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MACROECONOMIC, POLITICAL, AND INSTITUTIONAL DETERMINANTS OF PRIVATE INVESTMENT IN ETHIOPI

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MACROECONOMIC, POLITICAL, AND INSTITUTIONAL DETERMINANTS OF PRIVATE INVESTMENT IN ETHIOPIA

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Declaration

This is to certify that the thesis prepared by Hulunayen Yizengew titled "THE MACROECONOMIC, POLITICAL, AND INSTITUTIONAL DETERMINANTS OF PRIVATE INVESTMENT IN ETHIOPIA: Evidence from ARDL Approach" submitted in partial fulfillment of the requirement for the degree of Master of Science in economic policy analysis for the graduate program complies with the regulations of the university meets the accepted standards with respect of originality and equity.

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Acknowledgment

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Abstract

The main objective of investigating the macroeconomic, political, and institutional determinants of private investment in Ethiopia based on a time series data for the period of 1985-2018. ARDL approach to Co-integration was applied in order to investigate the long-run and short-run relationship between dependent and the independent variables. Besides, the study attempted to show the effects of poor governance on private investment growth. The empirical result revealed that real GDP has positive and significant effect on private investment growth in both long run and short run while public investment has a crowding- out effect in short run but crowding- in effect in the long run. Real effective exchange rate has also a positive effect on private investment in long run whereas real interest rate has a significant negative effect on private investment growth in long run unlike its short run effect. In addition, political instability characterized by non-violent protests promotes private investment, while corruption hinders private investment growth. Hence, this study recommends that more effort has to be made to increase the market size and real income of the people to promote private investment. Secondly, public investment in basic infrastructures is crucial to attract private investors though public investment in sectors that compete directly with the private sector retard private investment growth. Thirdly, devaluation of local currencies is not a long-lasting solution to promote private investment. Fourthly, the government has to ensure and take a close monitoring and consistent management strategies to minimize corruption, violent uprisings, and bureaucratic inefficiencies and related governance problems to build up confidence of private investors.

Keywords: Macroeconomic, Private Investment, Institution, Political Instability, Corruption

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Different economic literature proves investment as a key determinant of economic growth from both theoretical and empirical dimensions. For instance, investment plays an important role in promoting long term economic growth and expanding the productive capacity of the country (Jongwanich and Kohpaiboon, 2008). Especially, a private investment made by the private sectors has remained very great importance to the developing countries' development program (Muhdin, 2016). It is also viewed as a powerful tool in maintaining and expanding the capital formation and production capacity of an economy (Rowan et al., 1965).The history of economic development also clearly contends the fact that the importance of private investment in generating long-run economic growth in an economy cannot be undermined (Nyoni and Bonga, 2017).

Moreover, across the globe, the private sector had been known to contribute more meaningfully to economic growth than public investment (Ayeni, 2014). Especially, in developing countries, public investment is not enough to address sustainable economic growth challenges but a private investment. This can be explained in the direction that private sectors has more capacity to make wise investment decisions, to mobilize resources more efficiently, and lesser corruption while public investment is usually made for political purposes which lack economic validation (Serven, 1997; Khan and Kemal, 1996). Moreover, private investment contributes more meaningfully in poverty alleviation, job creation opportunities, economic development, and in improving society's welfare (United Nations, 2002; Attefa and Enning, 2016). However, knowing these facts, in sub-Saharan Africa the performance of private investment is relatively weak (Admasu 2016; Nyoni and Bonga, 2017).

The economy of Ethiopia falls under the group of the least developed countries (LCD's) as classified by the united nation. Its economy has undergone series of reforms, from a liberalized

economy (imperial regime till 1974) to command type (Derg regime from 1974-1989/90), and again liberalized after 1991.Since the beginning of 1990s, Ethiopia has successfully launched economic reform and has been experiencing significant economic reforms, political and social changes. In 1992, after the fall off the social regime, the Transitional Government has come out with a new economic policy (Tada, 2001). Mainly the economic reform measures undertaken were concerned with the removal of restrictions on private sector including no ceiling and registration. Licensing procedures were also simplified; legal restrictions were almost removed; trade liberalization and privatization took off; tariff lowered and correction of price distortion and macro and micro measures were undertaken; exchange rate devalued; and interest rate rose, etc(Tada, 2001).Apparently various measures including formulating various development policies and plans were taken; the investment code was revised many times; a more liberal and less bureaucratic policy was introduced (Solomon, 2001).

Moreover, the Government of Ethiopia promised to promote the private sector in many ways. To make private investment more attractive a package of investment incentives was granted by Ethiopian investment code to both domestic and foreign private investors. For instance, lower minimum investment capital requirement, full exemption from customs duty paid upon import of capital goods for investment; various export incentive schemes; reduction of income tax and exemption from the payment of income tax; carry forward of losses; provision of a plot of land for investment with very low renting and leasing cost; and provision of investment loan facilities were provided for private sectors(Investment Proclamation No.769/2012, Council of Minster's Regulation No. 270/2012).

After the introduction of the reform program, growth of GDP has registered increasing rate. There is also an improvement in saving and investment since 1992. The performance and growth level of private investment has been improved (Tada, 2001). The economy began to get better following these series of economic and political reforms (Hailu, 2013). Since 2004 -2011 the recovery gave way to an outstanding growth performance with about 10.6 percent annual average GDP growth rate. This rate is by far greater than the growth rate of the region (Africa) which was 4.9% (Admasu, 2016; Eyobe, 2017).

Despite all these applauded efforts, the growth rate and performance of private investment did not show a growth as it was expected. It has remained low and shy to make significant strides (World Bank, 2004; Ambachew, 2011; Hailu, 2013). The share of private sectors investment in GDP has never been more than 6percent until 2003 (Ambachew, 2010). With the same trend the contribution of private investment to the economic growth of Ethiopia remained very low (World Bank, 2013). The Ethiopian investment commission also reports that private investment is relatively low in achievement and weak in implementation (EIC, 2019). Hence, promoting private sectors investment should be approached with locally fit and globally approachable investment strategies and policies based on contemporary and contextualized empirical researches. This basically requires investigation of the macroeconomic, political and institutional determinants of private investment.

1.2 Statements of the Problem

Despite various macroeconomic and political reforms and a range of political incentives given, the low performance of a private investment is the most alarming feature of the experience in our country. In Ethiopia,a growing number of researches have been conducted on investment. However, on the determinants of private investment empirical evidence is limited (Hailu, 2013; Kidane, 2020). For instance, among those private investment studies Abdishu (2000) examined the macroeconomic determinants of private investment in Ethiopia from the period 1975- 1998. The empirical evidence shows that the real per capita GDP growth rates, credit availability to the private sector have a positive and significant impact on private investment while real exchange rate and inflation have a negative effect on private investment. Zelalem (2002) also investigated that private investment is negatively affected by the debt stock, the public expenditures, real exchange rate, and inflation over the period from 1975 to 2000.

Hailu (2013) and Yechale (2015) examined the determinants of private investment in Ethiopia by applying multiple regressions using the OLS model from the period 1981-2010 and 1980-2014, respectively. The estimation results showed that private investment, in the long run, is positively and significantly affected by public investment, real GDP per-capital, and external debt while inflation has a significant negative effect on a private investment in short run. Other studies conducted by Member (2015), Mamo (2017), Habtu (2018), Woldemariam (2018), and most recently Kidane (2020) also investigated the determinants of private investment in Ethiopia in a

different time period with different methodology. In aggregate , these few and scant studies found out that real gross domestic product, public investment, inflation rate, real exchange rate, credit availability to the private sector, external debt, and interest rate explained the performance of the private investment. However, the effect of such factors varies depending on the time period covered and the methodology they followed.

As we have seen from the above, all of these studies tried to investigate the determinants of private investment without giving room for governance and political instability or paying little/no attention to political and institutional factors. But governance plays some fundamental role and can determine the performance of an investment. Moreover, Private investment operates in a political and institutional environment (Feng, 2001). In support of this, there are empirical evidences that show the effect of governance/ or political and institutional factors on private investment. For instance, Alesina and Perotti (1996), Roubini and Swagel (1996), Barro (1997), and Quan(2004) investigated the effect of governance on private investment and showed that private investment is negatively affected by political instability and positively by public accountability. However, in Ethiopia, discussion on political and institutional determinants of private investment besides macroeconomic determinants is on its infant stage. Hence, it is with this background that this research starts to further explore the macroeconomic, political, and institutional determinants of private investment in Ethiopia.

In addition, there are also two main motivations for this research to be conducted. First, Ethiopia has pursued a public investment-led economic development model since the 1990s and the government makes a huge public investment. However, the development of a strong and vibrant private sector is needed to sustain high and sustainable growth (World Bank, 2013). A key question here is whether the public investment has a crowding-in effect or crowding-out effect on private investment. With this regard, the previous studies came up with contradicting conclusions. For instance, Habtu(2000), Zelalem(2002), Member(2015), and Kidane(2020) claimed that public investment has a crowding-out effect on private investment whereas Temesgen (2015), Mamo(2015), Hailu(2013), and Woldemariam(2018) concluded that public investment has a crowding-in effect on private investment. This issue of crowding- in/out effects of public investment requires a clear investigation using appropriate methodology. Second, the effect of macroeconomic factor (for instance, real effective exchange rate and inflation) across

studies varies depending on the time period covered and methodology followed. Hence, the existence of mixed/or inconsistent results, non-uniform empirical shreds of evidence, contradicting conclusions, adding or omission of irrelevant or relevant variables in the previous studies necessitate another round of investigation. Therefore, by taking into account the above knowledge gap, the study intends to incorporate major macroeconomic, political, and institutional factors that are hypothesized to determine private investment growth in Ethiopia.

1.3 Research Questions

i. What was the trend of private investment after macroeconomic and political reform?
ii. What are the macroeconomic factors that determine private investment performance?
iii. Do political and institutional factors matter for private investment?
iv. Does public investment crowd-out private investment?

1.4 Objectives of the Study

1.4.1 General Objectives of the Study

The general objective of the study was to investigate macroeconomic, political, and institutional factors that determine private investment in Ethiopia from the period 1985 to 2018.

1.4.2 Specific Objectives of the Study

The specific objectives of this study are:

- To understand the trends of private investment after macroeconomic and political reforms, and investment incentives.
- To examine the macro-economic factors that determines private investment in Ethiopia.
- To investigate political and institutional factors that determines the performance of private investment in Ethiopia.
- To see whether the public investment has crowding-out/in effect.

1.5 Scope and Delimitation of the Study

The study was limited to the case of Ethiopia. In addition, by considering the broadness of the concept of investment, the study was delimited to investigate the determinants of private

investment in Ethiopia using time series data that cover the year from 1985up to 2018. The study period was selected purposely based on the data availability, particularly, on political and institutional variables. Furthermore, previous studies were conducted for a period that included three political regimes, but this study focuses mainly on the period after 1991 in which Ethiopia introduced a new market-oriented economy with some macro-economic and political reforms.

1.7 Significance of the Study

Empirical analysis on determinants of private investment has been limited (Hailu, 2013). In Ethiopia, the existing related literature focused on the macroeconomic determinants of private investment paying little/ no attention to political and institutional factors. Therefore, the presence of little or no empirical analysis incorporating political and institutional context makes the study important as it sheds light on investment prospects by examining the macroeconomic, political, and institutional determinants of private investment. The study provides information on the effects of political and institutional factors on private investment growth. It also contributes to the existing literature on why the performance of private investment is low despite the macroeconomic reforms and incentive package for investment. As plausible conclusion and prudent recommendations are useful to policymaking, the study intends to contribute to the pursuits of enhancing private investment.

1.8 Organization of the Study

The remainder of the paper is organized as follows; Chapter two deals with the theoretical literature and empirical literature review followed by chapter three of history and trends of private investment in Ethiopia. In the fourth chapter, research methodology is presented, model specification and econometric model is developed. The full data sources and econometric tests description is also included. Chapter five followed with econometric results discussion and the paper will be closed with chapter six's conclusion and recommendations.

CHAPTER TWO

REVIEW OF LITERATURE

This section deals with the review of the existing investment literature that are relevant to the study giving emphasis on the macroeconomic, political, and institutional factors that determine private investment. A conceptual framework was developed with the help of the lessons learned from the literature.

2.1 Theoretical Literature Review

There are different investment theories /or models that are used to frame and shape the theoretical framework of the study. Investment theory goes back to capital theories of Bohm-Bawerk (1884), Marshall(1929), Irving Fisher (1930), and Keynes's (1936) "General Theory which was based on an independent investment decision function; where investment depends on the prospective marginal efficiency of capital relative to some interest rate that reflects the opportunity cost of the invested funds". Keynes further pointed out that the return on investment is bound to be doubtful, and the "animal spirits" of private sectors would be the major driving force in investment decisions. From a theoretical perspective, investment that affects economic growth can be reflected by aggregate supply and aggregate demand conditions. For instance, "Marshall's theory of capital has been kept by a demand and supply determination of the rate of interest, which provided a link with the theory of money". It also explains that the current level of the rate of interest could be influenced by monetary factors.

2.1.1 Public Investment and Private Investment

Public investment that affects economic growth can be reflected by the aggregate demand of a society in an economy. Public investment has effects on private investment through substitutable or complementary relationships. This linkage between private investment and public investment, and their relative contribution to economic growth is a controversial issue from both theoretical and empirical perspectives and remained a central issue in both development and macroeconomic literature (Aschauer, 1989). Hence, the relationship between the two and which investment type fosters economic growth more is the noteworthy as there are two opposite views about the two components of investment based on their role in economic growth. The issue at

hand is summarized by the crowd-out (negative) or crowd-in (positive) effects of public investment on private investment.

2.1.1.1 Crowding-out Effect of Public Investment on Private Investment

Crowding-out (adverse) effect of public investment on private investment is manifested via substitution or displacement. Substitutability (negative linkage) of private and public investments occurs in different situations. For instance, public investment may negatively affect private investment via competition of scarce resources, particularly, to finance its investment; the public sector will compete with the private sector for funds in the capital markets and causes the interest rate to rise. In addition, the amount of loanable funds available for private firms may decline and this, in turn, lowers private capital formation. One side of the argument is that, a rise in public investment reduces loanable fund for private investment, or causing increases in the interest rate through government monetary policy intervention and crowding-out private sectors investment. Further, public enterprises may also produce goods and services which compete directly with private sectors so that the two forms of investment become substitutes (Khan and Kumar, 1997; Sen and Kaya, 2014; Makuyana and Odhiambo, 2018).

In addition, if the public investment is financed by mounting taxation, it exacerbates distortions in the economy by increasing the costs of f actor inputs and may lead to an adverse effect on private investment (Khan & Kumar, 1997). Ricardian Equivalence Theory also argues that public investment decreases private capital formation since indebted government spending is financed in the future by taxes and as more taxes imposed by the government in the future, the disposable income for the private sector becomes less which means it crowds out private investment (Barro, 1991; Arestis, 2011). Therefore, public investment has a crowding-out effect on private investment with substitutability relationship.

2.1.1.2 Crowding-in Effect of Public Investment on Private Investment

In contrast to classical economists, Keynesians argue that increasing public investment improve infrastructure (investment on highways, roads, sewerage system and water , and power plants) encourage private sectors to invest more by reducing their sunk cost of production and thereby increasing the productivity and profitability of private sectors. Further, it will also create conducive business environment to attract private sector investment and hence, there may be

complementary relationship between public and private investment (Holcombe and Erden, 2006).

In addition, public enterprises may also positively affect private investment indirectly through its provision of outputs which is used as inputs for private companies. Providing public goods and services via public investment in technical infrastructure (such as roads, bridges, ports, and industrial parks) and social infrastructure (hospital, and school) improve investment and the business environment. These better facilities increase the productivity of private sector (Khan and Kumar, 1997; Canh and Phong, 2017).This indicates that, public investment also has a crowding-in effect on private investment.

2.1.2 Macroeconomic Theory of Investment

In explaining investment, a few theoretical models /approaches are at work in different pieces of literature and underpinning studies on investment decisions. These models fit the argument with the realization of theoretical baselines about investment. Among those approaches, the accelerator theory, flexible accelerator theory, neoclassical theory, and the Expected Profits also known as the Cash Flow or Tobin's Q theory/models of investment behavior have wider coverage in investment literature.

2.1.2.1The Accelerator Theory of Investment

After Keynes, the accelerator principle was the dominant theory of investment behavior especially during the 1950s and early 1960s. The accelerator theory of investment postulated the linear relationship between investment and output. The theory stipulates that capital investment outlay is a function of output. According to this theory, given the incremental capital/ output ratio, it is easy to compute the investment requirements associated with a given target for output growth which means that an increase in the rate of output of a firm will require a proportionate increase in its capital stock. There is a constant ratio of desired capital stock to output growth. For instance, assuming that capital per output (K/Y) ratio is some fixed constant, v, the optimum capital stock is a constant proportion of output so that in any period t, $K_t = vY_t$ where K_t is the optimal capital stock in period t, v (the accelerator) is a positive constant, and Y_t is output in period t. Any change in output will lead to a change in the capital stock.

Thus;

$K_t - K_{t-1} = v(Y_t - Y_{t-1})$…… (2.1)

$I_{nt} = v(Y_t - Y_{t-1})$ ……..…. (2.2)

Hence, $I_{nt} = K_t - K_{t-1} = v\Delta Y_t$ ……is the nave accelerator model where, $\Delta Y_t = Y_t - Y_{t-1}$ is the accelerator of investment and I_{nt} is gross investment.

