a primary cause of stunted economic growth in heavily indebted countries.

Krugman (1988) debt overhang theory states that there is probability in the future debt will be larger that countries repayment ability, debt servicing costs will be discouraging to further investment as the expected rate of return will be very low since it will be shared by the creditors. This gradually discourage both domestic and foreign investment so does economic growth (Krugman, 1988, Sachs, 1989a).

Were (2001) debt overhang even gets worse that debt not only affect investment in physical capital but education, health and technology in the long run. Debt Countries can have both liquidity and insolvency problems; liquidity is the current phenomena where countries fall short of money to pay debts currently, but overhang is a situation where counties are unable to service their debts in the long run termed as insolvency; according to (Ajayi, 1991) a country is insolvent when it is incapable of servicing its debt in the long run.

Liquidity problem has been issues for indebted poor countries overtime , that is , countries have been facing shortfalls to pay their debts in short term; Jonse (2002) emphasizes that although the indebted poor countries have been solvent the willingness to pay decline for a variety of reasons major ones from domestic factors mostly known is wrong macroeconomic policies such as fiscal irresponsibility and exchange rate misalignment, policies that deter savings such as negative real interest rates, which in turn reduce investment and encourage capital flight and financing long-run projects with short-term credits. External factors reasons for unwillingness are; terms of trade decline and rising foreign interest rates and oil.

Freytag, et.al (2008) the NPV of the debt servicing increases with debt stock up to a certain optimal point beyond which a high face value of the debt will be associated with low efforts and investments, lower economic growth and lower NPV of expected debt service. In the case of public investment, the incentive to investment is discouraged when a huge share of the return on the debt is paid to the creditor (Johansson 2010).

Domestic debt on the other hand is the alternative source of financing which recently developing countries have been shifting towards domestic debt to finance government investment gaps, both

budget deficit and project financing by State owned enterprises. Domestic debt is the financing government budget gap and demand from development project by SOEs, in Ethiopia case, by internal sources.

The major instruments of government domestic borrowing are treasury bills, bonds and Direct Advance (DA) that is borrowing from central bank. Currently Ministry of finance started coupon bond to finance State Owned Enterprises, particularly, to EPPCO to implement power generation projects. Since domestic debt market is not well developed to get money through treasury bills, direct advance is the major component of domestic debt.

Government Bonds, with longer term maturity (10 years and more); have been issued for special purposes rather than as a means of raising money to fill the budget gap. The major holders of government securities in Ethiopia are the National Bank of Ethiopia and the Commercial Bank of Ethiopia followed by government and private banks and insurance companies, Public Servants Social Security Agency and other public enterprises.

Domestic debt can be a base for both primary and secondary market if there is a free market activity with market interest rate.

Public Debt in Several empirical studies find that, public debt/GDP ratios above a certain threshold lower economic growth. In addition to Reinhart, Reinhart and Rogoff (2012) and Reinhart and Rogoff (2010), Checherita-Westphal and Rother (2012) and Baum, Checherita-Westphal and Rother (2013) identify the same phenomenon in data from 12 euro area countries. These findings are new in that previous literature does not show that public debt has a significant effect on economic growth, while it does show the negative effects of government spending and budget deficit on economic growth (Barro and Sala-i-Martin, 1995; Fischer 1991). Reinhart, Reinhart and Rogoff's (2012) findings that public debt overhang tends to lower both economic growth and the interest rate is puzzling because the textbook argument of crowding out (see for example Gal´ı, L´opez-Salido and Vall´es, 2007, and standard macroeconomics textbooks, such as Romer 2011) implies that expansionary and inefficient fiscal policy is associated with high interest rates. Interest rates are low in 11 episodes of public debt overhang including Japan's lost decades. Non-Keynesian effects (Giavazzi and Pagano, 1990; Bertola and Drazen, 1993; Perotti, 1999) are also related to this finding on public debt overhang: the non-Keynesian effects of

expansionary fiscal policy lead to low consumption due to expectations of a one-time tax distortion in the future. As the non-Keynesian effects explain the short-term phenomenon, the finding that public debt overhangs continues for decades is still puzzling.

The theory is related to the theoretical literature on public debt and economic growth pioneered by Diamond (1960). Saint-Paul (1992), Brauninger (2005), Futagami, Hori and Ohdoi (2010), and Arai, Kunieda and Nishida (2012) find that an increase in debt lowers economic growth. The slowdown of growth is basically driven by crowding-out and the interest rate rises when growth slows down. The public debt overhang is a political economy model in line with Acemoglu and Robinson (2005) and Acemoglu (2009, chapters 22 and 23) in that the incumbent government's political incentive plays a crucial role in generating an inefficient outcome.

Theoretical literatures suggests that foreign borrowing has a positive impact on investment and growth up to a certain threshold level; beyond this level it affects growth negatively. As Cohen (1993) indicated, the relationship between the face value debt and investment can be represented as a kind of Laffer curve. Other considerations imply that high debt levels may also constrain growth by lowering total factor productivity growth. The poorer policy environment, in turn, is likely to affect efficiency of investment and productivity. In addition, high levels of uncertainties and instabilities related to debt overhang are likely to hinder incentives to improve technology or to use resource efficiently.

2.2.3. Recardian View on Domestic Debt (Tax cut or Deficit)

This view is developed by Ricardo (1820) and later advanced by Barro(1989) known as Recardian equivalence, argues that debt financed tax cut (budget deficit) has no effect on consumption, output, interest rate , Real GDP and net exports even in the short run.

Consumers are modern, and know that a debt-financed tax cut today is equal to an increase in future taxes that is equal in present value to the tax cut or deficit. Thus, the tax cut does not make consumers better off, so they do not spent or raise consumption. Thus according to this view, consumers save the full tax cut in order to repay the future tax liability. As a result, private saving rises by the amount public saving falls, magnitude of national saving remains unaffected. Therefore there is no change in consumption and aggregate demand to push out put any further.

The critics on this view is that, not all consumers think that far in the future, not all consumers are able to borrow because there is no perfect mobility of capital enough money therefore they spend the tax cut instead, and consumers may expect, in the future they may not repay tax cuts so they spend in present times.

2.2.4. Traditional view on Domestic Debt (Tax cut or Deficit)

The traditional views, on the effect of public budget deficit to encourage consumption by cutting taxes argues that, cutting taxes and encourage consumption to stimuli aggregate demand will have positive effect in the short run but negatively affect economic growth in the long run. This view explains Government budget deficits financed by borrowing make consumers relatively richer than they would be without borrowing; then Consumption increases that will be a stimulus aggregate demand to increase output in the short run.

2.3 Empirical Literature

The empirical evidence on the impact of public debt service on economic growth predominantly suggests that heavy public debt service costs constraint public and private investment, and hence economic growth prospects. Empirical evidence from developing countries on the impact of public debt service on economic growth is concentrated around the period from 1990 to 2005, and is generally inconclusive. Studies supporting negative relationship between public debt service and economic growth include Karagol and Özdemir (2004), Hansen (2002), Karagol (2002), Serieux, and Samy (2001), Weeks (2000), Cohen (1993), Cunningham (1993), and Savvides (1992).

Karagol and Özdemir (2004) investigated the relationship between gross national product (GNP) growth rate and public debt burden (the sum of the interest payments and foreign debt repayments), with gross domestic investment, labour and 1973 oil crisis dummy as additional variables, for the period from 1958 to 1996. The results show that the impact of debt burden on GNP growth rate is significant and negative. A one percent increase in foreign debt interest payments and repayments reduced Turkey's GDP growth rate by 0.84 percent. According to Karagol and Özdemir (2004), the results indicate that a considerable amount of the foreign exchange was being diverted to the foreign creditors, thus reducing domestic output.

In 2002, Hansen analyzed the impact of total debt service payments and official aid flows on real GDP growth rate and investment using a sample of 50 developing countries, both highly indebted poor countries (HIPC) and non-HIPC countries. The estimated cross-country study findings of Hansen (2002) show that total government debt service payments have a significant negative impact on both investment and real GDP growth rates. The study results show that for each one percentage point increase in total debt service payments to GDP, there will be a negative impact on real GDP growth, amounting to 0.145 percent.

Karagol (2002) examined the short-run and long-run impact of foreign debt service, capital stock, labour force and human capital on gross national product growth rate in Turkey for the period from 1956 to 1996. Employing the Johansen and Juselius maximum likelihood estimation technique, the results of Karagol (2002) show a negative short-run and long-run impact of debt service on gross national product growth rate in Turkey during the study period. The results of Karagol (2002) indicate that for each one percentage point increase in interest payments and foreign debt repayments, there will be a negative 0.01 percent decline in real GNP growth. Based on the study findings, Karagol (2002) concluded that potential increases in debt payments depress the returns to productive investment and discourage capital formation.