The above equation represents the naive accelerator and shows that the level of investment is proportional to change in output. The main implication of the theory/or model is that the investment expenditure of an investing firm is proportional to its output while its output is a function of demand. On other hand, the level of present-day investment is influenced by a change in output in the current period. The accelerator model has various forms; partial adjustment mode, flexible accelerator model, and crowding-out and crowding-in model. However, this theory has several limitations as it dis-regards expectations of rising demand, profitability, the flow of liquidity, and the cost of capital as determinants of investment (Worke, 1998)

2.1.2.2 Flexible Accelerator Model

Flexible accelerator model is a modified version of the accelerator theory/model based on the optimal accumulation of capital with an assumption that investment is a function of the level of output and the user cost of capital (which in turn depends on the price of capital goods, the real interest rate, and depreciation rate). The basic idea of the flexible accelerator model is to take account of lagged effects. This model assumes that investment is not only determined by the current change in output but also by its earlier changes. Assume that the desired level of capital stock depends on the current level of output, as follows: $K_t^* = vY_t$ or alternatively; $I_t = \Delta K_t^* = vY_t$, and suppose the partial adjustment mechanism given by; $K_t = \theta\, v\Delta Y_t + (1 - \theta) K_{t-1}$ (θ is the partial adjustment coefficient). Then, $I_t = K_t - K_{t-1} = \theta v\Delta Y_t + (1-\theta)I_{t-1}$.

This theory has also limitations with regard to its assumption of perfect competition and exogenously determined output. The theory also disregards dynamic expectations with regard to future prices, interest rates, and output.

2.1.2.3 Tobin's Q-Theory of Investment

James Tobin (1969) has proposed the Q- theory of investment which links a firm's investment decisions to fluctuations in the stock market. Tobin postulated that investment decisions are functions of the ratio of the addition to the value of the firm due to an extra unit of capital installed to its replacement cost. When a firm finances its capital for investment by issuing shares in the stock market, its share prices reflect the investment decisions of the firm. Stock prices show the incentive to invest. As Tobin proposed, a firm's investment decisions depend on the following ratio, called Tobin's Q: i.e.

$$Q = \frac{\text{Market Value of installed capital}}{\text{Replacement Cost of installed capital.}}$$

The value of the numerator is determined by the stock market, whereas the value of the denominator is the price of capital if it were purchased today.

If this ratio, called Tobin's Q, greater (less) than unity firms would want to increase (decrease) their capital stock. Thus Tobin's Q- theory explains net investment by relating the market value of a firm's financial assets (the market value of its shares) to the replacement cost of its real capital (shares). According to Tobin, the net investment would depend on whether Q is greater than 1 ($Q > 1$) or less than 1 ($Q < 1$). If $Q > 1$, the market value of the firm's shares in the stock market is more than the replacement cost of its real capital. A fall in the real interest rate on government bonds (debt-based investment) would induce people to invest in shares (equity stock) than in other forms of wealth. This means that a fall in interest rate of loan money to the government discourages borrowers to buy government bond. Hence, people prefer to invest in share (as a unit of ownership) to equally clam on profit and losses of the company.

Therefore, Tobin's Q- theory of investment has important implications and the ratio provides an incentive to invest for firms on the basis of the stock market. This theory induces firms to undertake net investment even when q is less than 1 in the present. The advantage of Tobin's q as a measure of the incentive to invest in that it reflects the expected future profitability of capital as well as the current profitability. For example, if corporate tax is reduced next year, the value of the stock today, Tobin-Q, will rise, increase investment. Therefore, a fall in q-ratio shows investor's pessimism. In aggregate, this approach looks at the discrepancy between the market

value of productive assets *vis-à-vis* their replacement costs to explain new investments (Geda, 2014). However, Tobin's-Q results in poor empirical performance since it does not measure a firm's performance.

2.1.2.4 The Neoclassical Theory of Investment

The neoclassical approach or the user cost model is a version of the flexible accelerator model. It was formulated and developed by Jorgenson and others in 1971 based on the determination of the optimal capital stock. This theory argues that investment depends on the rate of interest and the level of income. According to this theory, the investment that depends on the rate of interest focuses heavily on the cost of finance as a key variable; all other costs (including the availability of finance, economic infrastructure, source of capital, policy, etc.) being assumed given. The neoclassical model, in contrast with the accelerator model, assumes that the desired stock depends not only on planned output but also on the ratio of output price to the implicit rental price of the services of capital goods (Bischoff, 1971).

Further, the neoclassical theory of investment attempts to evaluate the benefit and cost of owning capital and relates the level of investment with marginal product of capital, the interest rate, and the tax rule affecting firms. That is; investment = f (MPK, R, T), where, MPK is the marginal product of capital; R is interest rate; and T tax ruling. In aggregate, the neoclassical theory emphasizes the supply side by looking at the user cost of capital (Geda, 2012)

In sum, private investment behavior in developing countries cannot be directly explained by using this standard approach as stated by Janson (1992). This is because, it has been generally hard to test the model in developing countries like Ethiopia on the following grounds as key assumptions (such as perfect capital market, little or no government investment, full employment in the economy) are not applicable; data for certain variables (capital stock, real wages and real financing rates for debt and equity) are normally unavailable or inadequate. Hence, the empirical literature on private investment behavior in developing countries focuses instead on testing several hypotheses advanced to explain variation in private investment.

Accordingly, in order to overcome the limitations of the neoclassical flexible accelerator model, research has proceeded in several directions in the process, identifying a number of variables that might be expected to affect the private investment. Such variables are expected to reflect the

institutional and structural characteristics of developing countries such as lack of infrastructure, finance as well as political factors. This may be referred to as a modified version of the basic accelerator model. The inclusion of such variables has often resulted in eclectic and ad-hoc equation constructed for econometric convenience, without a strong and convincing theoretical basis. All these show the attempt made by the researcher to improve the theoretical basis of the macroeconomic determinants of private investment in developing countries like Ethiopia.

In developing countries, the above theoretical models of private investment have been applied with a fair degree of success (Workie, 1998). Nevertheless, empirical studies have not yet clarified which of those models is more accurate to represent the way in which capital formation occurs in developing countries. Because, in developing countries like Ethiopia, there are no well-functioning financial markets; there is no perfect market, and there is no accurate data (Matin and Watsow, 1992). Hence, in the investigation of determinants of private investment, one should consider the political and institutional factors (governance issues) besides macroeconomic factors because it is not only the macroeconomic factors that matter for the performance of private investment but also governance or political and institutional factors (Alesina, A., and R. Perotti, 1996; Chen, B., and Feng, 1996; Feng Y. 2001).

2.1.3 Politics, Institutional factors, and Private Investment

Unlike macroeconomic factors, the role of political and institution factors on private investment performance lacks theoretical and empirical precisions (AYSAN et al., 2007). Based on the existing published reports of EIC, World Bank, IMF, and other theoretical and empirical literature, politics and institutions plays an important role in private investment performance. Investment operates under governance. Forward-looking private investment decision is founded on the importance of a stable and secured environment or a good investment climate (Jorgenson, 1963). Aseidu (2002) remarks that, political instability and unqualified institutions create an unfavorable business climate which seriously erodes the risk-averse investor's confidence in the investment and the decision to invest. Economists and political scientists have also recognized that the low performance of the private investment in developing countries is a result of both economic failures and political and institutional failures.

A successful market-based economy is based on good governance and strong institutions (UN, 2014b; World Bank report, 2003). The decision to invest is based on the investment climate and political instability and quality of institutions are part of the investment climate of an economy (World Investment Report, 2014). For instance, good governance in the case of "administrative quality" (in the form of control of corruption, bureaucratic quality, law and order, and political stability) and public accountability plays an important role in private investment decisions. Good governance can improves the investment climate by improving bureaucratic performances and predictability, reducing uncertainty (cost of doing business), and promoting efficiency (North, 1981; World Bank, 2005). Political instability and civil unrest will lead to violence, weak governance, unsecured ownership, and high corruption. It also results in unstable incentives and policy frameworks for private investors (EIC, 2019).

2.1.4 The New Institutional Economics and Development Theory

A sound institutional setting highly encourages economic agents both foreign and domestic in their activities. (North, 1993) Posits sound institutional setting is a guarantee for property rights, civil liberties and contract enforcement which possibly avoids rent-seeking and corruption. And thus a well functioning legal rules, lower degrees of corruption and bureaucratic procedures, political stability, and other relevant proxies of quality institutions promotes investment, growth and eventually development. It is easier for investors to engage in productive activities in a society characterized by; peoples are free and protected to own properties, presence of rule of law, efficient, easily accessible, free, fair and just judicial system. The terms and conditions of contracts in various transactions, which directly affect the efficiency of resource allocation, now crucially depend on ownership structures and property relations. Development economics, which deals with cases where market failure and incomplete markets (often the result of the substantive presence of transaction costs and information problems) are predominant, clearly provides hospitable territory for such institutional analysis.

According to the transaction costs school, institutions that evolve to lower these costs are the key to the performance of economies. These costs include those of information, negotiation, monitoring, coordination and enforcement of contracts. When transaction costs are absent, the initial assignment of property rights does not matter from the point of view of efficiency, because

rights can be voluntarily adjusted and exchanged to promote increased production. The transaction-cost and imperfect-information theories are equally murky on the mechanism through which new institutions and property rights emerge. One gets the impression that more efficient institutions and governance structures evolve as the parties involved come to appreciate the new benefit-cost possibilities.

To sum up, factors that determine private investment incorporate a range of explanations; macroeconomic explanations, political and institutional considerations. Hence, in the investigation of determinants of private investment, it is important to consider the political and institutional factors besides macroeconomic determinants. It is also necessary to identify what types of governance indicators are more important in determining private investment growth. This theoretical insight is used in confirming the strength of identified determinants of private investment in the empirical analysis and to eventually use the same in construction of the model.

2.2 Empirical Literature Review

The empirical literature on the determinants of investment in developing countries is voluminous in both country case and cross-sectional analyses. However, empirical evidence on determinants of private investment in Sub Saharan Africa is limited (Hailu, 2013; Kidane, 2020). In Ethiopia, many of the empirical studies have been conducted on macroeconomic determinants without giving room to the political and institutional determinants of private investment. Hence, the empirical literature review, particularly, concerning political and institutional factors that determine private investment is provided from the rest of the world. Review of empirical analysis related to political and institutional findings is useful for this study, as it offers empirical evidence on non economic determinants.

2.2.1 Related Studies in the Rest of the World

The intention of this section is to review related studies elsewhere out of Ethiopia to have a deeper understanding of the factors that determine private investment. There are several studies that have attempted to investigate macroeconomic and political determinants. Among others Feng (2001) investigated the effect of political institutions on private investment in developing countries using cross-country panel data for the period 1988-1998. In this study, political freedom, political instability, and policy uncertainty are isolated as a political determinant of

private investment. The result indicates that political freedom, political instability, and policy uncertainty all affect the individual's decision to invest in the asset market and confirms that political freedom promotes private investment whereas political instability and policy uncertainty negatively affect private investment.

Stasavage (2002) analyzed 74 developing countries using panel data on the issue titled private investment and political institutions. In the study, he investigated the extent to which checks and balances in government might facilitate credible commitment and argued that checks and balances lead to enhancement of the level of private investment. The empirical result also showed that political institutions highly affect private investment either positively or negatively.

On the same issue, Quan V. Le (2004) investigated political and economic determinants of private investment for a panel of 25 developing countries over 21 years. The empirical result shows that socio-political instability mainly characterized by non-violent protests can promotes private investment. On other hand, violent uprisings hinder private investment whereas regime change instability characterized by constitutional government change can promotes private sectors investment; and policy uncertainty characterized by variability of contract enforcement promotes private investment while the variability of government political capacity hinders private investment.

Aysan et al. (2007) also studied governance institutions and private investment in North Africa (MENA) region for a panel of 31 developing countries during the 1980s and the 1990s. The study addresses the issue of the low level of private investment with paying special emphasis on the role of governance. The empirical results of this study show that governance plays a significant role in private investment decisions, particularly in cases of administrative quality composed of control of corruption, law and order, bureaucratic quality as well political stability. In this particular study, evidence in favor of public accountability is found to be strong. The estimations stress additionally that structural reforms like human capital development, financial development, and trade liberalization affect private investment decisions directly through their positive effect on governance.

In the case of Ghana, the article published in the European Journal of Social Sciences by Frimpong and Marbuah(2010) investigated the determinants of the private sector using a time

series data by applying an ARDL approach. The study presents an empirical assessment of factors that have either stimulating or dampening effect on private investment. The study found that private investment is determined by public investment, real interest rate, inflation, trade openness, real exchange rate, and a regime of constitutional rule in the short-run, while in the long-run private investment is significantly affected by real output, external debt, inflation, real interest rate, trade openness, and real exchange rate.

An article published in the Journal of Economic Policy Reform by Xiaoming Xu and Yanyang Yan (2014) examined whether government investment "crowds out" or "crowds in" private investment in the case of China using a structured vector autoregressive approach. The econometric result founds that government investment in public goods in China "crowds-in" private investment significantly, while government investment in private goods, commerce, and industry, mainly via state owned enterprises, "crowds-out" private sectors investment significantly. Finally, the researcher suggested the government to increase public investment and reduce investment in sectors that compete directly with the private sector for future growth.

Another outstanding researcher, Escaleras (2014) empirically investigated the joint effect of macroeconomic uncertainty, public provision, and socio-political instability on private investment using a panel data of 37 developing countries between 1970 and 2000. The regression result identified that macroeconomic uncertainty, macroeconomic instability, and socio-political instability jointly have an adverse effect on private investment. The empirical finding also shows that social and political imbalance deters private investment. Furthermore, the study shows that public provision has a beneficial effect when measured by infrastructure availability and a detrimental effect on private investment when measured by public investment.

A study by Ramli et al. (2015) also analyzed the factors that affect private investment in the province of North Sumatra, Indonesia using a survey method and secondary data over the period 1980-2011. The observed variables in the study were regional gross domestic product (GDP), government investment, interest rate, exchange rate, investment credits, inflation, and international interest rate which were then analyzed by the Error Correction Model (ECM) method. In this study, according to econometric results GDP, exchange rate, public investment, and credits have a positive and significant effect on private investment both in the long and short terms while government investment, interest rates, and inflation have a negative significant effect

on private investment. Meanwhile, the international interest rate has a negative but insignificant effect on private investment in the region.

In the case of the Gambia, Ayeni (2019) investigated and identified the determinants of private investment in a less developed country using the ARDL Co-integration method. In this study, exchange rate, external debts, credit to private sector, real exchange rate, inflation and real interest rate were identified as exogenous variables. The empirical findings also shows that a high exchange rate increased the real cost of import especially capital goods and thereby making investment very costly. In this study, aggregate demand condition, real interest rate, real exchange rate, and inflation all resulted unexpected result. Furthermore, the study recommends an exchange rate policy that will be favorable in decreasing the cost of imported capital goods, and the government should look inward for the supplying of raw materials locally and promote investment in the areas where the required raw materials are available locally.

Garikai andNyoni (2019) examined the macroeconomic determinants of private investment in Sub Saharan Africa by using panel data for 35 Sub Saharan African (SSA) countries. The study covers the period from 2000 to 2017. In order to examine the macroeconomic determinants of private investment the study applied the pooled regression, random effect and fixed effect models as well as the Panel Corrected Standard Error (PCSE) technique. In this study, critical diagnostic tests were carried out and the unit root tests indicated that the employed data was stationary. The main study findings indicated that, in the SSA region, private investment was determined by GDP, real interest rates, public investment and inflation.

2.2.2 Related Studies in Ethiopia

Abdishu (2000) attempted to investigate the macroeconomic variables that determine private investment in Ethiopia using a time series data from 1975 to 1998. In his study, an eclectic version of flexible accelerator model is designed to capture some of the key determinants of private investment. The macroeconomic variables included in the regression are; real GDP per capital growth rate, public investment, and credit availability to private sector, foreign exchange reserve availability, and real exchange rate, consumer price index and government budget deficit. The regression result showed that real GDP per capital growth rate, credit availability to private sector and foreign exchange reserve availability appeared to have significant positive impact,

while real exchange rate, consumer price index and government budget deficit with lesser extent looked to have negative effect on private investment. Furthermore, public sector investment was found to substitute the private sector in Ethiopia rather than complementing it.

Zelalem (2002) also investigated the impacts of macroeconomic variables and economic reforms on private investment in Ethiopia using a time series annual data for the period 1975-2000.The study employed a modified version of flexible accelerator model. The econometric evidence of the study reported that private investment is affected negatively and significantly by debt stock, public expenditures, lagged depreciation of real exchange rate, long run inflation, and the war plagued between Ethiopia and Eritrea. Whereas, the credit disbursed to private sector, the debt service payment, short run inflation are related in favor of private sector affect private investment significantly.

Another study held by Ambachew (2010) examined the determinants of private investment in Ethiopia using annual time-series data sets for 1950-2003.Motivated by the modified version of the flexible accelerator model of investment behavior the author employs a multivariate single equation error correction model estimation methodology. The regression results shows that private investment in Ethiopia is positively influenced by domestic market, trade openness , return to capital, liberalization measures, foreign direct investment, and infrastructural facilities but negatively affected by government activities, political instability, and macroeconomic uncertainty.

Among the most recent private investment studies in Ethiopia, Hailu (2013) investigated and analyzed the determinants of private investment using 30-years secondary data covering the period from 1981 to 2010. In this study, multiple regressions using Ordinary Lease Square OLS model was applied. Different tests such as correlation, stationary tests, autocorrelation tests, co-integration tests, and Engle and Granger Two Step Error Correction Model/ECM/were applied. The regression results show that public investment, external debt and real GDP per-capital have positive significant, long run, effect on private investment while in the short run real GDP per-capita and external debt have positive significant effect on private investment. But inflation has significant negative effect on private investment in the short run.

Admasu (2015) examined the macro and microeconomic determinants of private investment in Ethiopia both at national and regional level. This paper analyzed investment decisions of Ethiopian firm's with and/or without initial bank ties. Finally, the researcher found that firms with rare access to credit respond vigorously to investment opportunities than constrained ones; access to credit shortens average durations of investment and it increases with firm size; and small firms with bank ties are at least as responsive to investment opportunities as large firms are.