Serieux and Samy (2001) investigated the impact of public debt service, investment, human development on economic growth in 53 low-income countries and lower middle-income economies for the period from 1970 to 1999 using panel datasets. According to Serieux and Samy (2001) debt service costs crowd out both public and private investment spending by suppressing capital imports which are necessary in enhancing the productive capacity of the economy. The authors argue that, for countries with non-traded currencies, interest payments and foreign debt repayments leads to reduced import capacity of capital goods – resulting in reduced investment and lower GDP growth rates. Furthermore, Serieux and Samy (2001) stated that the reduction in debt repayment burden – following the debt relief of 1996 and 2005 – allowed HIPC countries to: (i) resume borrowing, taking advantage of low global interest rates, and (iii) trade securities on international capital markets resulting in partial improvements in economic performances. Moreover, the authors added that, despite the debt relief, the adverse developments in international commodity market prices between 1996 and 2005 compromised the ability of most HIPC countries tosettle their old and new foreign financial obligations leading to a built-up of sovereign debt vulnerabilities (Serieux and Samy, 2001). Weeks (2000) studied

the relationship between foreign public debt service and the rate of GDP growth in two groups of economies, that is, 18 Latin American countries and 4 highly performing Asian countries – Indonesia, Malaysia, Singapore and Thailand –over the period from 1960 to 1994. Using the ordinary least square estimation technique, Weeks (2000) found that the debt service variable was significant even at less than 1 percent significance level. The findings of Weeks (2000) show that a 1 percent increase in foreign public debt service lowers the rate of GDP growth by 1.6 percent in studied Latin American countries. However, Weeks (2000) found an insignificant relationship between public debt service and GDP growth in Asian countries.

Cohen (1993) examined the correlation between debt service and investment in 81 low-income countries for the period from 1965 to 1987 using the ordinary least square method. By dividing the study period into three-time periods, that is, 1965-1973, 1974-1981 and 1982-1987, the empirical results of Cohen (1993) found evidence consistent with the crowding out hypothesis. The results show that for every 1 percent of GDP paid abroad, domestic investment decreased by 0.3 percent of GDP. Cunningham (1993) studied the link between public debt burden and GDP growth in sixteen heavily indebted countries over the period from 1971 to 1986, using standard production functions – which consisted of physical capital, labor and debt service. Cunningham (1993) classified debt servicing as a primary factor of production, just like capital and labour. The results of Cunningham (1993) show that between 1971 and 1979, debt service payments had a negative impact on GDP growth and that the productivity of capital and labour were significantly reduced. Contrary, Cunningham (1993) found no significant evidence of a relationship between these two macroeconomic variables for the period from 1980 to 1986. Savvides (1992) investigated the relationship between public debt service and GDP growth by applying cross-sectional time-series data in 43 developing countries for the period from 1980 to 1986.Using a two-stage limited dependent variable model, Savvides (1992) states that, if a debtor country is unable to pay its foreign debt, debt payments will start depressing the country's economic performance. From the debtor country's perspective, Savvides (1992) added that public debt service payments have the same negative effect on GDP growth as a rise in marginal tax rate – thus, depressing investment return and amplifying disincentive effects on domestic capital accumulation. These empirical results by Savvides (1992) were confirmed by Stephens (2001) who used a panel of 24 highly indebted poor African countries to examine the impact of debt service on GDP growth. The results of Stephens (2001) show that for each additional US$1

in debt service, there will be: (i) a US$0.33 reduction in education spending; and (ii) a fall in government wage expenditure of between US$0.14 and US$0.23. Stephens (2001) therefore concluded that debt service payments reduce GDP growth by crowding out public spending in both critical production activities and human capital formation.

Empirical studies which have found no economic linkage between public debt servicing and economic growth include Jalles (2011), Hepp (2008), Pattillo et al.(2002) and Hansen (2001). Jalles (2011) analysed the impact of government debt service on GDP growth in 72 developing countries over the period from 1970 to 2005. Using a combination of the fixed effects and generalised method of moments (GMM) estimation techniques, Jalles' (2011) results show an insignificant effect of public debt service on GDP in the studied countries. The results further reject the existence of a debt service-laffer curve relationship in the sample countries. Hepp (2008) tested whether numerous debt initiatives of the 1980s and 1990s had a significant impact on GDP growth per capita in low-income countries. Applying both GMM and fixed effects regression techniques, Hepp (2008) concluded that, on average, public debt service relief had no impact on GDP growth rates per capita in beneficiary HIPC countries. However, the results of Hepp (2008) indicate that the 1996 Heavily Indebted Poor Countries Initiative and the 2005 Multilateral Debt Relief Initiative had a positive effect on GDP growth rates per capita in non-HIPC countries.

Pattillo et al.(2002) analysed the link between foreign debt payments and GDP growth rates per capita using panel data of 93 developing countries for the period from 1969 to 1998. After using four different econometric methodologies, that is, instrumental variables with lagged values, Least Square Method, system of GMM (with and without dummies) and fixed effects, Pattillo et al.(2002) concluded that there is no statistically significant relationship between foreign public debt service payments and GDP growth rates per capita in developing countries. Pattillo et al.(2002) argue that as long as these countries use the borrowed funds for productive investment and are not affected by macroeconomic instabilities, arising from policy uncertainties or sizable adverse shocks, GDP growth rates per capita should increase and allow for timely public debt repayment. However, Pattillo et al.(2002) concluded that if debt becomes larger than the country's repayment ability, then, public debt service costs would then dampen further domestic and foreign investment, in addition to lowering efficiency of investment – thus reducing GDP growth rates per capita.

Hansen (2001) investigated the impact of foreign public debt servicing on GDP growth rate using a sample of 54 developing countries, 14 being highly indebted poor countries. Hansen's (2001) model included three additional explanatory variables to public debt and economic growth, that is, fiscal balance, inflation and trade openness. The cross-country regression findings of Hansen (2001) found no evidence of a link between foreign public debt servicing and GDP growth in studied countries.

Among more recent studies, several find support for a non-linear impact of external debt on growth, with deleterious effects only after a certain debt-to-GDP ratio threshold. Pattilloet al. (2002) use a large panel dataset of 93 developing countries over 1969-1998 and find that the impact of external debt on per-capita GDP growth is negative for net present value of debt levels above 35-40% of GDP. Clements et al. (2003) investigate the same relationship for a panel of 55low-incomecountries over the period1970-1999 and find that the turning point in the net present value of external debt is at around 20-25%of GDP. Other previous empirical studies that find anon-linear effect of external debt on growth include Smyth and Hsing(1995) and Cohen (1997). On the other hand, Schclarek (2004) finds a linear negative impact of external debt on per-capita growth (and no evidence of an inverted U-shape relationship) in a panel of 59 developing countries over the period1970-2002.

Schclarek (2004) also investigates the relationship between gross government debt and per-capita GDP growth in developed countries. No robust evidence of a statistically significant relationship is found for a sample of 24 industrial countries with data averaged over seven 5-year periods between1970 and 2002.

In contrast, a recent study by Reinhart and Rogoff (2010), which analyses (through simple correlation statistics) the developments of public (gross central government)debt and the long-term ReaL GDP growth rate in a sample of 20 developed countries over a period spanning about two centuries (1790 - 2009), finds that: (i) the relationship between government debt and long-term growth is weak for debt/GDP ratios below a threshold of 90% of GDP; (ii)above 90%, the median growth rate falls by one percent and the average by considerably more. A similar change in the behavior of GDP growth in relation to the debt ratio is also found by Kumar and Woo (2010).

In the same vain Were (2001) observed that the capacity of the difference between consumption and income in under developed economies has not been high enough due to the inadequacy of income resulting into low savings. Capital in the circumstance therefore needs to be augmented by external funds to enhance investment and hopefully raise the degree of growth in the economies. It should be born in mind that such funds must be efficiently invested and profitably utilized. This will lead to countries successes in boosting their rates of growth. The reason for incessant dearth of capital in developing countries mostly originates from inadequate inflow of foreign exchange from outside to supplement local savings (Ajab and Audu, 2006).

2.4 Conceptual Framework of the study

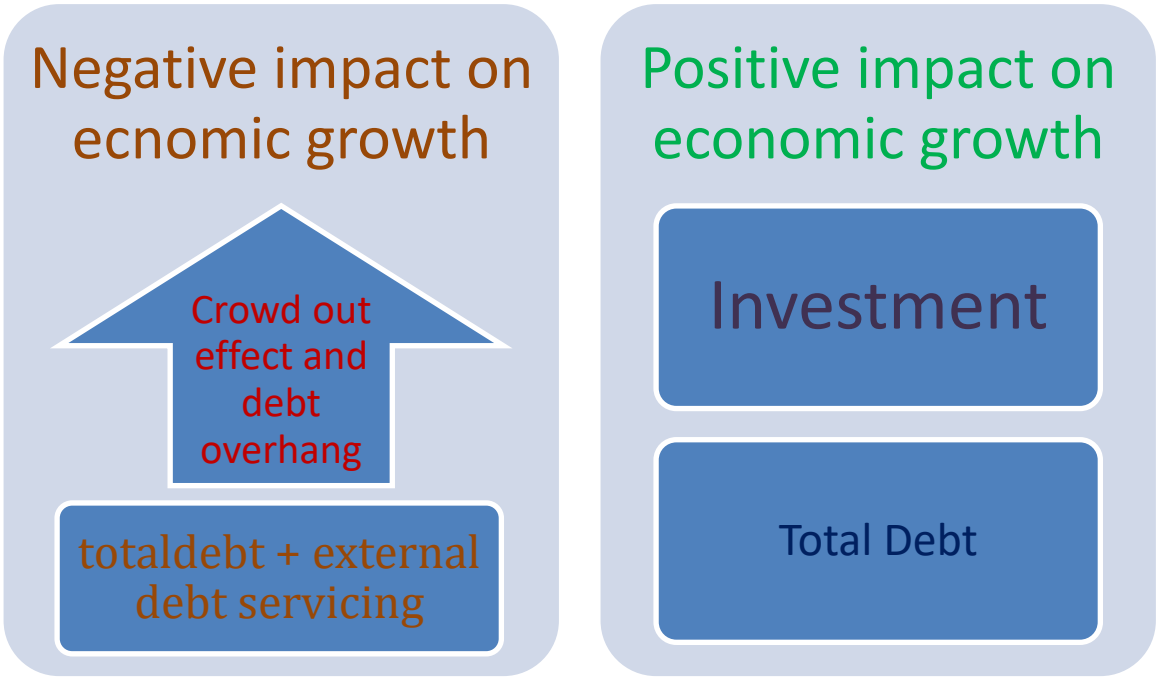
There are two major sources of debts in Ethiopia the internal and external sources: the internal sources include development stocks, treasury bills, treasury certificate, treasury bonds and ways and means of advances according to Likita (2000), Types and causes of public debts According to Likita (2000) the types of debt are: Balance of payment support Loans, Trade debts, Project-tied Loans and socio-economic Loans. The causes of public debts are; oil price shocks, structure of the loans, project viability, rise in interest rate, international economic recession, neglect of non-oil sector.

Likita (2000) defined debt as a contractual obligation of owed or collected borrowing with a assurance to payback at a future date. Every economy requires an amount of capital to generate production and sustain development: capital, being a factor of production is particularly important but relatively scarce, and the dearth of capital is much more prevalent in developing countries which Ethiopia happen to be among. It is defined according to Oyejide (1985) as the resource or money use in an organization which is not contributed by its owner and does not in any other way belong to them. It is a liability represented by a financial instrument or other formal equivalent. When government borrows, the debt is a public debt. Public debts are either internal or external, incurred by the government through borrowing in the domestic and international markets so as to finance domestic investment.

Debts are classified into two i.e. productive debt and dead weight debt. When a loan is obtained to enable the state or nation to purchase some sort of assets, the debt is said to be productive e.g. money borrowed for acquiring factories, electricity, refineries etc. However, debt undertaken to finance wars and expenses on current expenditures are dead weight debts. When a country

obtains a loan from abroad, it means that the country can import from abroad goods and services to the value of the loan without at the same time having to export anything for exchange. When capital and interest have to be repaid, the same country will have to get the burden of exporting goods and service without receiving any imports in exchange. Internal loans do not have the type of burden exchange of goods and services. These two types of debt, however, require that the borrowers' future savings must cover the interest and principal payment (debt servicing).

Figure 2.1 Conceptual Frame Work



Source (Author, 2019)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1. Introduction

This chapter is a blueprint of the methodology that was used by the researcher conduct the study. In this chapter the research methodology was presented in the following order; research design, data collection, and finally the data analysis.

3.2. Research Approach and Design

This study deployed time series data of 28 years. I used co- integration approach to examine the short and long run relationship between dependent and independent variables considered in the study and Vector Error correction Model (VECM) were used to find out the relationship.

3.3. Data Collection

The study used secondary data on external borrowing from the Ministry of Finance, Ethiopia, National Bank, Planning Commission, internet, world development indicators and World Bank and IMF data. The data was collected from 1991 to 2018.

3.4 Data Analysis

The researcher collected data on public sector borrowing. From the secondary data sources, the study used Linear Regression Model to analyze the relationship between public sector borrowing and economic growth in Ethiopia.

3.5 Statement of hypothesis

The aim or objective of this study is to examine the impact of Public Debt on the Ethiopia Economy (i.e RGDP and Unemployment rate). In line with the above objectives, the hypotheses were stated thus:

H1: External debt has significant relationship between External debt and Gross Domestic Product (GDP).

H2: Domestic debt has significant relationship between Domestic Debt and Gross Domestic Product (GDP).

H3: **External debt service** has significant relationship between Public Debt and Gross Domestic Product (GDP).

H4: **Public Debt service** has significant relationship between total debt service and Gross Domestic Product (GDP).

3.6. Data Analysis Technique

The data was collected and checked, edited and organized then got ready for second stage of pre analysis. The variables to use in the analysis are, Real GDP, domestic and external debt,. Diagnostic tests such as; Augmented Dickey-Fuller stationery test to test and prevent spurious regression, God-Frey's LaGrange Multiplier (L-M) correlation test, and the presence of long run relationship were tested using Johansson for co-integration using Trace and Max statistics was used because it is for series with two or more variables, and VECM model was deployed to determine whether there is the long and short run relationship between dependent and independent variables. Moreover, STATA 14 was used for data entry, organization, and analysis and Table reports

3.7. Regression Model

Adopted from Akram (2015) and he used Cunningham (1993) who introduced debt burden in to Cob-Douglas production function to explain Economic growth (GDP) as a function Capital and Labor, and debt as an additional input, like capital and labor, needed to accelerate investment which leads to economic growth.

The equation of Cob-Douglas production function using Domestic and external debt is as follows

Originally Q (L, K, and Debt) $=\boldsymbol{\alpha}L^{\beta}\mathbf{K}^{1-\beta}$ …..Which in this study is expresses as Domestic Debt (D) and **External Debt (E),** then the function can be rewritten as:

Q (Domestic Debt, External Debt) $=AD^{\beta}E^{1-\beta}$**---**

Where Domestic Debt Outstanding and External Debt Outstanding is representing domestic and external debt, adopted from Akram (2015) and used these two variables.

$$\mathbf{GDP = \alpha DDO^{B1}EDO^{B2}E}$$

LOG GDP=A+ B1LOGEXT+ B1LOGDOM+E -- with increasing returns to scale due to technical change.

Where B1 is elastic coefficient of Domestic debt,

B2 is elastic coefficient of EXT debt and E is noise term.

Basically Solow growth model states that debt has an effect of economic growth through investment until some optimal point is reached, on the contrary debt has indirect effect on investment; thus, transmission mechanism through which the debt affects growth is its reduction on the resources available for investment by debt servicing. According to debt overhang hypothesis debt has a direct positive effect on economic growth until some point but pushing it further has a negative effect on economic growth.

3.8 Vector Error Correction Model (VECM) of Real Gross Domestic Product

Initially, VECM was devised to describe a relationship between the short-run dynamic and the long-run equilibrium (Sargan (1964)). Granger and Weiss (1983) and Engle and Granger (1987) pointed out that if two variables are co integrated at the first difference order, their relationship can be expressed as the VECM by taking past disequilibrium as explanatory variables for the dynamic behavior of current variables (Maddala and Kim 1998).

Some studies compile, in a single model both the short and long run variables (e.g. Fielding, 1997, Agrawal, 2001). For that, an Error Correction Model (ECM) can be used. This approach enables the long run equilibrium relationship and the short-run dynamics to be estimated simultaneously (Gujarati, 2003). This type of technique helps to correct the potential bias in the estimation of the coefficients in models with differences that do not take into account co integration relationships. When these long-term restrictions are ignored, there could be an omitted variable bias (Gujarati, 2003).

Harris (2000) summarizes the four desirable features of ECM as follows:

- it evades the possibility of spurious correlation among strongly trended variables;
- the long-run relationships that may be lost by expressing the data in differences to achieve stationarity are captured through inclusion of lagged levels of the variables on the right-hand side;
- the specification attempts to distinguish between short-run (first-differences) and long-run (lagged-levels) effects; and

- It provides a more general lag structure, and does not impose too specific of a structure on the model.