Recently, Yechale (2015) also held a study on private investment determinants in Ethiopia using a time series data covering from 1980-2014 by undertaking various techniques of tests such as multi-collinearity, autocorrelation, normality and model specification test. The finding indicates that real GDP growth rate, real lending interest rate, and inflation have significant effects on private investment; whereas the effect of real effective exchange rate on private investment was insignificant. The study also provides evidence that real GDP growth rate, inflation, real lending interest rate, real effective exchange significantly affect level private investment both in the long-run and short-run.

Brhane (2017) studied the financial determinants of private investment using time series data from 1975 to 2015. In the study, OLS regression analysis was undertaken to estimate long run model and ECM has been also used to find out the short run dynamics. The estimation result shows that variables like bank credit, broad money supply, and availability of foreign exchange have a significant positive effect on private investment both in short run and ling run. The other macro variable, capital expenditure as positive association with private investment. In sum, the study provides evidence that private investment in Ethiopia affected by important financial and macroeconomic variables.

Country case study on Ethiopia, Mamo (2017) investigated the macroeconomic determinants of private investment from the period 1975 to 2014usingVector Error Correction Model approach. Error Correction model also used to estimate the long run relationship. The econometric results shows that real physical infrastructure investment, trade openness, real social infrastructure investment, and bank credit have significant positive long run effect on private investment growth , where as inflation has significant negative short run and long-run effect. The regression result also suggests the crowding in effect of the real physical infrastructure investment and real

social infrastructure investment on real private investment in Ethiopia in the long run whereas crowding out effect in short run.

A study by Habtu (2018) examined the determinants of private investment in Ethiopia over the period 1992-2016. To test the existence of a long run relationship and the short run dynamics of private investment an Autoregressive Distributed Lag approach to co integration was employed and private investment is estimated as a function of public investment, lending interest rate, saving, interest rate, foreign aid, external debt, trade openness, business tax, and inflation rate. The regression result confirms that private investment is positively related to real interest rate and trade openness but negatively related to public investment, foreign aid, external debt, and business tax. He recommended that countries should seriously work in creating enabling environment for private investment.

Another study has also been conducted by Woldemariam (2018) with the main objective of investigating and analyzing the factors of those macroeconomic determinants of private investment in Ethiopia using a 21- year's secondary data from 1996 to 2016. In this study, ordinary least square (OLS) regressions model was applied. The regression results show that public investment, real GDP, external debt servicing, and access to bank credit have significant positive effect on private investment, while lending interest rate and foreign direct investment have significant negative effect on performance of private investment.

In sum, empirical studies on determinants of private investment in developing countries like Ethiopia have used much more eclectic modeling approach of private investment designed to capture the distinctive institutional and structural features of those economies. They have combined the features of flexible accelerator and neoclassical models in an effort to emphasize the effects of resource constraints faced by private investors in developing countries. Hence, because of the difficulty of identifying the theoretically correct specification, this paper does not attempt to build and estimate a full scale structural model of private investment in Ethiopia. Rather it is more of exploratory data analysis by considering the political and institutional factors besides macroeconomic determinants since private investment operates in a political and intuitional environment. Further, private investment in developing countries, as reviewed in the above literatures, is determined by economic growth, public investment, real interest rate,

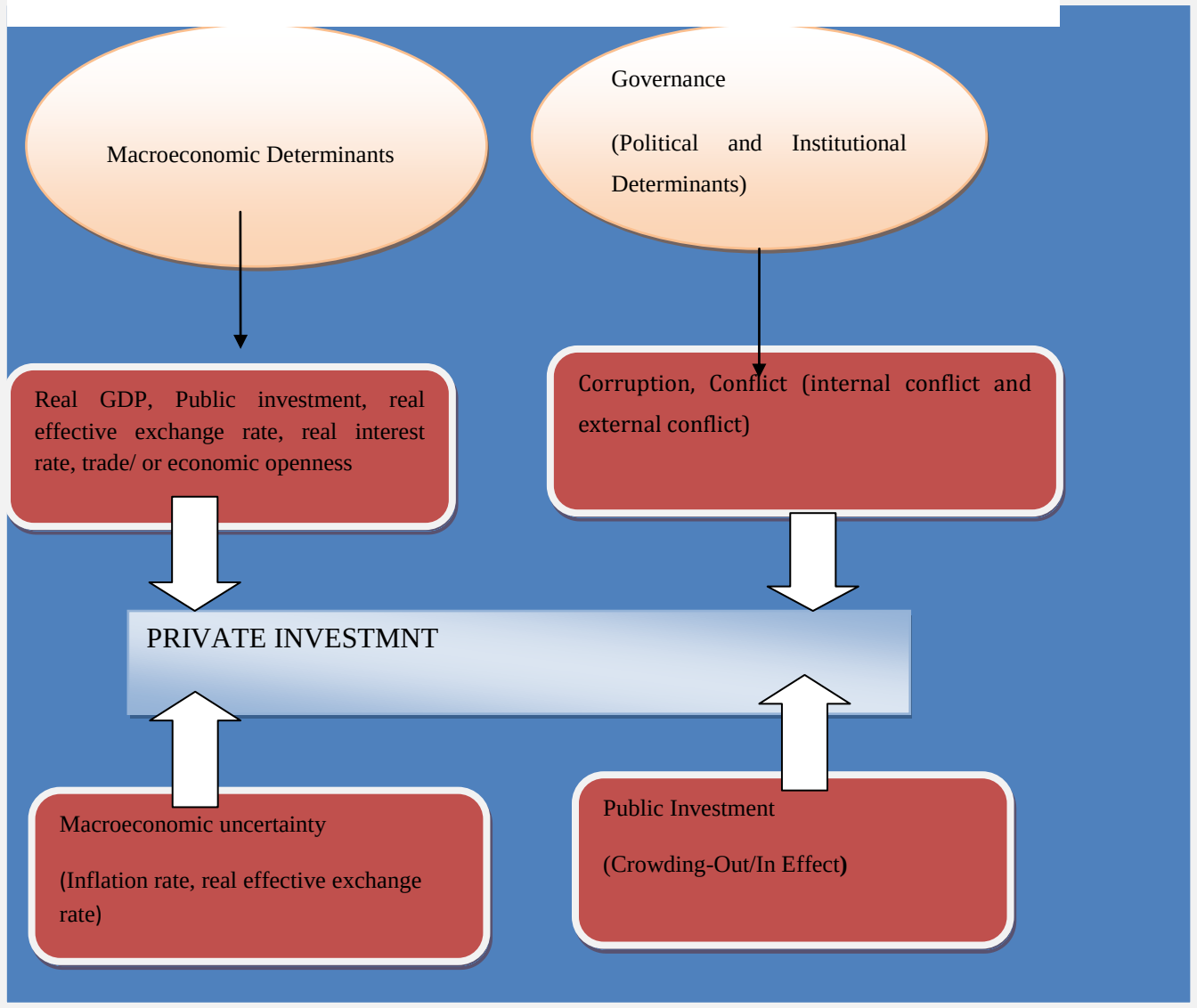
availability of finance, macroeconomic stability (as proxy by the rate of inflation), the size of debt service burden, exchange rate, and trade openness

2.3 Conceptual Framework

According to the literature survey, the conceptual framework for understanding the determinants of private investment can be broadly classified into two. The first is macroeconomic determinant of private investment mainly arising from investment theories such as flexible accelerated and neoclassical theory of investment. Those macroeconomic variables are justified on the basis of theoretical and empirical literature and are almost similar. Hence, for technical reasons, economic variables used in this study are; real gross domestic product, public investment, real interest rate, real effective exchange rate, and trade openness.

The second is political and institutional factors that determine private investment mainly arising from governance (political and institutional considerations) as governance matters for development outcomes via investment. However, there is ambiguity in the nature of identifying the right political and institutional variables for empirical analysis due to weak theoretical explanations. To better understand which political and institutional factors are investment-conducive, the analysis has to categorize different dimensions of governance with due consideration of the link between governance and private investment. Hence, in this study, to capture the effect of political instability and quality of institutions in attracting private investment (both domestic and foreign investment) to the country, the researcher used selected governance indicators as political and institutional variables as categorized by Kaufmann, Kraay, and Zoido(2003) in six broad groups (that is; voice and accountability, political instability and violence, government effectiveness, regulatory quality, rule of law, and graft) and International Country Risk guide (ICRG) of political risk services (categorized as economic risk, financial risk, and political risk).

Figure 1: Conceptual framework



Source: own construction (by taking the theoretical and empirical review)

CHAPTER THREE

HISTORY AND TRENDS OF PRIVATE INVESTMENT IN ETHIOPIA

In this section, after a brief description of the three regimes of Ethiopia, the descriptive analysis of the variables of interest is presented. The trend analysis of the main variables of interest is based on the following objectives. First, the graphical presentation has importance in portraying the information about the movement of private investment and specified exogenous variables. Second, trend analysis is the easiest way in presenting the dynamic movement of macroeconomic economic variables. Lastly, it has the potential to inform the appropriate method of analysis for the econometric model.

3.1 History of Investment in Ethiopia

3.1.1 The Imperial Regime

During the imperial regime, after the war with Italy, the Ethiopian economy was a mixed economy in which the private and public sectors worked hand-in-hand to achieve economic progress. In this regime, the private sector was having good ground as there was no government regulation that limited the private sectors. Moreover, in the Imperial Regime, Proc No 60/1944 and 107/1949 were enacted to promote foreign investment in Ethiopia and the Minister of Finance gave an income tax exemption notice with a view to promoting or encouraging investment in 1950. After that, the Income Tax decree which provided for income tax exemption to encourage investment was promulgated in 1956.However, this income tax decree was replaced by the Income Tax Proclamation of 1963 and it was the first proper law to regulate investment transactions in Ethiopia. In 1966 after three years, the Investment Proclamation No. 242/1966 was enacted. To those laws what is special was that they did not provide investment areas for the government. Thus, with no restriction investors could invest in all areas of the economy. Investment incentives like income tax holidays and import-export income tax exemptions were also provided. For foreign investors it was also possible to have and own land required for their investment. Though the private sector was in good condition during the imperial regime, due to a lack of entrepreneurship, the share of the domestic investors was very small (Tesfaye, 2009).

3.1.2 The Derg Regime

The 1974 revolution got rid of major private property ownership including private investment and retarded the development in the sector. In this period, it was only the state that invests and after all, that was considered investment proper. The Derg regime adopted economic policy that disfavors private investment through National Democratic Revolution (NDR). The period also witnessed repeated nationalization as Proclamation No 26/1977 heralded the start of nationalization. The proclamation clearly stated that ownership transfer of resources to the government was necessary and crucial for economic development. And as a result, private sectors were restricted to small industrial activities as the government controlled all private investments. However, investment in cooperation with the Ethiopian Government was allowed for a private sector that is investment through joint venture. Basically, the intention of the government was to introduce capital knowhow and technology into the country. But the law was taken as a disincentive to the private investors since the share of the government could grow from 51-99% while that of private investors could fall down from 49-1%. The government felt the need to relax the policy in the last period of the Derg Regime and adopted a mixed economic policy by adopting the Multilateral Investment Guarantee Agency (MIGA) where Ethiopia became a member. Then, this economic reform was reiterated by the transitional Government of Ethiopia in 1992 after the downfall of the Derg Regime (Tesfaye, 2009).

3.1.3 The Post-Derg Period

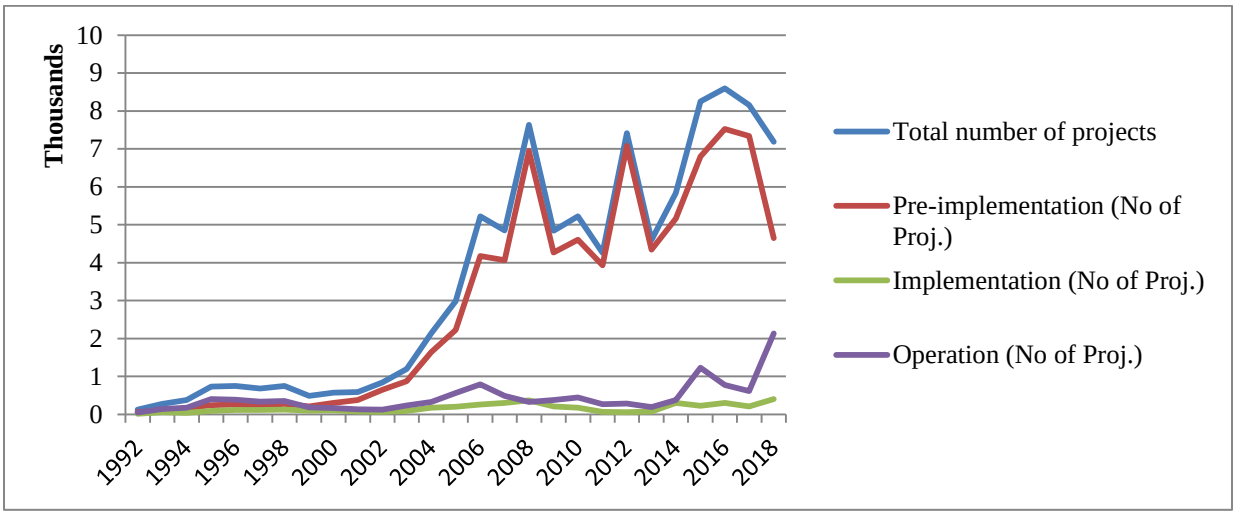
After the downfall of the Derg regime, the Transitional Government that was established in 1991 adopted an economic and investment policy directly opposite to the socialist regime. The economic policy emphasized on the role of private investment in economic development. Hence, in 1992, Ethiopia embarked upon a liberal economic policy which is deemed to be a favorable condition for private investment. In order to implement the policy in the country, the Transitional Government announced Investment Proclamation No 15/1992 so as to open the door to private sectors. However, the proclamation reserved some sectors such as large-scale eclectic power and postal service to the government and provided for joint investment with the Ethiopian government. The proclamation provided incentives to attract and promote private sectors. It also guaranteed nationalization and expropriation. Thus, "no assets of a domestic or foreign investor

expropriated or nationalized wholly or partially except in accordance with the due process of law". The Investment Office was also established by the proclamation to manage and supervise investment activities. The proclamation imposed a better capital requirement for foreign investors and proclamation No 37/1996 was enacted to rectify this problem (Tesfaye, 2009).

3.2 The Status of Private Investment in Ethiopia by Year (1992-2018)

The literature provides evidence on the fact that increasing investment is important for economic growth, especially private investment growth (Hailu, 2013; World Bank, 2015). In Ethiopia after the downfall of the Derg regime in 1991, the status, performance, and growth of private investment is revealed by number of projects approved by the Ethiopian investment office and regional investment office. The figure below portrays the status of licensed domestic investment projects over time.

Figure 2: Summary of licensed domestic investment projects by year and status (1992-2018)



Source: own computation based on Ethiopian Investment Commission (EIC) data

Following the issuance of proclamation No. 15/1992, starting from January 1992 to September 2018, 94523 domestic investment projects have been awarded investment certificates. Of these domestic investment projects, only 11,821 domestic investment projects with a capital of birr 114.27328 billion started production/service, and 4282 certified domestic investment projects were in their implementation phase. The remaining 78420 certified domestic investment projects remain unimplemented as of September 2018 which is 82.96% approved domestic projects. The status of domestic investment projects over time and across regions is similar. In the recent 8

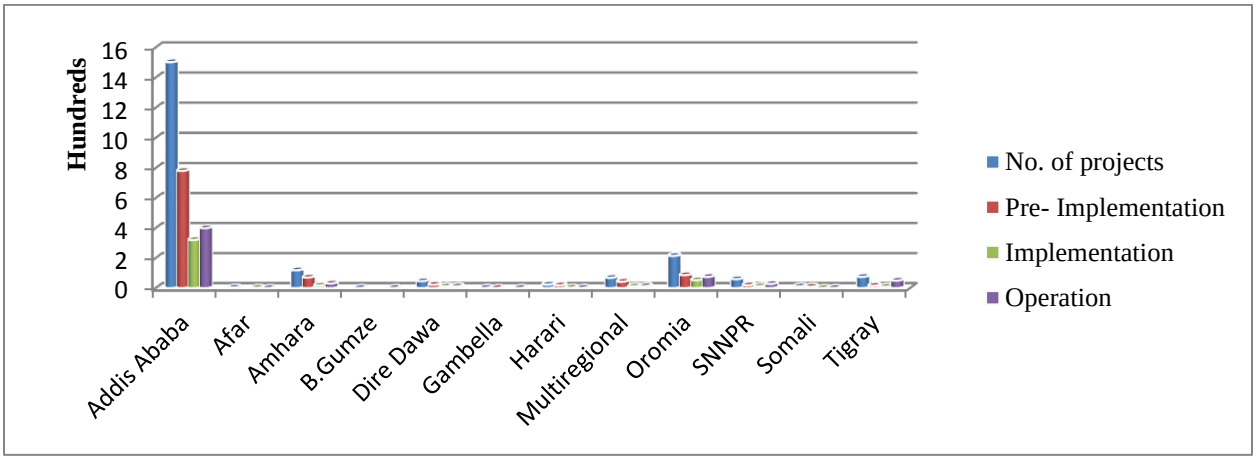
years between 2011g -2018, the ratio of actually fully implemented domestic investment projects to approved domestic investment projects has been very low. This low achievement rate despite considerable effort is because of different macroeconomic, political, and institutional factors.

3.3 Regional Share of Private Investment in Ethiopia (1992-2014)

This part presents the summary of the regional share of licensed domestic, foreign, and public investment projects by region. Around 22 years of licensed investment projects from the period 1992 to 2014 are presented. In sum, from 7138 all licensed investment projects with initial capital 650,917,859,000 Birr by EIA, 2131 investment projects with initial capital 41,532,804,000 Birr are domestic (private) investment projects; 4949 investment projects with initial capital 404,214,461,000 Birr are foreign investment projects, and the remaining investment projects with initial capital 205,170593,000 Birr were public investment projects licensed by EIA. From the figure, we observe that majority of the investment projects have got licenses in Addis Ababa followed by the Oromia region and the Amhara region. This distribution portrays that majority of the investment projects is concentrated in Addis Ababa and Oromia region. The figure below summarizes the status of all licensed investment projects by region since July 13, 1992 - June 10, 2014 G.C.