The VECM used in this work is specified as:

$$\Delta PCGDP_t = \alpha O_t + \Delta B_1 DDO_t + \Delta B_2 EDO_t + \Delta B_3 EDS_t + \Delta B_4 NLR_t + \Delta B5 EXPt + B_6 DDO_{t-1} + B_7 EDO_{t-1} + B_8 EDS_{t-1} + B_9 NLR_{t-1} + B_{10} EXP_{t-1} + \varepsilon_t$$

The Ordinary Least Square Model is used to determine the results of the relationship between dependent (RGDP) and independent variables, Domestic Debt, External Debt, and Debt Service. The model fit as follows,

PCGDP= β0 + β1DOD + β2EDO+β3EDS +β4LnNLR+ β5EXP +E

Where, PC=PerCapitaGDP

DDO = DOMESTIC DEBT OUTSTANDING

EDO= EXTERNAL DEBT OUTSTANDING

EDS = EXTERNAL DEBT SERVICE

NLR=Lending Interest Rate

EXP= Export

E=Error term

β0, β i= Constant Slope coefficients of DDO, EDO, EDS, DDS, NLR, EX

3.9. Diagnostic Tests

Test for Stationarity (Unit Root): Times series data was assumed to be stationary after unit root test was done to check stationarity of the variables. Using non-stationary data in regression model leads to spurious results where test statistics exhibit a significant relationship between variables even when no such results exist (Riman and Eyo, 2008).The study employed the Augmented Dickey Fuller (ADF) tests procedure. ADF test is a standard procedure conducted to test whether a series has a unit root. The basic equation used in the ADF test is expressed as:

(i) ADF with an intercept but no trend

$\Delta Yt=\alpha+\rho Y_{t-1}+\sum_{i=1}^{k} di\Delta Yt-1+et$

(ii) ADF with trend and intercept $\Delta Yt=\alpha+\beta t+\rho Y_{t-1}+\sum_{i=1}^{k} di\Delta Yt-1+et$

The ADF tests the null hypothesis:$|\rho|=0$against the alternative $|\rho|<0$ in the autoregressive equations.

Normality test: The study checked whether the variables followed the normal distribution. Jargue- Berra test was used to determine whether the variable is normally distributed. A null hypothesis of normality was tested against the alternative hypothesis of non-normal distribution. For normal distribution the JB statistic was expected to be statistically indifferent from zero.

Ho: JB= 0(not normally distributed)

H1: JB =0(normally distributed)

Rejection of the null for any of the variables would imply that the variables were not

Normally distributed and a logarithmic transformation was necessary.

Autocorrelation test: To test for autocorrelation the study used the LM (Lagrange –multiplier) test which:

Null Hypothesis (Ho): there is no autocorrelation

Alternative Hypothesis (HA): there is Autocorrelation was deployed to check whether there is serial autocorrelation in the time series.

Accepting the Null Hypothesis enables us to conclude that the error Term in the time series Model used has no autocorrelation and Vice versa.

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents analysis and findings of the research. The objective of this study was to establish the effect of public sector borrowing on economic growth in Ethiopia. The study used secondary data GDP, external debt, domestic debt, external debt redemption,

4.1.2. Debt Situation in Ethiopia

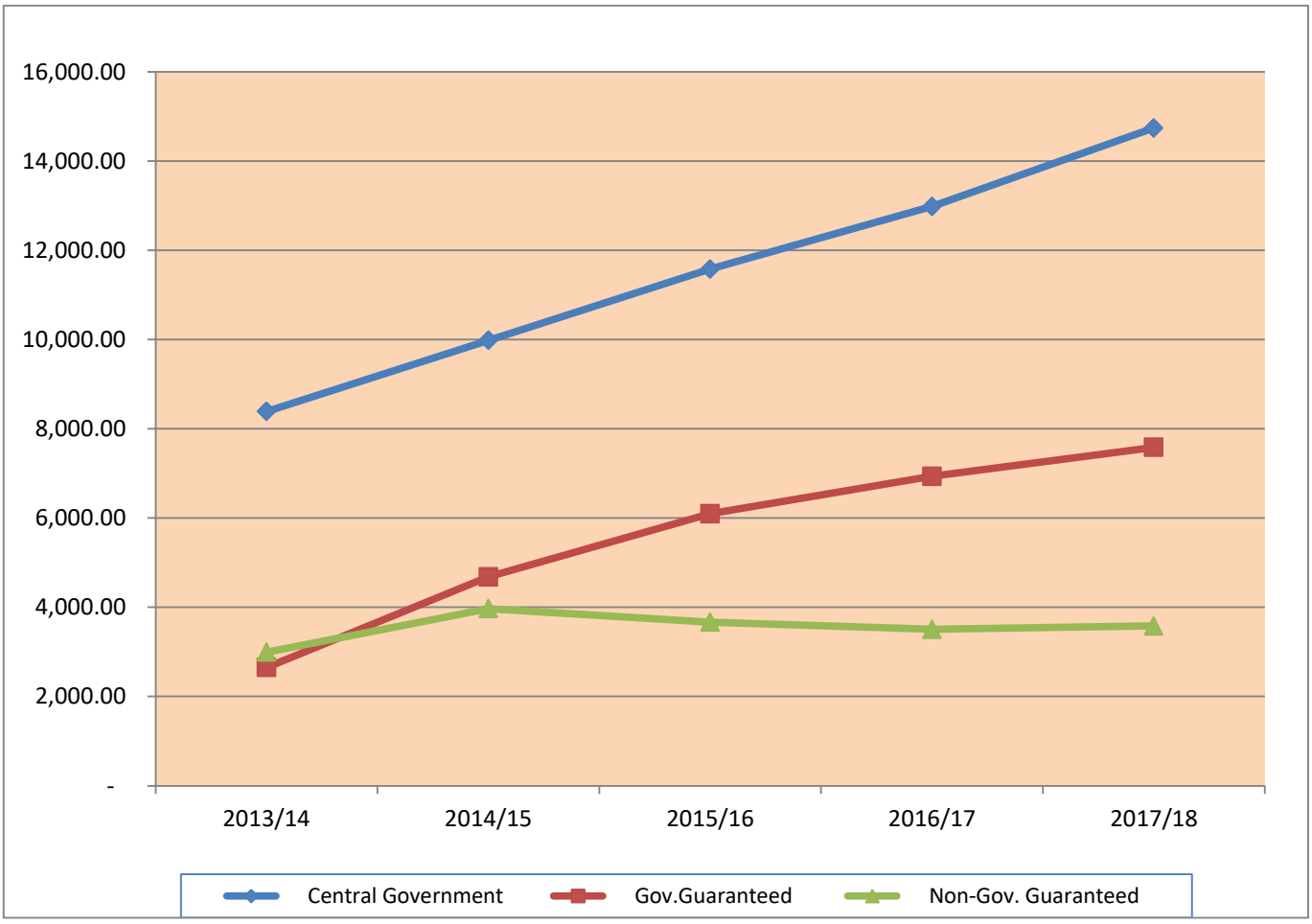
4.1.2.1 External Debt

External Debt Outstanding: - Ethiopia's external debt stock which stood at US$ 23,421.04 million as of June 30, 2017 rose to 25,908.80 million by end June 2018. The Increase of 10% in the external debt stock in 2017/18 is partly attributable to larger than planned net resource flows resulting from external project loans disbursement.

The outstanding external debt in 2013/14 was USD 14,034.76 million and then the Stock during the last five years has increased to USD 25,908.60 million in 2017/18. The Increment in nominal terms within five years (2013/14 – 2017/18) was about USD 11,873.84 million which was about 85% of the stock in the 2013/14. The outstanding debt as at June 30, 2018 was higher than that of the preceding year by 10.6%. This is mainly attributed to new disbursements from IDA, Exim-Bank of China, as well as borrowings by SOE"s from commercial and suppliers' creditors during the year indicated.

Figure- 4.1 Public Sector External Debt Outstanding by Borrower Category

2013/14 -2017/18
Million USD



Source: - Ministry of Finance

4.1.2.2. Domestic debt

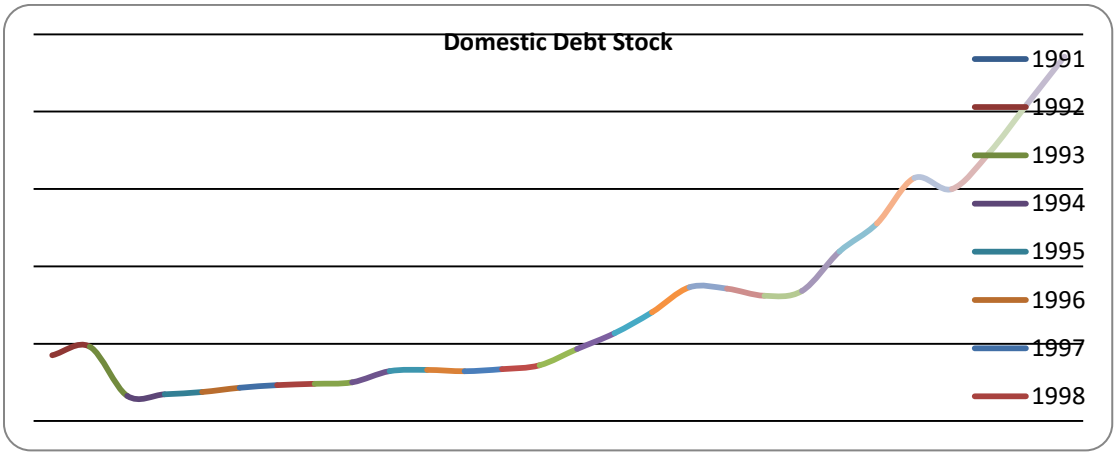
Over the observation period there were some changes in both the composition and structure of the domestic debt. The total domestic debt is dominated by borrowings of SOEs which currently constitute about 53.9 % of the total domestic debt. This tells that currently SOEs are contracting huge loans from domestic sources tofinalize some of the mega projects.

In the last five years due to increase inthe issuance of Treasury Bills, its relative share increased and reached to 17.9 percent of the total stock of domestic debt.Accordingly, althoughdirect advancewas suspended for one fiscal year (July 8, 2011-July 7 2012) to arrest inflation,the

percentage share of directadvance remains flat and declinedto 24 percent in 2018/19. The stockof the corporatebonds of SOEs has the highest share of the total domestic debt stock followed by directadvance and treasury bills of central government.

Government of Ethiopia had been using domestic debt to finance its budget deficits and SOEs demand to finance projects. Major sources of Domestic debt are government bonds, T-Bills, and Direct Advance, and recently EPPCO started coupon bond. This study focuses on debts taken by government and government guaranteed debt by state owned enterprises. The main creditors of government domestic debt are its own institutions such as; Private and Public Social security agency, Commercial bank of Ethiopia, and National Ban of Ethiopia. The participation of private sector in buying T-Bills is very limited since interest rate remains below 3%, that is, below the minimum saving rate of banks. Direct advance means borrowing from National Bank reserves and had the major share of domestic debt; bond has been issued only for the special purpose to finance GERD Coupon bong recently started.

Figure 4.2 Domestic Debt Outstanding Through Period (1991-2018) in million USD



Source: - Ministry of Finance

Domestic Debt out Standing has shown an increasing trend since 1991that was 4 Billion USD and currently it reached 23.5 Billion USD, particularly after 2013, it run from 12.7 Billion USD to 23.55 Billion USD, about 2 fold within 6 years**.** This is mainly due to SOEs started to borrow from CBE to finance development projects. Thus, during considered years of the study from 1991, direct advance had been the main source of domestic debt taken by the government, in chain of GTPs implementation.

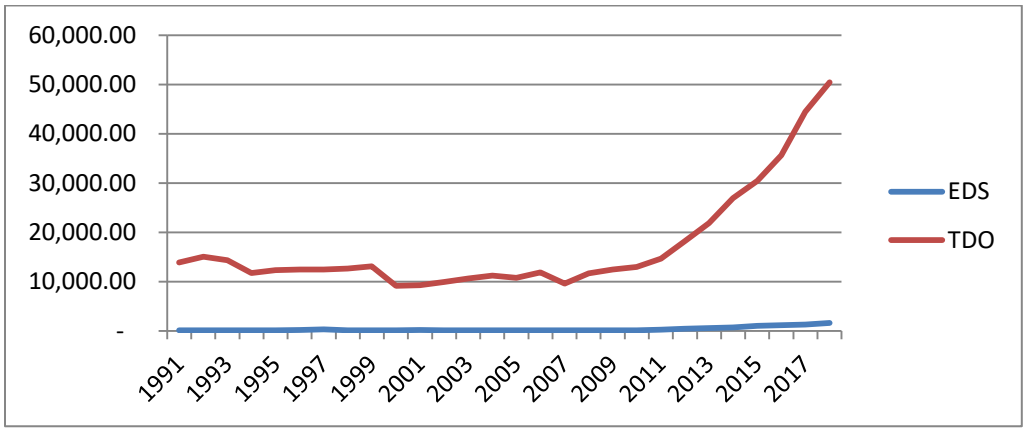
Ethiopia over the past years, had an ambitious plan and projects implemented such as, Metal, chemical, pharmaceuticals, sugar, and cement etc., in GTP-I to bring economic transformation from agriculture to industry that needed ample amount of money to finance and domestic debt remained one of the sources.

4.2 External Debt Servicing

Moreover, external debt servicing, averaged 331.05 million USD and in minimum payment was 77.1 million USD and maximum is 1576.5 million, which is very huge gap, 20 fold.

As shown in the figure the total debt has shown upward trend over the period considered in the study and external debt serving is more or less constant that shows Ethiopia debt payment overtime has shown not more improvements, for some reason, one Ethiopia's debt has been concessional, that is longer payment period and low interest payment, and debt was written of many times.

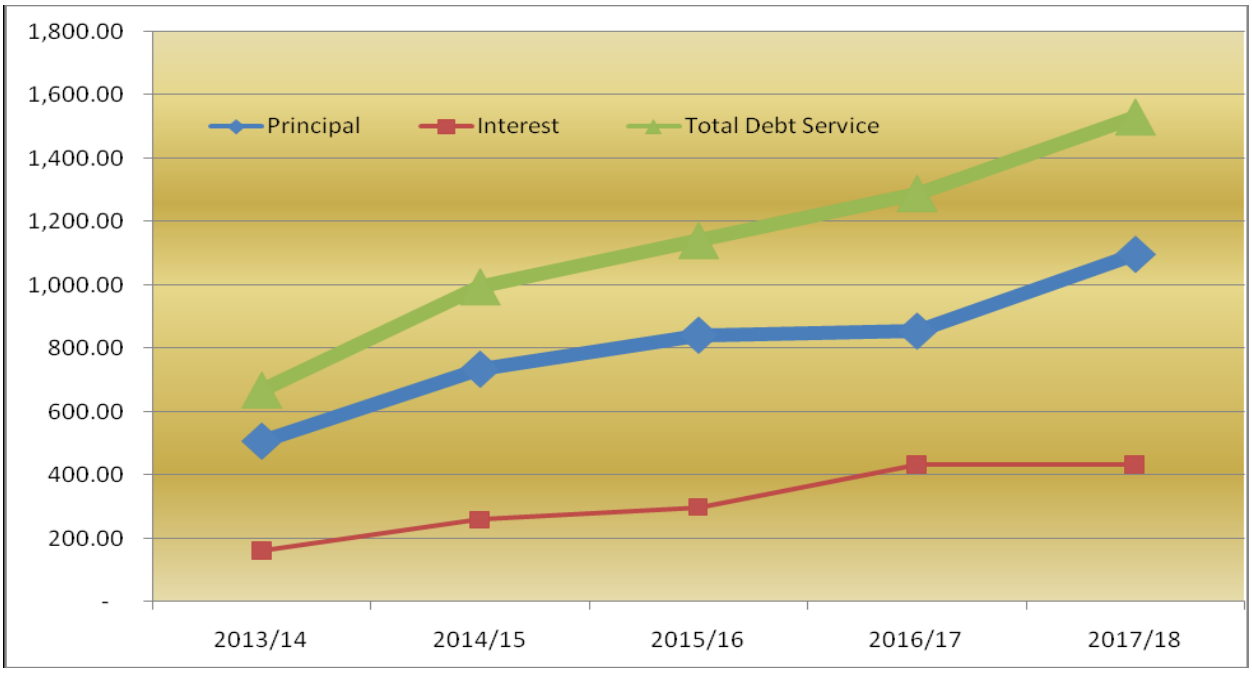
Figure 4.3 Total Debt – external debt servicing graph.



Source: - Ministry of Finance

Figure 4.4 External Debt Service Payments by Principal and Interest

2013/14 - 2017/18



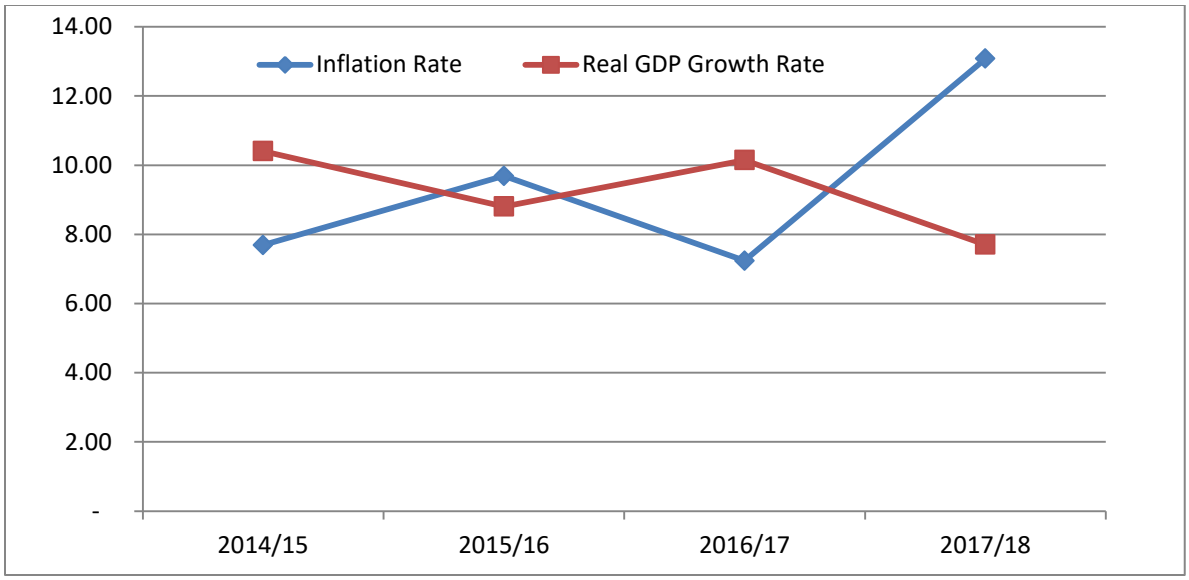
Source: - Ministry of Finance

Macroeconomic Development in 2017/18

- **Gross Domestic Product (GDP)**

Ethiopia's Gross Domestic Product has been grown by 7.71 percent in 2018 from 10.15 percent in 2017. Although the medium-term outlook is strong, the growth recorded in fiscal year 17/18 was the lowest of the last several years. Trends of economic activity growth continued in 2017/18, however, at a lower compared to the previous year. The economy has remained resilient despite multiple shocks arising from prolonged drought, lengthy political instability and global particularly external sector economic slowdown.This poor performance of the Ethiopian economy was largely due to the low growth of agriculture, external sector and industry.