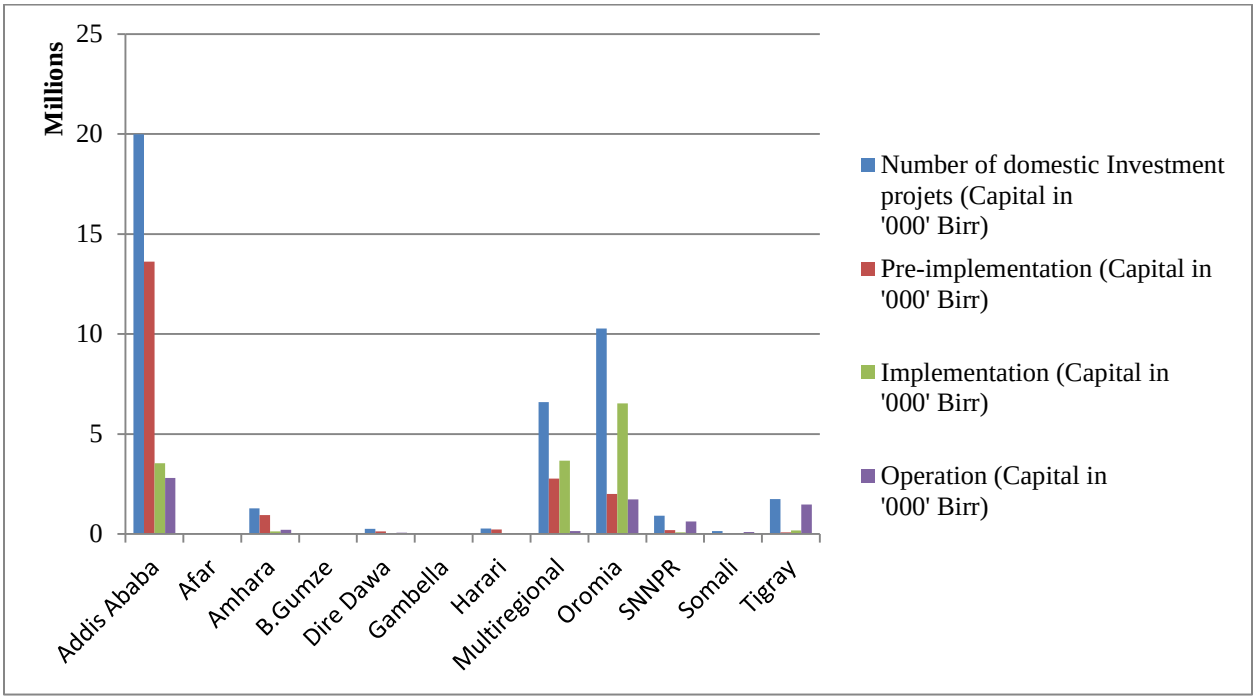
A. Domestic Investment Projects (Licensed By EIA)

Figure 3: Status and distribution of licensed domestic private investment projects by region (1992-2014)



Source: own computed based on Ethiopian Investment Commission (EIC) data

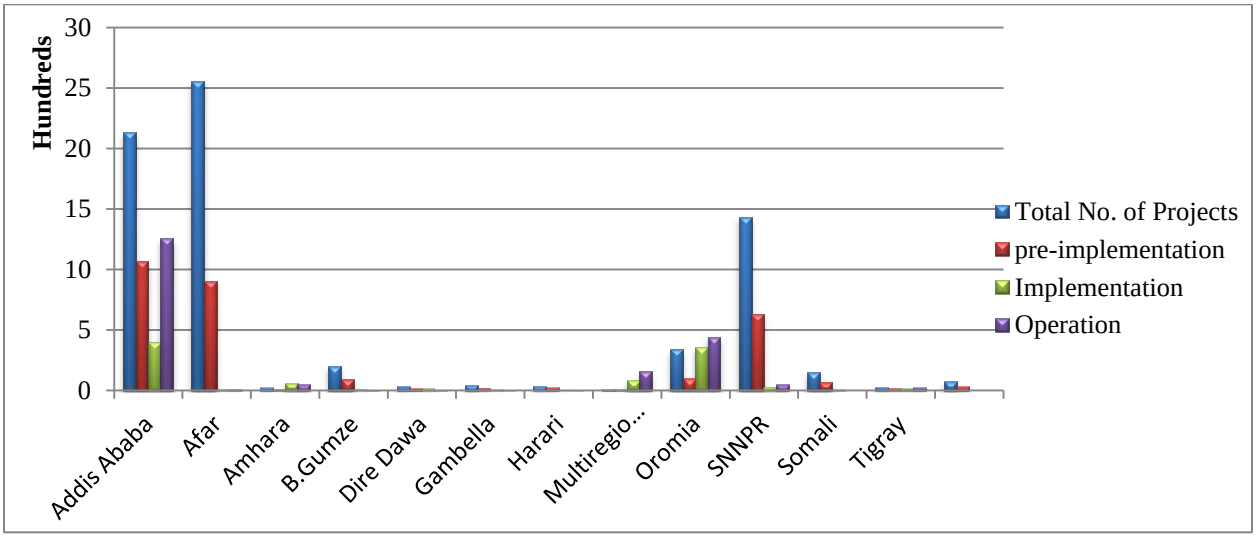
The above figure 3summarizes the status and distribution of all licensed domestic private investment projects by EIA by region from 1992 to 2014. According to the data, from 2131 total numbers of licensed domestic investment projects with total capital of Birr 41,532,804,000 1503 domestic investment projects with total capital of Birr 19,979,911,000 was licensed in Addis Ababa. This distribution portrays that around 70.53% of the licensed domestic investment were concentrated in Addis Ababa. Whereas in Oromia region 215 (10.089%) number of domestic investment projects with initial capital 10,273,790,000 Birr were licensed and in Amhara region 119 (5.58%) number of domestic investment projects with initial capital 128557300 Birr have got a license. The remaining 294 domestic investment projects with a total initial capital of 11,150,545,700 Birr were licensed by EIA in other regions (Afar, B.Gumuz, Dire Dwa, Gambella, Harari, Multiregional SNNPR, Somali, and Tigray).



Source: own computed based on Ethiopian Investment Commission (EIC) data

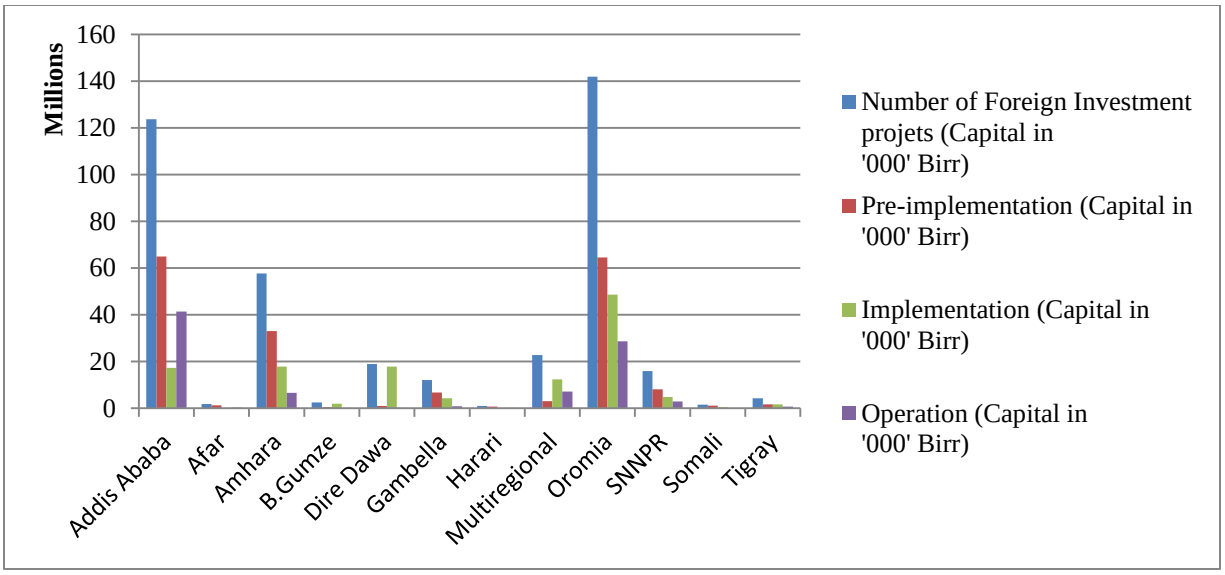
B. Foreign Investment Projects (Licensed By EIA)

Figure 4: Status and distribution of licensed foreign private investment projects by region (1992-2014)



Source: own computation based on Ethiopian Investment Commission (EIC) data

The above figure 4summarizes the status and distribution of all licensed foreign investment projects by region from 1992 to 2014. According to the data, from 4,949 total numbers of licensed foreign investment projects with total initial capital 404,214,461,055.88 Birr 2561 foreign investment projects with total capital of Birr 120,432,748,525.55 were licensed in Addis Ababa. This distribution portrays that around 51.74% of the licensed foreign investment projects with initial capital of Birr 123,719,875,729.08 were concentrated in Addis Ababa, whereas in Oromia region 1435 number of foreign investment projects with initial capital 141,890,714,680.1Birr was licensed and in Amhara region 201 number of foreign investment projects with initial capital 57,677,716,876 Birr have got license. The remaining 752 (15.19%) foreign investment projects with total initial capital 84,213,280,974.23 Birr were licensed by EIA in others region (Afar, B.Gumuz, Dire Dwa, Gambella, Harari, Multiregional SNNPR, Somali, and Tigray).



Source: own computationbased on Ethiopian Investment Commission (EIC) data

Economists have justifications for why such agglomeration happens. *Firstly,* although land rent is cheap in regions investors prefer Addis Ababa to minimize the transportation cost. The outermost ring investment would consist of either cheaply transported items or land-intensive (Von Thunen cited in Paul Krugman, 1998). The import-export in the Djibouti route, cargo airport, and the domestic market is very favorable in Addis Ababa and Oromia special zones, which is comprehensible in the context of location theory. Secondly, people belonging in higher income groupsare concentrated in Addis Ababa, which creates high demand for goods and services. The 1995/96to 2004/05 consumption and expenditure survey of Ethiopia portrays that only Addis Ababa, Harari, and Dire Dawa persistently show high levels of income at all times (MOFED 2005). *Thirdly*, cost of production in urban agglomerations is low in the presence of a pool of educated and uneducated labor that results in technology spillover. Alfred Marshal sets this as one of the external economies that agglomerated firms create. Studies also show that agglomerations are minimal or nonexistent in small towns.

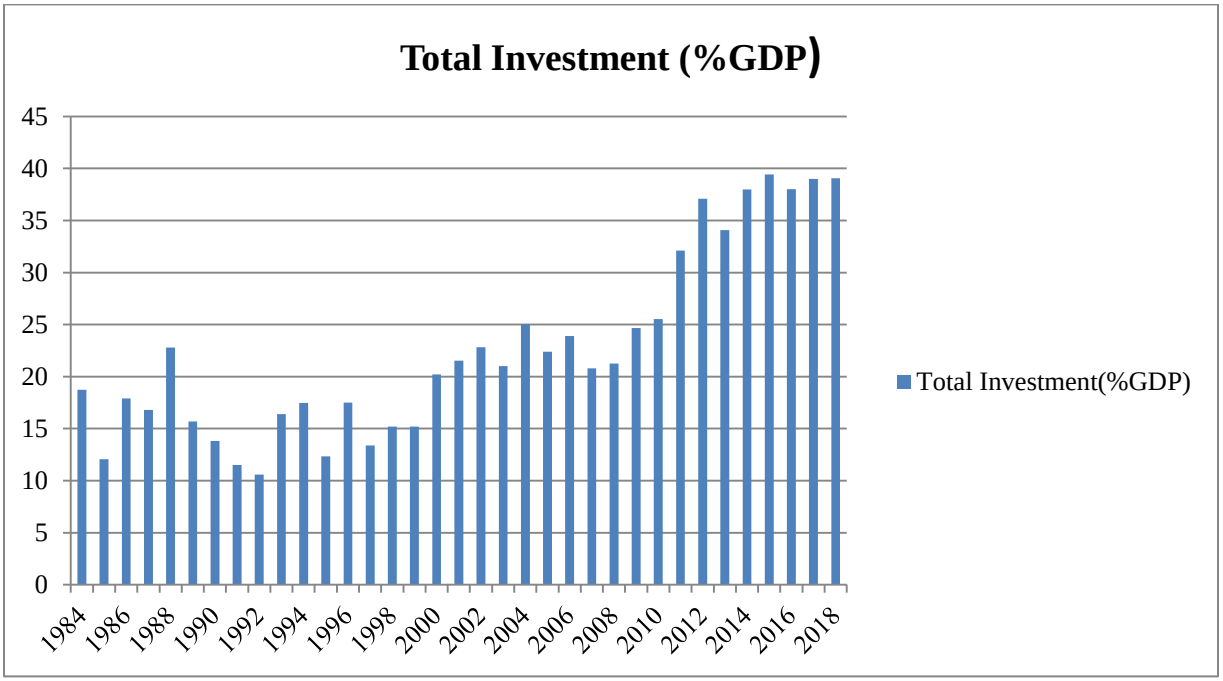
3.5 Descriptive Analysis

3.5.1 Total Investment Trend in Ethiopia (1984-2018)

Ethiopian government reported that Ethiopia has experienced strong and broad-based growth over the past decade, averaging 10.6% per year in 2004 - 2011, with a positive trend in reducing poverty, in both urban and rural areas. In case, the proportion of gross fixed capital formation (as

%GDP) indicates an increasing trend. Especially, following the issuance of Investment proclamation No 37/1996 total investment as a percentage of GDP shows an increasing trend.

Figure 5: Trends of investment as a percentage of GDP in Ethiopia (1984-2018)



Source: own computation based on World Bank data

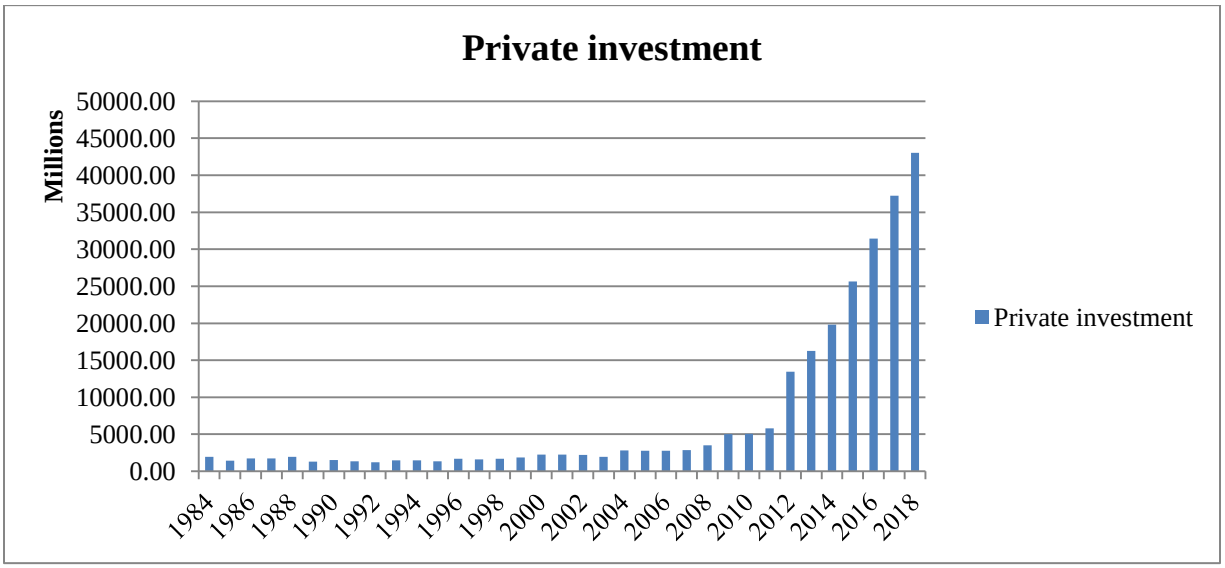
Figure 5illustrates the trends of fixed capital formation (investment) as a percentage of GDP/. According to the graph, the gross fixed capital formation had fluctuated and shared the largest percentage comparing to other components of GDP overtime. From the graph, fixed capital formation highly fluctuated during the Derg regime as a result of political instability and internal conflicts. However, following the fall of the socialist regime, total investment showed a generally increasing trend and the fluctuation improved from time to time particularly after 2000. The minimum and maximum gross capital formation as a percentage of GDP recorded in 1992 was 10.594% of GDP and in 2015 was 39.417% of GDP. This is because of some economic and political reforms have enhanced the role of the private sector.

3.5.2 Private Investment Trend in Ethiopia (1984-2015)

Ethiopia is endowed with abundant and untapped resources such as high population size with a large number of the trainable labour force, vast arable land, varieties of plant and animal stocks, and precious minerals together with favorable weather conditions (EIC, 2015; World Bank

2015). These indicate that Ethiopia as one of the potentially large domestic markets in Africa with high investment opportunities. Over time, economic and political reforms have enhanced the role of the private sector in the Ethiopian economy but its potential to increase investments and the drive for growth has not been fully exploited. For instance, in 2010/11 the private sector's share of gross capital formation in GDP was only 6.9%, which can be explained by both external and internal factors and or economic and political factors.