GDP growth in 2018 was broad based, i.e. all sector recorded positive growth rates. Industrial production continued its positive trends registering 12.2 percent growth, as a result of the growth of the manufacturing industry and construction sector's significant expansion of 15.7 percent in 2017/2018. Services sector experienced an 8.8 percent growth while agriculture rose by 3.5 percent.

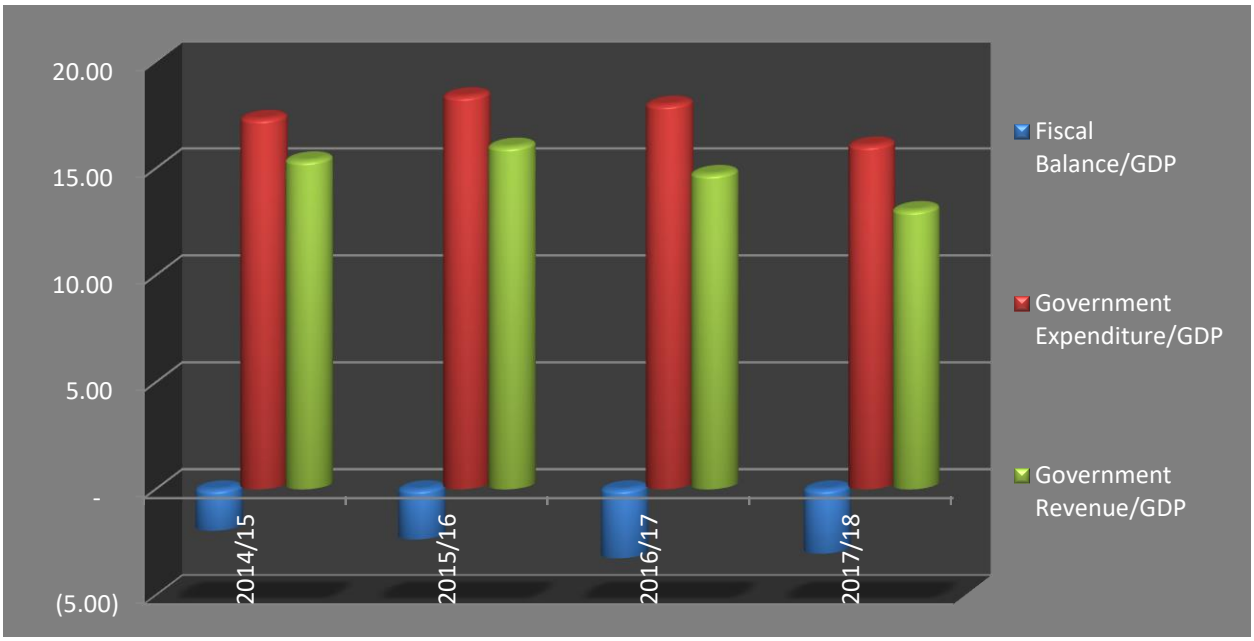


Fiscal Policy

The level and financing of the budget deficit is designed in view of promoting the desired macroeconomic goals such as controlling inflation, boosting private investment and growth and maintaining external credit worthiness. The main trust of fiscal policy in Ethiopia is to strength domestic revenue generation, effective and efficient allocation and utilization of the resources and maintaining fiscal deficit consistent with macroeconomic objectives. As a result during the years 2008/09-2017/18 on average about 80% of the government budgetary revenue was mobilized from domestic revenue sources.

On the other hand, Government expenditure has been an important driver of Ethiopia's economy. The expenditure pattern was mainly focusing on allocating more resource for building economic and social infrastructure to provide basic services. To this end, in the last many years the lion's share of the annual budget was devoted to capital expenditures which are critical in bringing future benefits through building physical assets and infrastructures, as well as promoting human resources development and research and development.

The Government over the past years capped the overall budget deficit at about 3 percent of GDP through a general fiscal rule. In fiscal year 2017/18, the overall budget deficit including grant turned out to be 3.03 percent of GDP. This was against a deficit target of 3.4% of GDP.



Inflation

Average moving consumer price index inflation rate in 2018 is amounted to 13.1%. Prices of food products had the most significant contribution to the increase of consumer prices in 2018.

External Sector

During 2018/19, total export of goods and service earnings reached USD 7.7 billion, showing 8.4 percent increased to last year. It shows an average growth rate of 6 percent in the last five years. Import of goods and service in 2018/19 was USD 20.7 billion increasing by 5 percent over the last year same period. Net private transfers increased by 4 percent over last year same period and amounting to USD 6.4 billion. The 2018/19 current account deficit amounted to USD 6.6 billion, higher than USD 6.4 billion of last year's same period.

As figure below shows overall balance in percent of GDP in 2018/19 is about 1.02 percent and current account in percent of GDP is about 4.9 percent and consistently shows improvement over the last years.

4.3 Results Regression Analysis

4.3.1. Diagnostic Results for Classical Linear Regression Model

Classical linear regression technique requires that all the necessary assumptions be made alongside the fulfillment of certain properties that must hold for the variables under study (Enders, 1995). Before estimation, these requirements were ascertained.

4.4 Results for Unit Root Tests

The fundamental contribution of this test is, to question the validity of the stationary assumptions of classical regression technique in light of the time series property of macro variables. The first step in time series econometric analysis is to carry out unit root test on the variables of interest. The test examines whether the data series is stationary or not. Working with non-stationary variables leads to spurious regression results from which further inference is meaningless. To conduct the test for stationary of the series, conventional Augmented Dickey-Fuller (ADF) test is used with and without a trend. The null hypothesis in these tests maintains that the series under investigation has unit root. On the other hand, alternative hypothesis claims that the series is stationary. The results of the test for the variables at level and first difference are presented in table 4.1 and 4.2 respectively.

4.4.1. Unit Root Test, augmented dickey-fuller (ADF) test

This test is used to find out whether target variables are stationary or not , and it is a criteria before establishing the relationship between variables and using OLS regressions estimation , if the variables are said to contain unit root , or if the variables are non- stationary. It is used to prevent spurious relationship between variables.

Table 4. 1 Unit Root Test, augmented dickey-fuller (ADF) test

Variables		Test Statistic	5% Critical Value	Test Statistic	5%Critical Value	Conclusion
		At Level		At First Difference		
PCGDP	Intercept	2.4	-2.994	-3.173	-2.997	Stationary at FD
	Trend & Intercept	-1.016	-3.592	-4.9	3.596	Stationary at FD
TDO	Intercept	5.85	-2.994	-3.138	-2.997	Stationary at FD and level
	Trend & Intercept	3.3	-3.592	-5.548	3.596	Stationary at FD and level
EDS	Intercept	-4.914	-2.994	-8.365	-2.997	Stationary at FD
	Trend & Intercept	-4.836	-3.596	-8.196	-3.596	Stationary at FD

From the ADF criterion, the variables , Per Capita GDP, external debt service and domestic debt were found to contain unit root at level. And they are fund to have no unit root or all three variables are stationary at first difference .If the computed statistics greater than the asymptotic critical values in absolute terms, the null hypothesis that the series contained unit root was rejected and the series concluded to be stationary (Judge, 1985).

4.5 Descriptive statistics

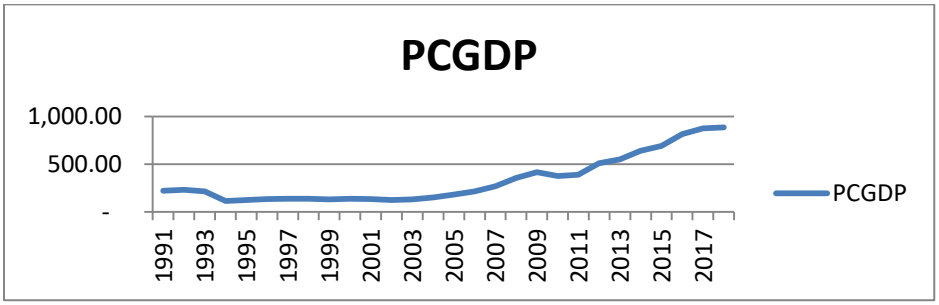
Table 4.2. Descriptive statistics Summary

			Confidence Interval (95%)		min	max
Variables	**Mean**	**Std.Err**				
PCGDP	**330.7**	**47**	**234.2**	**427.2**	**113.8**	**883**
TDO	**17136.3**	**2027.16**	**12976.9**	**21295.7**	**77.1**	**1576.5**
EDS	**331.05**	**78.5**	**169.8**	**492.3**	**9140.5**	**50453**

From the data presented in Table the mean for Per capita GDP over the period covered by the data averaged 330.7 USD with a standard error of 47, with values ranging from a minimum of 113.8 USD to a maximum of 883 USD. As for total debt , the arithmetic mean value over the study period was **17136.3** million USD with the standard error of 2027.16 with real values ranging between a minimum of 9140.5 million and a maximum of 50453 million USD respectively. Furthermore, mean external debt servicing is 331.05 million USD values ranging between 77.1 million USD and 1576.5 million USD.