Figure 6: Trends of private investment in Ethiopia (1984-2018)



Source: own computation based on IMF data

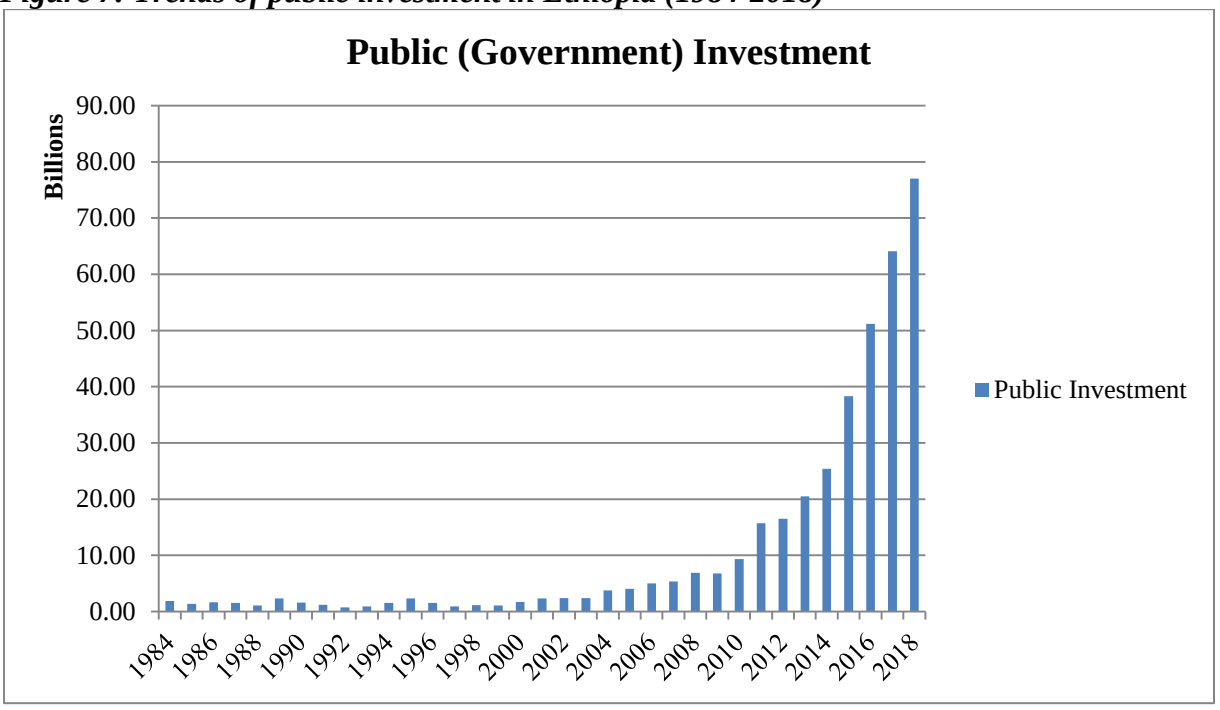
The above figure 6 indicates the trends of private investment in Ethiopia from the period 1994-2018. The performance of private investment during the Derge regime was very low. This was because the Derge regime reduced the private sector through nationalizing and restricting private participation, which highly reduced the private sector share in the economy. However, after the fall of the Derg regime in 1991, the Transitional Government of Ethiopia announced a free-market economy and increased the privileged private investors. Even then, the performance of the private sector has shown a gradual increase over time following major economic and structural reforms with different investment incentives. However, in spite of the economic and structural reforms, the performance of the private sectors was not consistent until 2008, and investor's enormous development potential was not attained. The performance of private investment has shown a radical change after new investment proclamation and economic reforms

in the country were introduced in 2012. The main objective of the investment proclamation was to expand the domestic market, strengthen private-sector investment, and encourage the use of domestic raw materials and the absorption of foreign production know-how. The proclamation enabled the private sector to invest in most sectors.

3.5.3 Public Investment Trend in Ethiopia

In developing countries, it is said that inadequate provision of physical infrastructure or public investment has been a primary cause of poverty and unemployment. Moreover, government investment expenditure is unavoidable for the creation of physical infrastructure in such countries and thereby it works as a feeder for increasing gross domestic product and employment in the private sector of the country's economy. As of Aschauer (1998) concluded, investment in infrastructure (public investment) is necessary for a strong, flexible, and growing economy. Large infrastructure investments are needed not only to support the creation of rural-urban linkages and rural growth but also to create an enabling environment for private sector development (IMF, 2005).

Figure 7: Trends of public investment in Ethiopia (1984-2018)

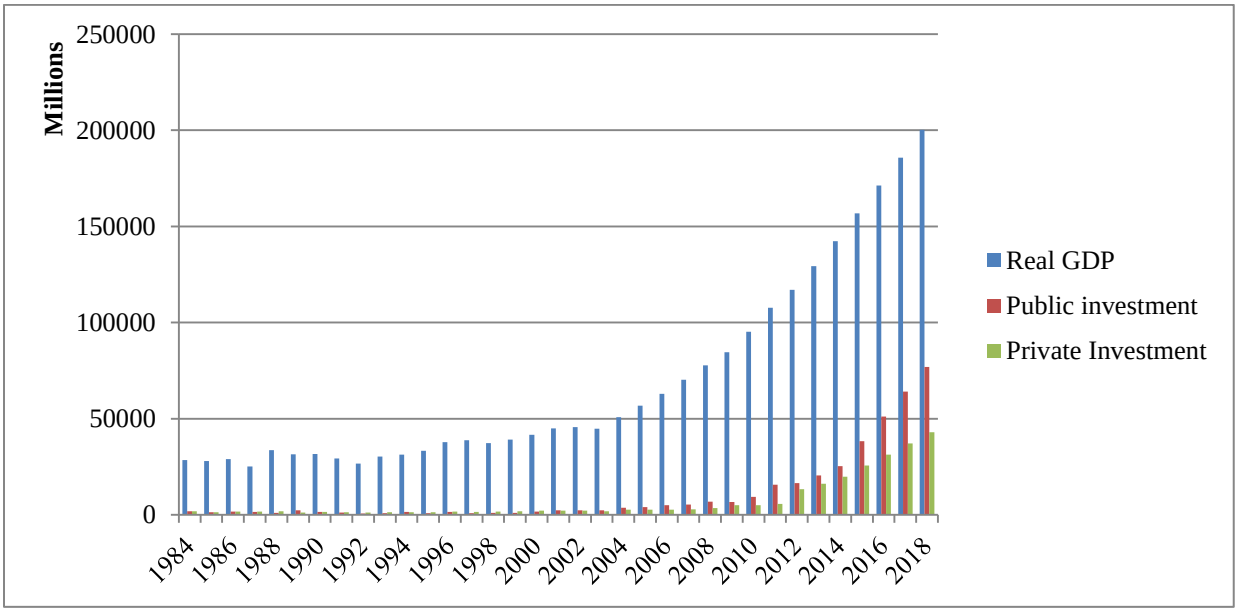


Source: own computation based on IMF data

The above figure 7 indicates the trends of government/ or public investment in Ethiopia from the period 1994 to 2018. As shown in the graph, the performance of public/ or government investment has increased over time. Particularly, the performance of public investment gradually increased after the fall of the Derg regime. During the Derg regime, its performance fluctuated between 1984-1991 because of political instability and internal conflict. Moreover, the performance of public investment has shown a radical increment after 2000 because of the policy of public-investment- led growth.

3.5.4 Real GDP, Private Investment, and Public Investment Trend in Ethiopia

Investment growth is one component of economic growth or growth in domestic product of a given economy and thought as the most volatile component of gross domestic product. During the period under study in Ethiopia, the proportion of investment particularly public investment is increasing over time as shown in the figure below. The figure below portrays the trends of real GDP, private and public investment in Ethiopia from 1984 to 2018.



Source: own computation based on IMF data

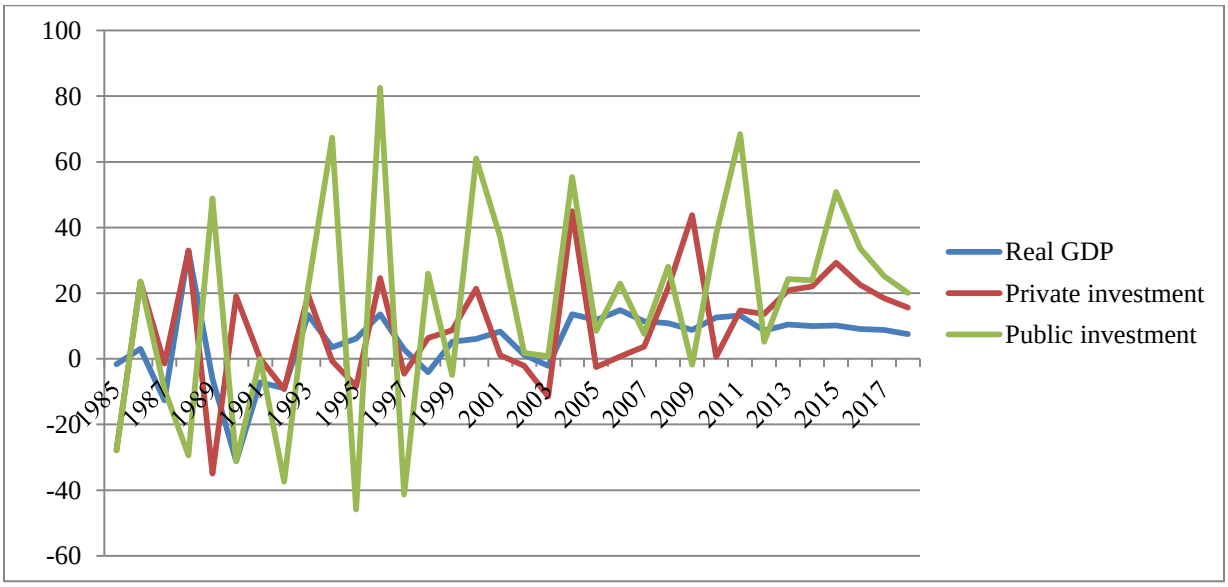
According to the above figure Real GDP was continuously increasing from 1984 to 2018. However, it is observed in the graph that the performance of real GDP was fluctuating from the period 1984 to 1992 due to political instability and internal and external conflicts in the country. It scored its minimum point in 1986 due to an unstable political atmosphere that disfavor

economic activities during the Derge regime. However, in the period after 1992 the country was able to improve its economic performance through the introduction of various policies like the new investment program in 1996, the private financial sector adjustment program, Growth transformation plan I and II(GTPI II) beginning from 2010 which made the growth rate of real GDP at high level till 2018. From the figure, we can also see that the performance of both private and public investment has gradually increased over time. However, the performance of private investment was lower as compared to public investment. This is because of the government exerted huge effort in public investment in both regimes.

3.5.5 Growth rate of Real GDP, Private Investment, and Public Investment in Ethiopia (1985-2018)

Total investment in Ethiopia has increased sharply during 1998-2018 following the 1996 investment proclamation (MoF, 2017/18).The report of MoF(2017/18) recognizes that both domestic and foreign private investment can boost employment and productivity trough technology transfer and generating foreign exchange. Compared with the SSA average the high share of investment in Ethiopia is due to aggressive investment in infrastructure and social services and the creation of an enabling environment, for the participation of the private sector along with the public sector aggressive investments. Nevertheless, Ethiopia's private investment share is yet at low level. Ethiopia’s GDP growth rate was 10.4% per annum during the years 2004 to 2017. The big push of public investment led development has delivered positive returns but the development of a strong and vibrant private sector was needed to sustain the high growth (WB, 2013 as it is cited in Feleke, 2013). Therefore, it is not only the total level of investment that matters for growth but also a particular focus on private investment is crucial for policymaking. The graph below presents the trend of growth rate of real GDP, private investment, and public investment fluctuated over time.

Figure 8: Trends of growth of real GDP, private investment, and public investment (1985-2018)



Source: own computation based on IMF data

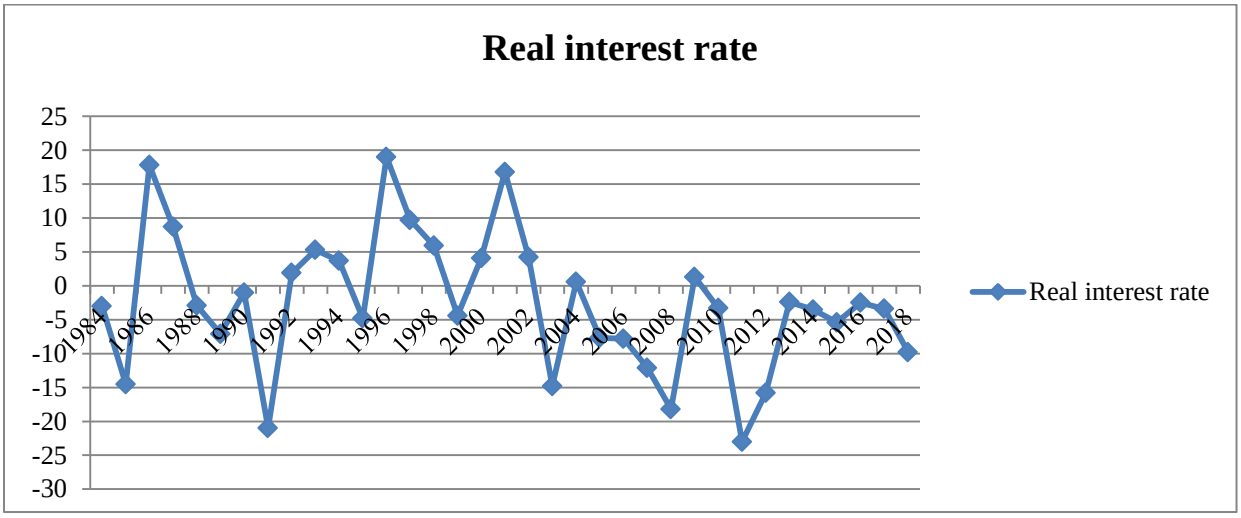
The growth rate of public investment highly fluctuated than the growth rate of real GDP and private investment during the study period. This is not only because of change in macroeconomic variables but also because of political stability/instability and conflicts which made the investment climate very good or bad. In addition, the frequent existence of outliers in the growth private investment growth and public investment is because economic reforms, political reforms, and market reforms in the country in different time periods. For instance, during the Derge Regime, the country was not politically stable. There were wars and conflicts in the entire region which caused fluctuation in investment and economic growth. Accordingly, the growth rate of private investment reached its minimum point in 1989 (-35.01948%) and its growth rate has shown a continuously increasing trend from2010 to 2015.There was also an up and down movement of the public investment growth rate of the country's economy as compared to private investment which in turn shows the existence of huge public investment in Ethiopia.

3.5.6Trends of Real Interest Rate in Ethiopia

The real interest rate (nominal interest rate minus inflation) is the rate of interest an investor, saver or lender receives or expects to receive. It has been adjusted to remove the effects of

inflation and reflects the purchasing power value of the interest paid on an investment or loan. Investors consider the real interest rate rather than the nominal interest rate in order to avoid purchasing power erosion through inflation

Figure 9: Trends of real interest rate (1984-2018)



Source: own computation based on IMF and NBE data

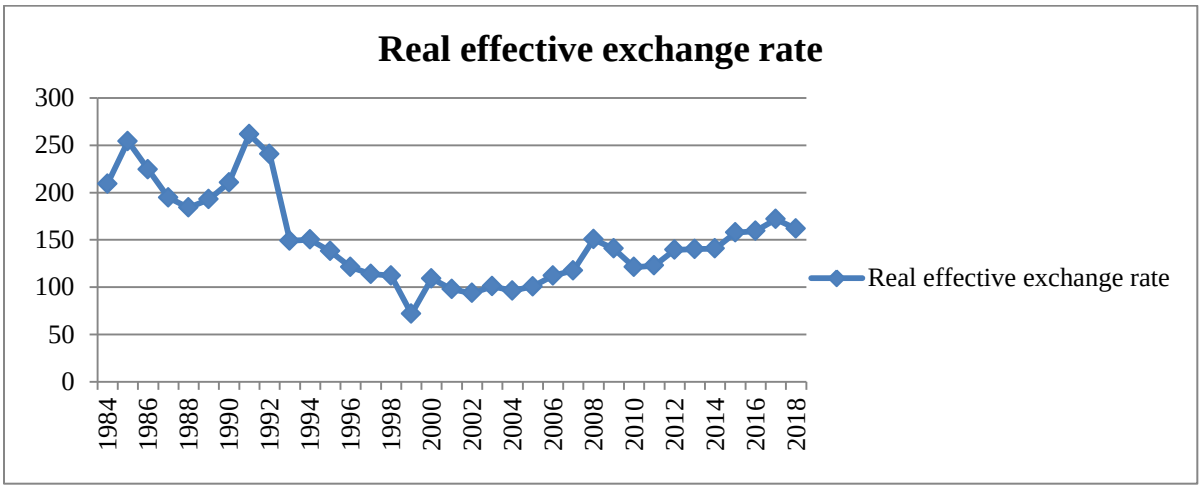
Figure 9 shows the trends of real interest of Ethiopia from the period 1984-2018. As shown in the graph, the real interest rate fluctuates over time. It reaches its minimum and maximum value in 1991 and 1987 during the Derg-regime and 2011 and 1996 in the post-Derg regime respectively. Surprisingly, from 2003 – 2018 real interest rates were negative which means that the nominal interest rate paid for saver was less than the inflation rate. The nominal interest rate adjusted to compensate for the effect of inflation was less than zero, which means a decline in purchasing power of a given level of capital over time. At lower real interest rate investors do not want to save rather they invest more.

3.5.7Trends of Real Effective Exchange Rate in Ethiopia

The real effective exchange rate is a measure of the value of a currency against a weighted average of several foreign currencies. It is after adjusting for inflation differentials. An increase in real effective exchange rate implies that exports become more expensive and imports become cheaper. A rise in real effective exchange rate indicates a loss in trade competitiveness because the increase in real effective exchange rate indicates a strengthening of the home currency with

respect to other currencies and conversely, a decline in the effective exchange rate means a weakening of the home currency. Real effective exchange rate is important in measuring whether a currency has appreciated or depreciated relative to its trading partners and it is used to judge whether the nation's currency is undervalued or overvalued. A rising in a nation's real effective exchange rate means that consumers and businesses have to pay more for the products they export, while their own people are paying less for the products that it imports. It is losing its trade competitiveness. It is also clear that having a strong or weak currency depends on a country competitive advantage, saving rate and production factors (Dorgan, 2015).

Figure 10: Trends of real effective exchange rate in Ethiopia (1984-2018)



Source; own computation based on NBE data.

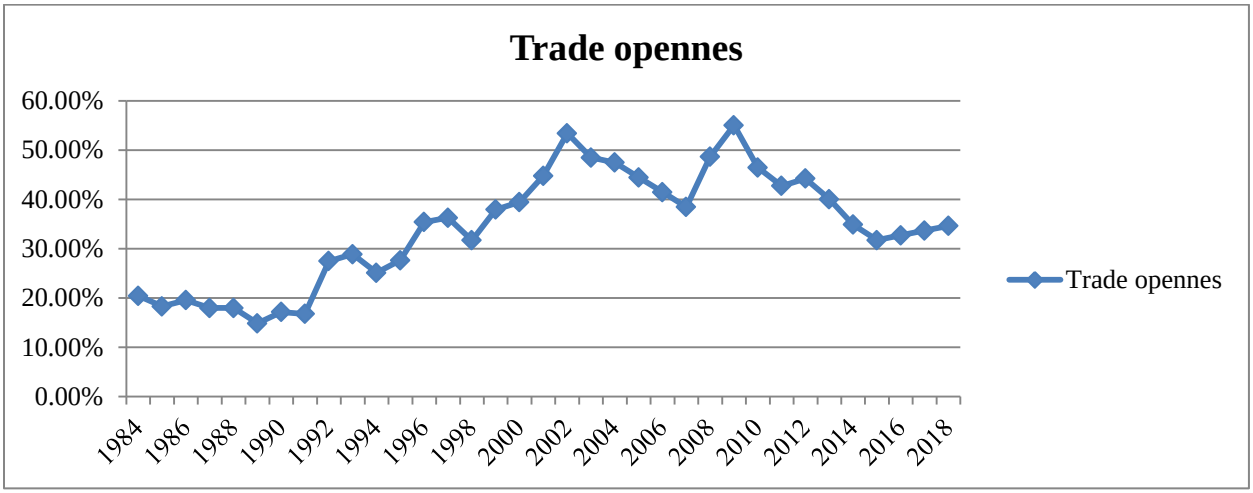
The above time-series graph shows the trends real effective exchange rate of Ethiopia from the period 1984-2018. The time-series graph shows that real effective exchange rate has a decreasing trend from 1985 to 1988 during the Derg regime and from 1991 to 1999 in post-Derg regime. Real effective exchange rate has shown an increasing trend from 2002 to 2008 and 2010 to 2017. As the graph above shows that the real effective exchange rate of Ethiopia in recent years is increased which means that, exports are becoming more expensive and its imports are becoming cheaper. This results that private sector exporters are losing their trade competitiveness.

3.5.8 Trends of Trade Openness in Ethiopia

Trade openness is measured as the sum of a country's exports and imports as a share of country's output GDP (in %). Trade openness reflects to the orientation of a country’s economy in the

context of international trade. The degree of trade openness is measured by the actual size of registered imports and exports of an economy. It also shows the extent to which economy partakes in the global trade market and allows foreign firms to do business in its domestic market. It is beneficial to a developing country not only to foster foreign investment and technology transfer but also to reduce poverty and to encourage human capital accumulation. (IMF, 2002b)

Figure 11: Trends of trade openness (1984-2018)



Source; own computation based on WB and NBE data.

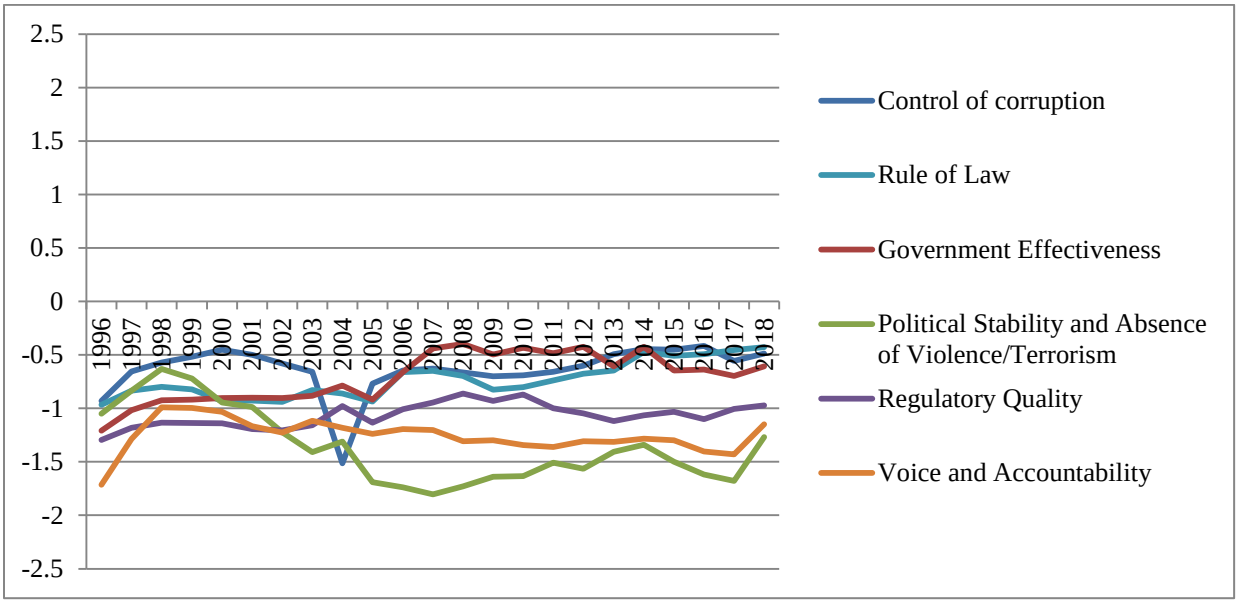
The above time-series graph shows the trends of economic openness or trade liberalization of Ethiopia from the year 2084 to 2018. Accordingly, during the Derg regime, the graph of trade openness has shown a declining trend during the period 1984 to 1991, which means that during the Derg regime the country had a weak global trading system (the trading system were not more liberalized). However, after the fall of the Derg-regime in 1991, on average trade openness has shown an increasing trend until 2002. This shows that the sum of a country's exports and imports as a share of that country's GDP (in %) has increased. However, trade openness has shown a declining trend from 2009 to 20018.

3.5. 9 Trends of Political and Institutional Variables in Ethiopia

Governance Indicators: In the figure below, the definition of those governance indicators taken as political and institutional variables are obtained from World Bank Governance Database. The index size is between -2.5 and 2.5. The lower the index shows the existence of

poor governance and the higher the index shows good governance. Surprisingly, the graph below shows that the entire index is below zero.

Figure 12: Trends of governance indicators in Ethiopia (1986-2018)

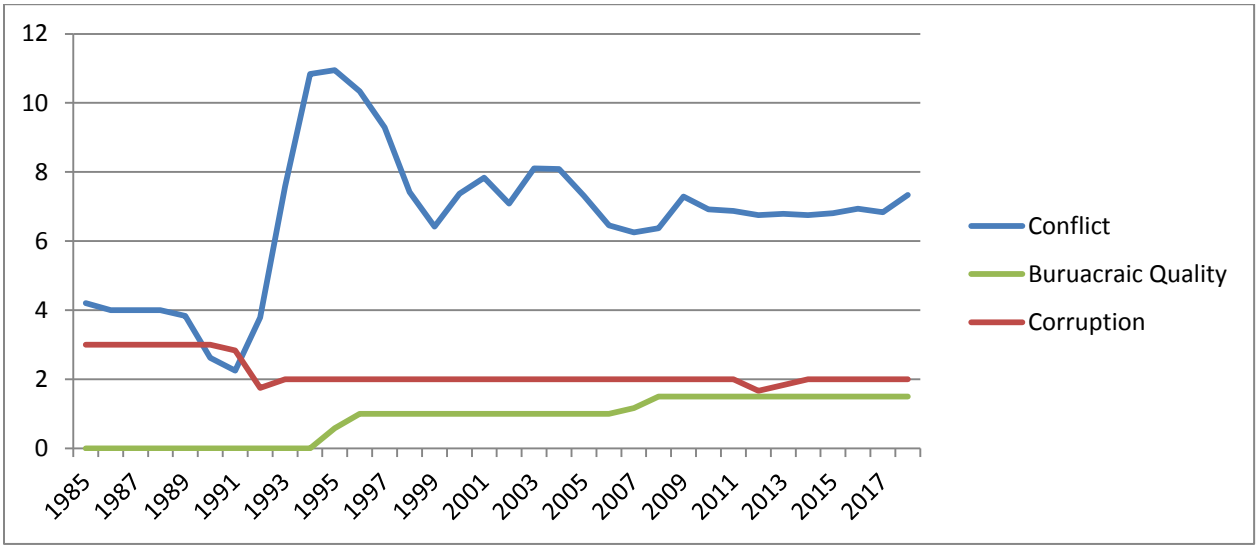


Source; own computation based World Bank data (1996-2018)

The above time-series and trends of political and institutional variables of Ethiopia pertain to period between 1996 and 2018. According to the figure, all the six indexes lie below zero and above negative two. This means that the control of corruption which measures the extent to which public power exercised for private sectors gain was very poor; rule of law regarding the extent to which agents have confidence in and abide by the rules of society and the quality of contract enforcement was very poor in Ethiopia. Secondly, regulatory quality regarding the government's ability to formulate and implement sound policies and regulations that permit and promote private sector development were weak in the country. Thirdly, Ethiopians government effectiveness in forming and implementing quality policies and the credibility of the government's commitment to such policies were not good. Fourthly, the graph has also shown the existence of political instability and existence of violence that destabilized the government in the country and citizens of the country's ability to participate in selecting their government, freedom of association and a free media use were very poor. In sum, all thus political variables have effect on private investment growth as private investor operates under governance.

The Political Risk Rating: In this section selected political and institutional variables definition is based on International Country Risk Guide (ICRG). The main aim of the political risk rating is to provide a means of assessing the political stability of the countries on a comparable basis and done by assigning risk points to a preset group of factors (political risk components). The minimum points assigned to each component is zero and the maximum points depends on the fixed weight that component is given in the overall political risk assessment (i.e. conflict-12 points, bureaucratic quality-4 points, and corruption-6 points). In every case the lower the risk point total the higher the risk, and the higher the risk point total the lower the risk.

Figure 13: Trends of political risk rate in Ethiopia (1985-2018)



Source; own computation based ICRG data (1985-2018)

The above time series graph shows the trends of political risk rating variables of Ethiopia from the year 1985 to 2018. According to the graph during the Derg-regime from 1885 to 1991 the index of all governance indicator has shown a declining trend which means that the country has faced a higher political risk that deteriorates the working environment for private investment. However, after 1992 the trend of political risk components was getting better which means that the country was having a lower political risk compared to the Derg-regime. As we saw from the figure, the index value of conflict which adversely affects domestic and foreign business ranging from restrictions on operations to trade and investment sanctions, and distortions in the allocation of economic resource reaches it maximum in 1995. From 1995 to 2018 the index value of conflict (internal and external) has shown a decreasing trend which means although the risk

factor was declining, country was not in a position of the politically stable environment as, on average, the index was in a range of high risk.

The corruption within the political system has shown a constant trend on average from the period 1993 to 2018 with index value 2. This was high corruption index and the index size indicates that country was in a range of high risk. Another shock absorber that tends to show the strength of the institutions and the revisions of policy is bureaucratic quality. To our surprise, the trend has shown an increasing trend of bureaucratic quality but still, it does not exceed index level two. This means that in Ethiopia there is a poor bureaucratic quality since the lower the index size shows the higher the risk.

CHAPTER FOUR

RESEARCH METHODOLOGY

This section outlines framework for the investigation of determinants of private investment in Ethiopia in a given time period. In particular this chapter provides technical approaches that the researcher adopted in model selection to answer the research questions and to meet the objectives. The chapter basically focuses on how the entire study was done. Issue such as data types and sources, definition of variables, model specification, and estimation procedures and techniques are covered.

4.1 The Data Set

4.1.1 Data Type and Source

This study was conducted basically using annual time series data from secondary sources. An attempt has been made to gather 34 years data on important macroeconomic, political, and institutional variables that are expected to determine private investment. The data covered the period between 1985 and 2018. Non-availability of data, especially on political and institutional variables, before the starting year 1985 has restricted the length of the time series. The quality of data and measurement errors are taken care of taking the data from appropriate/legitimate organizations.

Accordingly, data for macroeconomic variables including public investment were taken from legitimate sources such as IMF, National Bank of Ethiopia (NBE), Ministry of Finance (MoF), Ethiopian Investment Commission (EIC), Central Statistical agency (CSA) of Ethiopia. The data on political and institutional variables indexes (Worldwide Governance Indicators (WGI) and political risk indexes) were drawn from World Bank and ICRG research dataset of the Political Risk Services. The data were used to capture the effect of political stability and quality of institutions in attracting investment. Basically, the dataset summarizes the views on the quality of governance provided by a large number of enterprises, citizens, and expert survey respondents in industrial and developing countries. This data was gathered from a number of survey institutes, non-governmental organizations, international organizations, and private sector firms.

4.1.2 Method of Data Analysis

The study applied both descriptive and econometric method of analyses. The study adopted ARDL model in order to assess the short run and long-run relationship between the dependent variable and independent variables. Multiple regression analysis was applied to test the association among variables and the extent of variance in the dependent variable as a result of a unit change in independent variables. The statistical software packages used for the econometric analysis were TATA 14 and Eviews9.

4.2 Model Specification

Conceptually, model specification refers to a mathematical expression of the relationship between variables. In this section, the study presents a simple model that attempts to capture the macroeconomic, political and institutional determinants of private investment in Ethiopia. A variant of the flexible accelerator model was used to evaluate the determinants of private investment. This model is built on the assumption that if there is a larger gap between the existing capital stock and the desired level of capital stock, there will be greater rate of firm's investment. Private sectors plan to close the gap between the desired capital stock, K*, and the actual capital stock, K in each period (Mbaye, 2014).

The flexible accelerator model has been the most popular in the context of developing countries due to the data limitations and structural constraints. A variant of the flexible accelerator model has often been used in empirical research (Ouattara, 2004; Seruvatu and Jayaraman, 2001). One

of such model is the neoclassical flexible accelerator model formulated by Jorgensen (1967). The reason for the adoption of this model is that it ranks the most popular amongst all investment theories and the assumption of the theory is relevant in the context of developing countries in general (Mamo, 2017). In this study, to capture the macroeconomic, political, and institutional determinants of private investment taking the neoclassical flexible accelerator model as the basis, an eclectic version of the flexible accelerator model is designed as follows. According to the accelerator investment theory, investment is a function of economic growth. On the basis of investment theory, in the long-run, the desired capital stock (K) is assumed to be directly related to levels of income (Y).

- $K_t \sim Y_t$
- $K_t = \beta Y_t$……..……..…….(4.1)

Where β is a constant and t is time-operator. Then, differencing the equation with respect to time t gives;

- $\Delta K_t = \beta \Delta Y_t$…….……...…….... (4.2)

Where, Δ is the difference operator. Then, in order to obtain an equation for the relationship between investment and desired capital stock, the conventional capital accumulation identity will be used to identify investment (I); thus;

- $K_t = (1- \delta)\, k_{t-1} + I_t$……(4.3)

Where, δ refers to the depreciation of capital. Then from equation (3) one can obtain the following equation;

- $K_t - k_{t-1} = I_t - \delta k_{t-1}$..... (4. 4)

By assuming $\delta = 0$ and by rearranging the expression (4), one can solve for I_t to yield the following equation;

- $\Delta k_t = I_t$ …….……..……..…...(4. 5)

When equation (5) is substituted in equation (2) then;

- $I_t = \beta \Delta y_t$……...…….……(4.6)

Hence, equation (6) represents the basic investment function. But here, we need to account for the slow adjustment of the actual capital stock to the desired capital stock, lagged values of the dependent variable can be introduced into the expression to yield the following investment equation denoted by;

- $I_t = \rho I_{t-1} + \gamma_1 \Delta y_t + \gamma_2 \Delta y_{t-1} + \varepsilon_t$……...… (4.7)

Where, γrepresents coefficients, Δy_{t-1} represents lagged differences of output, and ε is the residual or disturbance (error) term. In addition, the first two terms on the right-hand side are

lagged investment and income growth (increment)respectively which capture the effects of omitted variables, (Mbaye, 2014). Thus, the final equation can be estimated;

- $I_1 = \rho I_{t-1} + \gamma_1 \Delta y_t + \gamma_2 \Delta y_{t-1} + X_t + \varepsilon_t$……... (4.8)

Where, X_t represents some of the variables that are applicable in the developing countries such as financial factors, policy-related factors, neoclassical factors, open economy factors and general macroeconomic related variables, and political and institutional factors that are exogenous variables. The variables are chosen based on the availability of data and the existence of wide literature that support the variable.