Over the 28 years period under study there has been mean of 330.7 USD Per Capita GDP which is 0.9 USD and it is less than 1.25, the minimum income needed to stay above poverty line, but there is a huge difference between the 883 USD and, 113 USD, currently in 2018 Per Capita GDP stood at 883 USD which has 2.4 USD per day that surpassed the minimum income requirement to sustain life. 95% percent confidence interval of all variables under study is between positive non- zero values this means that, we are 95% confident that the mean of variables fall in between non zero values.

Figure 4.5 Per capita GDP



As can be seen in figure Per Capita income generally has shown downward trend over 28 years period, specifically after 2005.According to Plan &Development Commission GTP-II Annual progress report (2018), Ethiopia registered, on average, around 10 percent economic growth rate in the past 12 more years, as a result Per Capita GDP stood at 883 USD in 2018 from that of 219 USD in 1991.We can see that both the economy and total debt has been increasing over 28 years.

4.6 Regression Table and results

Table 4.3. Regression table and results

Number of obs = 28

F(5, 22) = 68 R-squared =0.84

Prob > F = 0.0000 Adj R-squared = 0.93

PCGDP	**Coef**	**Std.Err**	**t**	**P>(t)**	**(95% Conf.Int)**	
TDO	0.18	.25	.75	0.479	-0.34	.706
EDS	0.14	0.009	1.45	0.159	-0.005	0.034
_CONS	24	89.7	.28	0.785	-0.16	208

From the estimation results, there was evidence of both explanatory variables, of total debt and external debt servicing, are statistically insignificant in explaining economic growth. So there is no evidence to confirm crowding out effect and debt overhang. The coefficient of determination, Adj-R-squared (0.83) indicated that the independent variables accounted for around 83 percent of the variations in Per Capita GDP, on the. Similarly, the p-value (0.000) of the F-statistic indicated that the overall model was significant in explaining the relationship.

Therefore, from the above results total debt was statistically insignificant, total debt holds both external and domestic debt .External debt servicing also is statistically insignificant to explain economic growth, since external debt payment is concessional and low interest, moreover Ethiopia has been forgiven ample amount of debt in HIPC and other programs, that may be the reason behind insignificant relationship between debt servicing and economic growth.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter presents summary of the study findings, conclusion and recommendations. The objective of this study was to establish the Impact of public sector borrowing on economic growth in Ethiopia.

5.2 CONCLUSION

This paper has reviewed existing theoretical and empirical literature on the impact of public debt service and economic growth, in both developing and developed countries. The bulk of the studied literature on the impact of public debt service on economic growth mostly supports the debt overhang hypothesis. But, in Ethiopian case total Public Debt and external debt servicing are statistically insignificant in explaining economic growth. So there is no evidence to confirm crowding out and debt overhang effect. Domestic debt was found to be significant to affect economic growth positively. However, external debt and debt servicing has insignificant impact possibly because hudge amount of money had been in written-off during HIPC program and redirected to government budget. The characteristics of Ethiopian loan are mainly concessional; this means that, low interest bearing loan and longer maturity which enabled the country pay slight amount of debt annually. Furthermore, rescheduling has been another possible reason for the reduced impact on the economy.

Debt service ability was influenced by the way the borrowed funds were used. On the whole, the conventional empirical results on the relationship between public debt service and economic growth were seen to be mixed across countries depending on the choice of variables used, time periods, country coverage and methodology used. Overall, the reviewed literature shows that public debt repayment costs crowd out economic growth through numerous channels. High demand in foreign finance due to dependency of capital goods to implement projects, with low export bill that is used both to implement investment projects and debt servicing , put the country in difficult macro-economic situation. IMF, debt sustainability analysis report (2019) rank the country as high risk borrower because of low performance in export and decline in timely completion of SOE export oriented projects, Ethiopia had been entertaining debt relief and debt restructuring so far before the HIPC and other debt relief schemes were terminated. Moreover, Ethiopia’s debt is characterized by low interest rate and longer maturity period that enabled the

country to pay less amount of money that made country to redirect its resources towards economic activities that can be the possible reason why there is insignificant effect of debt servicing on economic growth. However, it needs in depth study to confirm why it happened.

The banking sector faces important constraints including over regulation, measures favoring State-owned banks, lack of competition, and extensive government presence. There is no level playing field between the state-owned banks and private banks: the state-owned banks, CBE and DBE take more risk on their balance sheets for a lower price, particularly in financing of SOEs, due to government guarantees.

The banking sector is highly vulnerable to concentration risk. The CBE alone, holds about 59 percent of all banking assets and 61 percent of total deposits. The bank's exposure is primarily to SOEs (bonds and loans) with many not fully servicing their payments to CBE which continues to extend them credit. CBE's largest exposure is to a single entity – Ethiopian Energy and Electric Power Corporation (EEPCO) which constitutes more than 50 percent of CBE's balance sheet. The financial health of CBE is therefore of crucial importance for the stability of the whole system. Given its size and importance, CBE is currently too big to fail, and since it is government-owned, (and most of its debt guaranteed), it poses important risks to the government budget.

The high level of Non-performing loans (NPLs) at DBE suggests pressure to lend to high-risk non-profitable ventures**.** In addition, the balance sheet of DBE suggests, that it is getting more funds than it can find investment opportunities for, since 39 percent of all assets are invested in treasury bills, against 52 percent in loans. The 27 percent rule creates distortions and additional risks to the financial systems:

a) Crowds out lending by commercial banks-the 27 percent rule being a likely contributor to even higher lending rates as means for private banks to pass on the cost to consumers. High financing costs are exacerbated by a regulatory requirement for collateral to be above100 percent of loan value, significantly limiting access to finance for many viable Small and Medium Enterprise (SMEs).
b) Create a lack of liquidity in the banking system, since the maturity of bods banks must buy in 5 years, while they fund those assets with short term deposits.

c) It also creates interest rate mismatch in the system. The bonds have a fixed 5-year interest rate to maturity, while the banks have to fund them by attracting deposits with a variable interest rate; and
d) The maturity structure of the loan portfolio is no longer determined by preferences of the bank or the debtor.

5.3 RECOMMENDATIONS

Public debt servicing requires strong fiscal, political and governance institutions to reduce budgetary imbalances, raise more government revenues and expand the tax base, without compromising the efficient allocation and utilization of resources in the economy. Thus, in a wider macroeconomic setting for public policy, governments are encouraged to ensure that both the level and rate of public debt growth is primarily sustainable, and can be serviced in a manner which minimizes economic, political and social costs.

Debt servicing should be at it its optimal level not to crowd out investment since export is declining. This is more critical when there is no debt relief and restructuring that relates with policy sovereignty. Moreover, government should not run in to any additional external debt schemes without considering the return. Domestic debt was found to have positive impact on the economy and is now becoming an alternative financing government. Government needs to utilize external debt effectively and efficiently.

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Appendices 1 Data and variables used for the study

In Million USD

Year	PCGDP	DDO	EDO	TOTAL	EDS	DDS	TOTAL	NLR	EXP
1991	219.18	4,255.60	9,100.00	13,355.60	111.00	338.38	449.38	6.80	276.38
1992	230.56	4,812.30	9,742.67	14,554.97	112.13	389.36	501.49	6.80	74.75
1993	211.80	1,630.12	12,172.69	13,802.81	114.55	181.13	295.68	14.90	186.25
1994	113.81	1,732.70	9,461.26	11,193.96	100.22	200.93	301.15	14.00	228.17
1995	123.07	1,878.53	9,934.90	11,813.43	119.25	236.12	355.36	14.58	453.62
1996	132.15	2,152.31	9,756.60	11,908.91	138.87	150.80	289.68	15.08	413.17
1997	137.55	2,323.00	9,612.20	11,935.20	304.34	128.14	432.48	15.50	598.69
1998	134.99	2,408.74	9,704.80	12,113.54	107.10	137.45	244.55	11.60	603.73
1999	130.70	2,505.75	10,103.60	12,609.35	125.61	115.31	240.92	11.75	483.04
2000	135.11	3,227.40	5,413.20	8,640.60	130.93	152.85	283.77	12.00	490.00
2001	131.26	3,307.52	5,466.20	8,773.72	152.97	135.73	288.71	12.75	460.00
2002	122.09	3,223.51	6,186.30	9,409.81	91.48	109.22	200.70	10.75	460.00
2003	130.76	3,356.62	6,788.06	10,144.69	89.25	445.20	534.44	10.75	482.05
2004	149.50	3,608.20	7,096.02	10,704.22	99.37	138.41	237.78	10.75	599.78
2005	178.39	4,659.48	5,598.14	10,257.62	108.67	162.70	271.37	10.50	847.38
2006	214.48	5,678.60	5,676.27	11,354.87	108.26	207.67	315.93	10.50	1,000.40
2007	267.44	7,032.30	2,033.09	9,065.39	99.38	251.25	350.63	10.50	1,185.12
2008	355.22	8,650.84	2,521.40	11,172.24	88.67	194.46	283.13	11.50	1,465.75
2009	414.94	8,561.00	3,365.43	11,926.43	77.16	493.34	570.50	12.25	1,448.03
2010	373.26	8,100.35	4,357.63	12,457.98	111.28	485.91	597.18	12.25	2,003.27
2011	389.18	8,410.20	5,765.29	14,175.49	241.88	374.06	615.94	11.88	2,750.16
2012	510.35	10,958.92	6777.42 6,777.42	17,736.34	412.07	612.70	1,024.77	11.88	3,166.00
2013	549.50	12,769.41	8,598.59	21,368.00	567.30	802.87	1,370.17	11.88	3,097.84
2014	639.60	15,713.28	10,716.47	26,429.75	666.78	949.99	1,616.78	11.88	3,295.70
2015	690.90	14,994.20	14,904.69	29,898.89	992.94	841.99	1,834.93	11.88	3,018.46