Hence, to operate the above theoretical model, a basic eclectic flexible accelerator functional model, the following empirical function incorporating macroeconomic, political, and institutional variable is formulated. That is PRI = F (RGDP, PUI, RIR, REER, OPEN, POIST), where PRI = Private investment; RGDP = Real Gross Domestic Product; PUI = Public Investment; RIR = Real Interest Rate; REER = Real Effective Exchange Rate; OPEN = Trade Openness/ Economic Openness; and POIST = Political and Institutional Variables (Conflict and corruption).Consequently, the econometric model to be estimated was specified as follows;

$PRI_t = \alpha_0 + \alpha_1 RGDP_t + \alpha_2 PUI_t + \alpha_3 RIR_t + \alpha_4 REER_t + \alpha_5 OPEN_t + \alpha 6 POISTt + \varepsilon_t$……..…..… (4.9)

4.3 Definition of Variables

The dependent variable of interest "private investment" is measured by growth of private fixed capital formation. It is a direct indicator of private investment growth in the economy. The explanatory variables were selected carefully after a full review of the existing studies and based on econometrics tools. Hence, by considering the effects of economic, political and institutional variables on private investment, five influential macroeconomic variables and two political and institutional variables are selected as explanatory variables, as stated above, in the model specification.

4.3.1 Macroeconomic Variables

Real Gross Domestic Product: real GDP is used to capture the aggregate demand conditions in the economy or it measures the size of the host market which represents the host country's economic conditions and the potential demand for output. Countries with higher income levels

are inclined to allocate more of their wealth to domestic saving, which could be then used to help in financing private investment. The growth of GDP highly contributes to private investment development. It also enhances private investment expansion in the economy (Fielding, 1997; Assa and Abdi, 2012; Adugna, 2013; Augustine, 2014; Basha and Debela, 2015; Therefore, real GDP is expected to exert a significant and positive effect on private investment

Public Investment: Public/ government investment has an ambiguous priority effect on private investment. The role of public investment is seen from two aspects. On one hand, public investment may crowd-out private investment via increased deficits and a high interest rate; in turn, it reduces the amount of money available for private sectors. It also crowds out private sectors via the competition for certain scarce resources (skilled labour, raw materials, etc) (Ricardian Equivalence Theorem; Habtu, 2018). On the other hand, public investment may act as a crowding-in catalyst through the provision of key infrastructure and it promotes private sector expansion and development (Yan, 2004; Escaleras, 2014; Mamo, 2017; Woldemariam, 2018). Thus, at the theoretical level, the effect of public investment is ambiguous.

Real Interest Rate (RIR): It is an interest rate that has been adjusted to remove the effects of inflation to reflect the real cost of funds to the borrower and the real yield to the lender or to an investor. Adjusting the nominal interest rate to compensate for the effects of inflation helps to identify the shift in purchasing power of a given level of capital over time. To avoid purchasing power erosion through inflation, investors consider the real interest rate, rather than the nominal interest rate. In macroeconomics concept interest rate and investment are inversely related. At a higher interest rate investment declines and at a lower interest rate investment rises. Hence, the effect of interest rate on private investment is expected to be negative and this is supported by a study by Habtu (2018).

Real Effective Exchange Rate (REER): It represents the nation's nominal effective exchange rate adjusted for inflation in the home country and used as a proxy to measure macro-economic stability.“It is a measure of the value of a currency against a weighted average of several foreign currencies”. It is an indicator of the external competitiveness of a country’s currency. An increase in real effective exchange rate implies that exports become more expensive and imports become cheaper which indicates a loss in trade competitiveness and a strengthening of the home currency with respect to other currencies. On the other hand, a decline in the effective exchange

rate means a weakening of the home currency. However, the effects of the real exchange rate either appreciation or devaluation of local currency on private investment is ambiguous. The real exchange rate can influence the level of private-sector investment via determining the real cost of imports and on other hand via promoting export. For instance, real exchange rate depreciation increases profitability in export-oriented sectors and therefore promotes investment in these sectors. On the other hand, depreciation of the exchange rate increases the cost of imported capital goods, and thus decreases investment in import-dependent production sectors (Branson and Buffy, 1986). Thus, the effect of the real exchange rate on private investment is ambiguous.

Trade Openness: It is a proxy for economic openness (international trade).The trade openness index is one measure of the extent to which a country is engaged in the global trading system and allowing foreign firms to do business in its domestic market. It is usually measured by the ratio between the sum of exports and imports and gross domestic product (GDP). In literature, the degree of liberalization of the trade regime in the host country is regarded as a very important factor that promotes private investment growth. Reducing trade barriers through liberalization creates an advantage for the export sector. Further, with import opportunities, the available quality and supply of inputs to production increases the competitiveness and productivity of private sectors. This proxy is important for private investors motivated by the export market (Geda and Yimer, 2015).Economies, particularly developing economies, that partake more in global trade have high rate of economic growth than those who abstain from it(Sachs and Warner, 1995; Dollar and Kraay, 2003).

4.3.2 Political and Institutional Variables (POIST)

Governance or Socio-political problems like political instability, corruption, and the frequent occurrence of disorder ‘create an unfavorable business climate which seriously erodes the risk-averse investors’ confidence in the local investment climate and thereby repels investment away (Schneider and Frey, 1985).Political stability and institutional quality is a significant factor in location decisions of multinational corporations, especially in their decisions to invest in African states (Aseidu, 2002). In this study, the definition of those governance indicators taken as political and institutional variables is based on International Country Risk Guide (ICRG) of Political Risk Services(2015).Political and institutional risk rating, as provided by the International Country Risk Guide of Political Risk Services (2015), awards the lower the index

value the higher risk and the higher the index value to the lower risk and provides a means for assessing the political and institutional framework of countries. Hence, the expected sign for the political and institutional variables (proxy by conflict and corruption index) is positive since an increase in the index size of political and institutional variables indicates better governance or administrative quality (i.e. an increase in the index indicates better political stability or lower conflict and lower corruption). Political instability (proxy by conflict index) and lower-quality institutions discourage both private and foreign investments (Feng, 2001). In this study, an attempt to incorporate all political risk variables in econometrics regression has been made. However, only two variables (conflict and corruption) were selected because of technical reasons, the existence of a strong correlation among the political and institutional indicators, and high of multi-collinearity among them. The researcher uses conflict index (both external conflict and internal conflict) as political variable and corruption as the institutional variable.

Political Insatiability: political instability can deter investment by making future rewards more uncertain or undermining the value of assets. Political instability, in this study, is proxy by conflict indexes. Internal and external conflict and uprising of violence lowers the rate of private investment growth and increases the risk of firms suffering slower growth or contracting. Different studies have analyzed the impact of conflict/political instability on the broader economy, at both the micro and macro levels (see Cohen and D'Acosta, 1998; Gyimah-Brempong and Corley, 2005; Ksollet al, 2010). Forinstance, Ksoll et al(2010) showed how post-election violence negatively affected the export volumes of private sectors and how persistent violence causes fall in investment and reduces future asset creation. Conflicts can adversely affect both private and foreign businesses in many ways, ranging from restrictions on operations to trade and investment sanctions, to distortions in the allocation of economic resources, to violent change in the structure of society.

In this study, conflict is an assessment of political violence in the country and its actual or potential impact on governance, and also measure is an assessment both of the risk to the incumbent government from foreign action, starting from non-violent external pressure (diplomatic pressures, withholding of aid, trade restrictions, territorial disputes, sanctions, etc) to violent external pressure (cross-border conflicts to all-out war) war, cross-border conflict, and foreign pressures. The highest rating is given to those countries where there is no armed or civil

opposition to the government and the government does not indulge in arbitrary violence, direct or indirect, against its own people. The lowest rating is given to a rustic embroiled in an ongoing war. The risk rating assigned with a maximum score of four points and a minimum score of zero points. Hence, understanding the economic response of political instability/ or conflict has to have a model of private investment at its heart. In this study political instability proxied by conflict is expected to have a positive sign.

Corruption: With emerging countries a high perception of corruption is reported other than developed countries. Corruption is a threat to both private and foreign investment. It distorts the economic and financial environment and reduces the efficiency of government and business (shleifer and Vishny, 1993). Corruption represents a substantial risk to earning attractive returns to investment by increase the cost of doing business, whether through the payment of bribes, the direct loss of goods, or the costs of crime prevention (Campo et al., 1999; Wei, 1997). There is strong evidence that, at the macro level, these factors reduce the speed of private sectors investment and its growth. The most common sort of corruption met directly by businesses is financial corruption within the sort of demands for special payments and bribes connected with import and export licenses, exchange controls, tax assessments, police protection, or loans. Corruption results a shadow economy and creates difficulty to conduct business effectively and even may force firms to withdraw or withholding an investment. Corruption is potential of much greater risk to foreign business in that it can lead to popular discontent, unrealistic and inefficient controls on the state economy, and encourage the development of the black market. The greatest risk of corruption destructs private investment growth (Fiestas and Sinha, 2011). Hence, in this study, corruption is expected to have a negative impact on private investment growth.

4.4 Econometric Estimation Procedures

3.4.1 Unit Root Testing (Stationarity Test)

Before conducting any econometric analysis, a test for the stationarity of each series for the study period should be undertaken. As stated by Brook (2008), stationary series is a series whose data generating processes such as the mean, variance, and auto-covariance do not depend upon time. Constant mean, constant variance and constant auto-covariance for each given lag. If the time-series or the linear combination of the time series data are non-stationary, the mean, variance, or

covariance will not be constant, and one is likely to end up with spurious /meaningless/ regression where statistical inference on the basis of the classical regression model will be invalid (Gugarati, 2004).

An econometric model is built on the stationarity property, the assumption that the macroeconomic variables are stationary or not is crucial for the properties of standard estimation and testing procedures. Therefore, before estimating a time-series model, it is necessary to identify the nature of time series data whether they are stationary or non- stationary. It's said to be stationary if the mean and variance are constant regardless of the actual time taken. The stationary test makes sure that there are no spurious (meaningless) results. Thus, if the employed variables in the model are individually or in linear combination stationary, then they prevent model misspecification and spurious results.

In order to deal with the problem of the unit root (non-stationary problem), the econometric theory provides various mechanisms. In this study, the augmented version of Dickey-Fuller (DF) which known as the Augmented Dickey-Fuller (ADF) test for unit root will be employed as it is advantageous and leads to robust results. The optimum lag length for the test is selected using Schwarz Information Criterion (SIC).The theoretical ADF is specified as follows:

$$\Delta X_t = \alpha + \mu_t + \gamma \Delta X_{t-1} + \sum_{t=1}^{p} \beta i \Delta X_{t-1} + \varepsilon_t \quad \text{(a)}$$

Where, X is the variable to be tested; Δ is the first difference operator; α is a constant term; μ is the coefficient of the time trend; t represents the time trend;ε represent the Gaussian white noise;γandβi (for i=1, 2 …….p) constant parameters; p is the optimal lag length to be chosen by the Akaike information criteria AIC or Schwartz/ Bayesian information criteria SBIC to ensure that ε_t is white noise.

The hypothesis to be tested is:

Ho: $\gamma = 0$, i.e.the variable has unit root (the series is non stationary)

H1: $\gamma \neq 0$, i.e.the variable has no unit root (the series is stationary)

The test for stationary is carried out under the null hypothesis $\gamma = 0$ against the alternative hypothesis $\gamma \neq 0$. Rejecting the null hypothesis for the test statistics larger than the critical value

implies the absence of unit root (stationary case) and the reverse indicates the presence of unit root (Gujarati, 2004). Or if the calculated ADF test statistics are less than Mackinnon's critical values or if the Mackinnon P-value is higher than 5% we cannot reject the null hypothesis this means that there is a unit root problem between X_{t-1} and ΔXt-1. This implies the series is not integrated of order zero i.e. I (0). This leads to a test by differencing until it becomes stationary.

4.4.2 The ARDL Co-Integration Testing (Bounds Testing)

Developments in econometrics have allowed not only examining the extent to which variables are non-stationary or stationary but also whether they grow together over time and converging to their long-run relationship. Long-run linear relationships among variables in the presence of short-run deviations from the long-run equilibrium are checked using the co-integration test (Ghani and Din, 2006). However, prior to undertaking the co-integration test, it needs to determine the appropriate lag length. The empirical analysis requires the determination of the appropriate lag length because the estimation result may be sensitive to the number of lags included in the model (Davidson and Mackinnon, 1999). This is determined using the model selection criteria by Akaike Information Criteria (AIC), or/and Schwarz (Bayesian) Information Criteria (SBIC). In order to investigate the long-run relationships and the dynamic interaction between the determinants of private investment, this paper employs the newly developed ARDL bounds testing framework which was initiated by Pesaran and Shin (1999) and later popularized by Pesaran, et al. (2001).

The ARDL approach has recently been credited for its advantages over the traditional co-integration techniques such as full maximum likelihood based approach by Johanson (1988), Johansen and Juselius (1990), and the residual based approach by Engle & Granger (1987). Firstly, ARDL co integration technique does not require pretests for unit roots unlike other techniques. Secondly, this technique is comparatively more robust in small or finite samples consisting of 30–80 observations. Thirdly, ARDL co integration technique is preferable when variables are integrated of different order, I(0), I(1) or combination of both. In such situation, the application of ARDL approach to co-integration will give realistic and efficient estimates. Fourthly, the ARDL method can distinguish between dependent and explanatory variables and remove the problems that may arise due to the presence of auto-correlation and endogeneity. Fifthly, Autoregressive Distributed Lag (ARDL) approach to co-integration helps in identifying

the co-integrating vector(s) and if one co-integrating vector is identified the ARDL model of the co-integrating vector is re-parameterized into ECM. The re-parameterized result gives short-run dynamics and long run relationship of the variables of a single model. In addition, ARDL approach is preferable is some explanatory variables are exogenously determined.

Thus, in order to examine the long-run relationship and dynamic interaction between private investment growth and its determinants our study employs an ARDL modeling approach. According to Pesaran et al. (2001) the ARDL approach requires three steps: The first step is estimating the long-run relationship among the variables. This is done by testing the significance of the lagged levels of the variables in the error correction form of the underlying ARDL model. Thus, following Pesaran et al. (2001), our ARDL model can be written as:

$\Delta GRPRI_t = \alpha_0 + \alpha_1\, GRPRI_{t-1} + \alpha_2\, GRRGDPt_{-1} + \alpha_3\, GRPUI_{t-1} + \alpha_4\, RIRt_{-1} + \alpha_5\, REER_{t-1} + \alpha_6\, OPEN_{t-1} + \alpha_7\, POIST_{t-1} + \sum_{i=1}^{p} \beta 1 \Delta GRPRI_{t-1} + \sum_{i=0}^{p} \beta 2 \Delta GRRGDP_{t-1} + \sum_{i=0}^{p} \beta 3 \Delta GRPUI_{t-1} + \sum_{i=0}^{p} \beta 4 \Delta RIR_{t-1} + \sum_{i=0}^{p} \beta 5 \Delta REER_{t-1} + \sum_{i=0}^{p} \beta 6 \Delta OPEN_{t-1} + \sum_{i=0}^{p} \beta 7 POIST_{t-1} + \epsilon_t$ ……………………………………….…. (b)

Where the variables are as defined before is the first difference operator; $\alpha_0$is the intercept (drift); α_1- α_7 denote the long-run coefficients; β_1- β_7 are the short-run parameters of the private investment model to be estimated through the error correction model framework in the ARDL model of private investment with respect to the above-identified variables; ϵ_t is the white noise residuals; Δ is the difference operator; and p is the optimum lag-length selected through Akaike Information Criteria (AIC).

Then, the F-test (Wald test) is used to test the existence of a long-run relationship among the variables using OLS to estimate the above equation. Wald F-statistics for testing the joint hypotheses will be compared with the critical values to test co-integration among the variables. Consequently, the joint hypotheses that will be tested are as follows:

H_0: $\alpha_1 = \alpha_2 = \alpha_3 = \ldots\ldots, = \alpha_7 = 0$ (the null hypothesis of no long run relationship)

H_1: $\alpha_i \neq 0$, i= 1, 2, 3…., 7 (the alternative hypothesis for the presence of long-run relationship)

The null hypothesis H_0 will be rejected if the F-statistic is higher than the upper bound critical value, indicating the existence of the long-run relationship between the lagged level variables in the model. In contrast, H_0 will not be rejected if the F-statistic falls below the lower bound,

indicating the existence of the long-run relationship. However, if the F-statistic falls in between the lower bound and upper bound critical values, the inference is inconclusive. At this condition, the order of integration of each variable will be determined before any inference can be made.

Then, the conditional ARDL long-run model of the determinants of $GRPI_t$ can be estimated following co-integration is established (or this model is extracted from (a) to obtain the long-run coefficients, the following model is extracted from (a)).

$GRPRI_t = \alpha_0 + \sum_{i=1}^{p} \alpha 1GRPRI_{t-1} + \sum_{i=0}^{p} \alpha 2GRRGDP_{t-1} + \sum_{i=0}^{p} \alpha 3GRPUI_{t-1} + \sum_{i=0}^{p} \alpha 4RIR_{t-1} + \alpha 5REER_{t-1} + \sum_{i=0}^{p} \alpha 6OPEN_{t-1} + \sum_{i=0}^{p} \alpha 7POIST_{t-1} + \varepsilon_t$……………………………………….….….. (b)

Lastly, by estimating an error correction model (ECM) associated with the long-run estimates, the short-run dynamic parameters are obtained andspecified as follows:

$\Delta GRPRI_t = \alpha_0 + \sum_{i=1}^{p} \beta 1\Delta GRPRI_{t-1} + \sum_{i=0}^{p} \beta 2\Delta GRRGDP_{t-1} + \sum_{i=0}^{p} \beta 3\Delta GPUI_{t-1} + \sum_{i=o}^{p} \beta 4RIR_{t-1} + \sum_{i=0}^{p} \beta 5\Delta REER_{t-1} + \sum_{i=0}^{p} \beta 6OPEN_{t-1} + 7\Delta POIST_{t-1} + \theta ECM_{t-1} + \varepsilon_t$……………………………...(c)

Where α_0 is the intercept; β_1, β_2, β_3, β_4, β_5, β_6, β_7, β_8,β_9, and β_{10} are the short-run dynamic coefficients of the model's convergence to equilibrium; ε_t is the white noise residuals; Δ is the difference operator; $ECM_{t-1}$is the error correction term lagged by one period(captures the long-run relationships in the model); θ is the speed of adjustment (the long run parameter that captures the long run causality effect), and p is the lag length.