Year	PCGDP	DDO	EDO	TOTAL	EDS	DDS	TOTAL	NLR	EXP
2016	815.00	17,350.40	17,753.14	35,103.54	1,133.94	897.70	2,031.64	12.75	2,868.53
2017	876.00	20,464.00	23,492.13	43,956.13	1,287.36	870.41	2,157.77	12.75	2,907.47
2018	883.00	23,553.00	26,400.00	49,953.00	1,576.67	1,197.30	2,773.97	13.50	2,840.74

Source: Ministry of Finance (Statistical bulletin) & National Bank of Ethiopia

Debt Sustainability Indicators of Ethiopia

S.No	DSA/External Debt	Threshold	DSA Result (2019)	Remark
1	PV of Debt/GDP	40	20.4	Sustainable
2	PV of Debt/Export	180	236.2	Critical
3	Debt Service /Exports	15	16.5	Critical
4	Debt Service /Revenue	18	11	Sustainable
5	**Total Debt (Domestic &External) /GDP**	56	44.2	Sustainable

Source: Ministry of Finance

Table. TERM LOAN DISBURSEMENT BY BENEFICIARY

('000 Birr)

Year	*DISBURSEMENT*				*COLLECTED*			
	Private	*Public*	*Co-operatives*	*Total*	*Private*	*Public*	*Co-operatives*	*Total*
1981/82	*244,144*	*457,487*	*3,822*	**705,453**	*239,403*	*435,089*	*4,415*	**678,907**
1982/83	*432,385*	*901,315*	*6,638*	**1,340,338**	*378,382*	*1,021,300*	*5,672*	**1,405,354**
1983/84	*293,387*	*458,027*	*7,169*	**758,583**	*275,865*	*497,495*	*6,869*	**780,229**
1984/85	*216,154*	*183,969*	*4,280*	**404,403**	*219,671*	*237,383*	*5,610*	**462,664**
1985/86	*203,057*	*152,441*	*5,491*	**360,989**	*219,605*	*147,820*	*4,772*	**372,197**
1986/87	*164,445*	*211,631*	*35,260*	**411,336**	*158,196*	*164,835*	*9,736*	**332,767**
1987/88	*196,980*	*182,911*	*58,758*	**438,649**	*152,043*	*185,912*	*66,823*	**404,778**
1988/89	*168,832*	*201,007*	*53,630*	**423,469**	*162,731*	*217,678*	*55,023*	**435,432**
1989/90	*178,930*	*130,771*	*28,174*	**337,875**	*182,940*	*164,729*	*36,514*	**384,183**
1990/91	*193,676*	*107,546*	*38,774*	**339,996**	*170,773*	*125,308*	*39,744*	**335,825**
1991/92	*222,285*	*117,133*	*24,852*	**364,270**	*207,379*	*110,541*	*12,119*	**330,039**
1992/93	*676,943*	*628,060*	*55,061*	**1,360,064**	*327,669*	*160,205*	*49,239*	**537,113**
1993/94	*1,094,823*	*206,241*	*72,550*	**1,373,614**	*856,387*	*443,110*	*35,942*	**1,335,439**
1994/95	*2,443,383*	*200,652*	*282,203*	**2,926,238**	*1,517,067*	*283,506*	*239,389*	**2,039,962**
1995/96	*2,552,377*	*639,310*	*231,474*	**3,423,161**	*1,928,102*	*275,053*	*279,899*	**2,483,054**
1996/97	*2,350,407*	*210,303*	*232,155*	**2,792,865**	*2,174,252*	*241,595*	*243,974*	**2,659,821**
1997/98	*1,873,954*	*125,894*	*300,500*	**2,300,348**	*1,799,014*	*151,161*	*262,585*	**2,212,760**
1998/99	*1,950,139*	*222,793*	*590,797*	**2,763,728**	*1,703,017*	*273,719*	*549,615*	**2,526,351**
1999/00	*2,067,019*	*236,146*	*626,206*	**2,929,370**	*1,661,654*	*267,071*	*536,266*	**2,464,991**
2000/01	*1,696,203*	*135,507*	*408,302*	**2,240,012**	*1,530,506*	*382,536*	*742,053*	**2,655,096**

2001/02	*1,069,519*	*139,080*	*457,223*	**1,665,822**	*1,484,049*	*160,051*	*461,945*	**2,106,044**
2002/03	*1,129,269*	*170,395*	*314,467*	**1,614,131**	*1,709,410*	*216,677*	*320,569*	**2,246,656**
2003/04	*1,085,880*	*1,093,137*	*400,438*	**2,579,455**	*1,455,980*	*396,248*	*425,392*	**2,277,620**
2004/05	*1,508,071*	*1,312,690*	*1,151,437*	**3,972,198**	*1,877,036*	*643,186*	*586,512*	**3,106,734**
2005/06	*2,124,616*	*307,370*	*1,683,949*	**4,115,935**	*2,175,964*	*894,965*	*1,304,896*	**4,375,825**
2006/07	*2,400,218*	*664,367*	*2,167,140*	**5,231,725**	*2,391,736*	*1,260,252*	*2,103,168*	**5,755,156**
2007/08	*4,313,288*	*4,851,049*	*4,410,536*	**13,574,873**	*3,081,834*	*549,931*	*3,503,487*	**7,135,253**
2008/09	*3,464,956*	*5,340,702*	*2,286,755*	**11,092,413**	*3,118,026*	*4,112,187*	*2,106,128*	**9,336,341**
2009/10	*4,622,410*	*4,966,567*	*762,495*	**10,351,472**	*3,103,983*	*4,792,642*	*1,083,215*	**8,979,840**
2010/11	*4,918,598*	*11,946,117*	*915,185*	**17,779,900**	*4,195,759*	*4,090,014*	*1,870,477*	**10,156,250**
2011/12	*6,526,322*	*24,549,646*	*864,155*	**31,940,123**	*4,161,873*	*8,744,969*	*1,735,631*	**14,642,473**
2012/13	*6,777,132*	*19,565,454*	*836,617*	**27,179,203**	*4,923,674*	*12,950,457*	*1,822,176*	**19,696,307**
2013/14	*9,762,951*	*21,053,555*	*1,366,615*	**32,183,122**	*5,707,474*	*15,123,778*	*1,194,256*	**22,025,508**
2014/15	*10,128,213*	*22,345,808*	*1,185,974*	**33,659,996**	*7,072,028*	*14,154,076*	*1,248,029*	**22,474,133**
2015/16	*16,032,847*	*25,351,657*	*1,006,075*	**42,390,579**	*9,428,285*	*18,083,634*	*1,098,826*	**28,610,744**
2016/17	*18,369,889*	*23,678,751*	*896,387*	**42,945,027**	*13,186,208*	*26,478,609*	*1,067,238*	**40,732,055**
2017/18	*12,921,264*	*27,483,405*	*876,980*	**41,281,650**	*15,602,511*	*24,642,159*	*1,169,957*	**41,414,627**

Source: Commercial Bank of Ethiopia

Appendix -2 Model test results

```
regress PCGDP EDS TDO
```

Source	SS	df	MS	Number of obs	=	28
				F(2, 25)	=	68.21
Model	1413075.95	2	706537.975	Prob > F	=	0.0000
Residual	258950.187	25	10358.0075	R-squared	=	0.8451
				Adj R-squared	=	0.8327
Total	1672026.14	27	61926.894	Root MSE	=	101.77

PCGDP	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
EDS	.1827866	.2543641	0.72	0.479	-.3410861	.7066592
TDO	.0143234	.0098607	1.45	0.159	-.0059852	.0346319
_cons	24.74592	89.70996	0.28	0.785	-160.0152	209.507