The null hypothesis to be tested here is H_0:$\theta = 0$, which indicates the non-convergence to its long-run dynamics against the alternative hypothesis of H_1:$\theta \neq 0$, the existence of a long-run relationship between the dependent variable and exogenous variables. The coefficient of error correction model (θ) is also expected to have a negative sign, which indicates the convergence to its long run dynamic equilibrium.

3.4.3 Diagnostic Checking

Before estimating the econometric model, the author carried out a test for stationarity of the variables in the model using both the Augmented Dkfuller test (ADF) and Phillip -Perron test. It's found that some of the variables are integrated of order zero, I(0) and some other variables are integrated of order one, I(0) (see in the result section). In this study, the test for co-integration

by using both Johansen.s (1991) test and Pesaran et al (2001) bounds test also shows the existence of co-integration.

Diagnostic tests for multi-co-linearity, autocorrelation (serial correlation), normality, and heteroscedasticity have been made. Multi-collinearity is a phenomenon in which two or more predictor variables in a multiple regression model are highly correlated, meaning that one can be linearly predicted from the others with a substantial degree of accuracy that provides redundant information about the response. Autocorrelation test is used for evaluating the complete specification and robustness of the results of an econometric model is the test of serial correlation of the residuals. Rejection of the null hypothesis at the standard critical values indicates the existence of serial correlation among the residuals. The test of normality of the residuals is one of the important post-estimation diagnostic tests in order to check the appropriateness of the model. Rejection of the null hypothesis at the standard critical values indicates the non-normality of the residuals. Heteroscedasticity test shows that the error term/ or residual have a constant variance or not and accepting of the null hypothesis at the standard critical values indicates the absence of heteroscedasticity.

In this study, the diagnostic testing result for multi-co-linearity using Variance inflation factor (VIF), serial correlation test using Durbin-Watson, normality test using White (1980) test, and homoskedasticity using Bruesch Pagan- Godfrey test shows that all are consistent to estimate the ECM model. In addition the functional form or model specification-RESET and model stability CUSUM test results also show the existence of model stability. That is the test for omitted variable problem is in a way that the null hypothesis of there is an omitted variable over the alternative of the null is not true. From the test result, H0: the null hypothesis of no omitted variable cannot be rejected significantly. Moreover, the model stability CUSUM test shows that the model adjusts towards the long-run after any shocks. This means the model is table.

CHAPTER FIVE

RESULT AND DISCUSSION

5.1. Descriptive Statistics

Before estimating the data, it's important to describe the properties and the behavior of the study variables. It is useful to take some corrective measures so that the variables are certainly applicable for the estimation process. The result given in the table below describes some behavior of the variables.

Table 1: Summary statistics

Variable	Observations	Mean	Median	Std. Dev.	Minimum	Maximum
GRPRI	34	8.753785	11.20000	17.60256	-35.01900	44.99000
GRRGDP	34	6.036168	8.470000	32.11755	-12.68100	22.96030
GRPUI	34	14.06570	21.02000	32.11755	-45.87000	68.40000
RIR	34	-4.39412	-3.10000	14.77213	-51.20000	19.00000
REER	34	148.6441	140.4500	47.95021	71.90000	261.5000
OPEN	34	34.57793	35.12910	11.36042	14.85000	55.03782
CONF	34	6.638237	6.854167	2.095390	2.250000	10.94840
CORR	34	2.178922	2.000000	0.419502	1.666667	3.000000

Source: Own Computation using Eview9 result based on NBE, WB, and IMF data.

From Table 5.1, the growth of private investment in Ethiopia for the period under study had a mean of 8.753785and a standard deviation of 17.20 with a minimum and maximum of -35.019 and 44.99 respectively. Real GDP growth had a mean of 6.036168 and a standard deviation of 32.11755 with a minimum value of -12.68100 and a maximum value of 22.96030 for the period under study. The growth of public investment had a mean of14.06570 and a standard deviation of 32.11755with a minimum of -45.87000and a maximum of 68.40000.Based on this, the growth rate of public investment is higher than the growth rate of private investment. Under the study

period the economy has annually grown by 6 percent on average whereas private investment and public investment has annually grown by 8.7 and 14 percent on average, respectively. The real interest rate has a mean of -4.39412 and a standard deviation of 14.777213. This means, on average, the nominal interest rate is lower than the inflation rate saving is not more important. The description shows that private investment growth, public investment growth, and real economic growth, real interest rate, and real effective exchange rate variables are abnormal, while the other variable trade openness, conflict, and corruption have normality showing a greater standard deviation than the mean value. This means trade openness, conflict, and corruption more clear, on average, the growth rate of public investment is two times higher than the growth display the lowest dispersion whereas private investment growth, growth of real GDP, real interest rate, and real effective exchange rate displays the highest dispersion as shown by the standard deviation. This shows stability in the long-run relationship between Private investment and its determinant factors.

5.2 Empirical Analysis

5.2.1 ADF Unit Root Testing Result

A unit root test is a common practice and a first step that are to be undertaken in macro-level data analysis to address the non-stationarity problem of variables. Hence, before the estimation ofthe econometric model, unit root test for stationary of each time series variable is necessary to show mean, variance, and covariance of the process is time-invariant. Most often macroeconomic variables are non-stationary; hence, before doing any econometric analysis testing stationarity of variables is common and mandatory. Otherwise, estimating non-stationary dependent variable upon a non-stationary independent variable lead to the spurious regression in which the estimators and test statistics are misleading.

Table 2: Unit root test result

Result for Unit root tests									
Variable	ADF Test				PP Test				Order of integration (conclusion)
	Level		1st difference		Level		1st 1ifference		
	Intercept	Intercept & trend	Intercept	Intercept &trend	Intercept	Intercept &trend	Intercept	Intercept &trend	
GRPRI	-0.26	-5.99*	-5.28*	-5.19*	-6.88*	-22.87*	-37.39*	-37.06*	I(0)
GRRGDP	-5.39*	-6.93*	-6.87*	-6.84*	-5.45*	-7.27*	-38.54*	-40.29*	I(0)
GRPUI	-3.48	-3.09**	-2.09**	-2.05	-6.59*	-12.90*	-35.14*	-34.99*	I(0)
RIR	-4.91*	-3.68**	-7.71*	-7.60*	-4.97*	-5.26*	-14.14*	-13.73*	I(0)
REER	-2.44	-1.21	-5.23*	-5.36*	-2.46	-1.87	-5.26*	-5.96*	I(1)
OPEN	-1.65	-0.69	-4.83*	-2.21*	-1.62	1.19	-5.03*	-5.40*	I(1)
CONF	-3.44	-3.44***	-3.37***	-3.82***	-2.13	-2.12	-2.44**	-2.35**	I(0)
CORR	2.17	2.16	-4.38*	-4.65	-2.12	-1.96	-6.15*	-7.39*	I(1)
Note: *, ** ,and *** indicates the significance level of variables at 1%, 5%, and 10 % respectively The null hypothesis is that the series is non-stationary or the series has a unit root against alternative hypothesis that the series are stationary									

Source: own Computation by eviews9; 2021

As shown in the table above, in both augmented Dickey-Fuller and Phillip and Perron tests the growth of the variables of private investment (GRPRI), the growth of real domestic product (GRRGDP), the growth of government/public investment (GRPUI), real interest rate (RIR), and conflict index (CONF) are stationary at level, integrated of order zero (I(0)), whereas real effective exchange rate (REER), trade openness (OPEN), and corruption index (CORR) are not stationary at level but stationary at the first difference, integrated of order one (I (1)). This implies the series are of mixed order of I (1) and I (0) and therefore, for the given time series, the ARDL methodology is quite appropriate to be adopted. This gives the stepping stone for the next co-integration analysis and error correction estimation that may proceed to the existence of co-integration.

5.2.2 Result of Bound Test for Co-Integration

Co-integration is the formal statistical justification of the existence of this relationship among the variables for the long-run equilibrium. Hence, after determining the stationary nature of the variables, the next task in the bounds test approach of co-integration is estimating the specified ARDL model using the appropriate lag-length selection criterion. According to Pesaran and

Shine (1999), as cited in Narayan (2004)for the annual data, they recommended choosing a maximum of two lag lengths but for small data, it is advisable to use 1 lag because when the lag length increases, the observation fail to show the appropriate long run relationship among variables.Accordingly, under the study period, co-integration (a long run relationship) is witnessed between private investment and the given set of determinants considered and shown as follows:

Table 3: Bound testing for co-integration

Table: Bounds Co-integration Testing Result		
Null Hypothesis: No long run relationship exist (No level relationship)		
Test Statistic	Value	K
F-statistic	10.84744	7
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.03	3.13
5%	2.32	3.5
2.5%	2.6	3.84
1%	2.96	4.26

Source: own computation by eviews9

From the above Table 5.3, the F-statistics (10.84744) is higher than both the Pesaran et al. (2001) and Narayan (2004) upper bound critical values at a 1% level of significance. This implies that the null hypothesis of no long–run relationship is rejected; rather accept the alternative hypothesis (there is a long-run relationship) based on critical values at a 1% level of significance. Therefore, there is co-integration or long-run relationship among the variables. Thus, the bound test shows there is co-integration among the variables. In other words, there is a systematic relationship that functionalizes the variables to form a linear stationary process that adjusts to the long-run after any shocks or deviation of the short-run.

5.2.3 Diagnostics Testing Result

Prior to doing any statistical regression analysis of the model, different diagnostic tests should be undertaken to check the fulfillment of different assumptions. In other words, a diagnostic test is required to check the standard property of the model. In this study, the researcher is carried out a number of diagnostic check, which includes a Serial correlation test (Brush & God fray LM test), Functional form (Ramsey's RESET) test, Normality (Jaque-Bera test), and Heteroscedasticity test. In order to reject or accept the null hypothesis, a decision is made by looking at the p-values

associated with the test statistics. That is the null hypothesis is rejected when the p-value is smaller than the standard significance level (i.e. 5%).

Table 4: Diagnostic test result

Diagnostic Testing Results for selected ARDL (1, 1, 1, 1, 0, 1, 1, 1)model				
H0: hypothesis	H1:hypothesis	Test type	F-statistics (F-version) ($P \geq 0.05$)	Decision
No serial correlation	Serial correlation	Breusch-Godfrey Serial Correlation LM Test	1.099558(0.3569)	Accept the null hypothesis
Homoskedastic	Heteroskedastic	Breusch Pagan	0.601236(0.8308)	Accept the null hypothesis
No omitted variable	Omitted variable	Ramsey RESET test	1.129374(0.3028)	Accept the null hypothesis
Normally distributed	Not the null	Jarque Berra test for the distribution of the disturbance	0.201749(0.904047)	Accept the null hypothesis

Source: own Computation by eviews9; 2021

The above table shows that the ARDL model estimated in this study generally passes all the diagnostic tests. Serial correlation test; the post estimation test of serial correlation in the null hypothesis of there is no serial correlation over the alternative hypothesis of there is serial correlation has the expected result. As shown in the first row of the table above, a p-value is 0.35. This is much higher than 0.05 or even the weak significance level of 0.1. Therefore, we cannot reject the null hypothesis of there is no serial correlation. Thus, there is no evidence of serial correlation in the model as the Brush Godfray LM test failed to reject the null hypothesis.

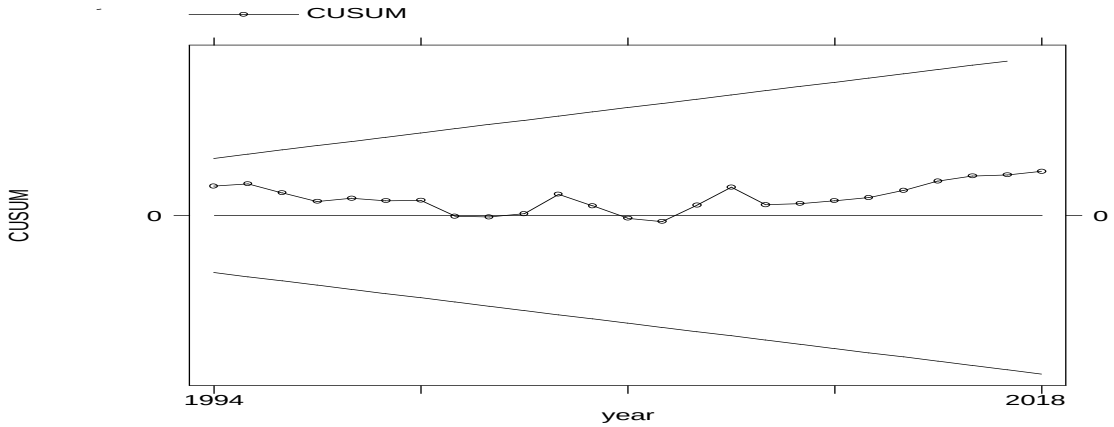
Heteroscedasticity: heteroscedasticity test shows that the error term/ or residual have a constant variance or not. By assumption, the variance of the errors is constant, $\sigma 2$ is known as the homoscedasticity. The study uses Breusch-Pagan-Godfrey test for Heteroscedasticity. Thus, in the table above, the Breusch-Pagan heteroscedasticity test statistics show the absence of heteroscedasticity as p-value of the test statistics is 0.8308 which is greater than 5 percent. Hence, the model exhibits constant variance as hetrokedatisticity test failed rejects the null hypothesis. Functional form: the model specification test for omitted variables problem of the analysis shows whether the model suffers from omitted variable bias or not. In this study, the

researcher uses Ramsey's Reset test of H0: no omitted variable in the model specification against H1. Taking the p-value 0.3028 greater than 5%, we can't reject the null hypothesis of there is no omitted variable in the model. Hence, the model is correctly specified. Normality: the normality Jarque-Berra test of the disturbance term found good results. In the same fashion, p-value (0.904047) is greater than 5 percent and we can't reject the null hypothesis in favor of the normality of the disturbance term. Hence, the residual is normally distributed since Jaque-Berra normality test is larger than the standard significance level.

5.2.4 Model Stability Testing Result

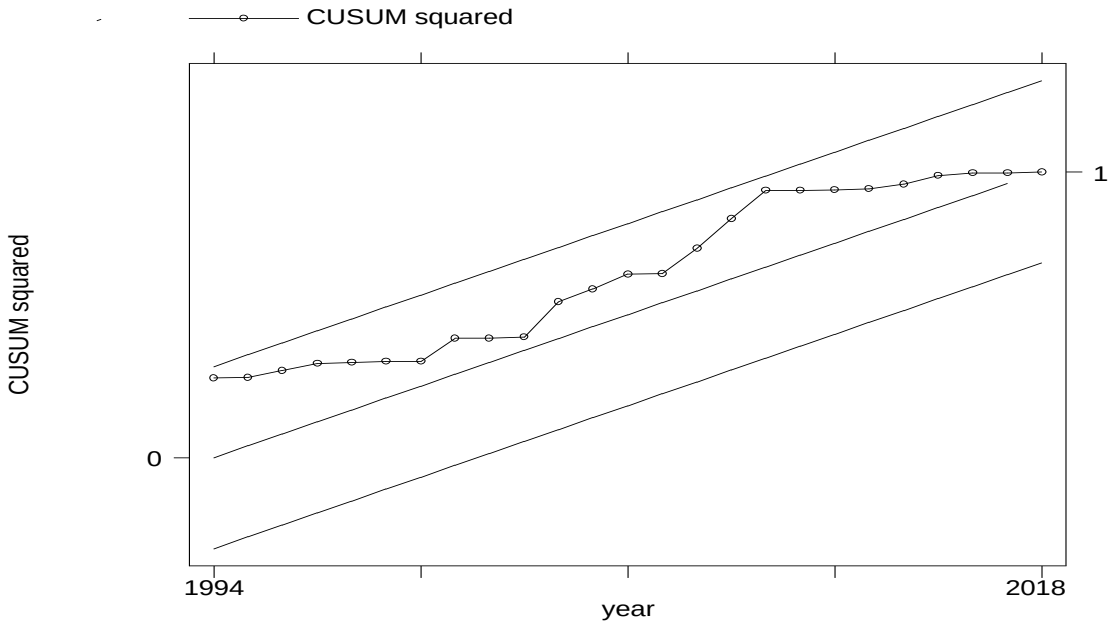
After the entire short-run and long-run estimation, model or parameters stability was tested. Commonly, the stability of the model for long run and short run relationship is detected by using the cumulative sum of recursive residuals (CUSUM) and cumulative sum of squares of recursive residuals (CUSUMSQ). Cumulative sum of recursive residuals (CUSUM) helps as to show if coefficients of the parameters are changing systematically and the cumulative sum of squares of recursive residuals (CUSUMSQ) tests is useful to indicate if the coefficient of regression are changing suddenly. We accept the null hypothesis of the parameter instability if the blue line cross redline which is critical line and never returns back between two critical line and we reject the null and accept the alternative there is parameter stability in the short run and long run if the cumulative sum goes inside the area (can returns back) between the two critical lines.

Figure 14: plot of cumulative sum of recursive residuals



Source: Owns Computation by STATA14

Figure 15: Plot of cumulative sum of recursive residuals



Source: Owns Computation by STATA14

In the above figure 14 and 15, the test of the stability of the parameters by cumulative sum of recursive residuals shows the model is stable because the plot of CUSUM test did not cross the critical limits. The CUSUMSQ test also shows that the graphs do not cross the lower and upper critical limits. So, we can conclude that long-run estimates are stable and there is no any structural break. In addition to the confirming model stability, we can look at goodness of fit statistics of the model containing the explanatory variables that actually explain variations in the dependent variable because it is important to have some measure of how well the regression model actually fits the data. According to the result, R^2= 0.938. This means 93.8 percent of the variation in the dependent variable is explained by the explanatory variables. Therefore, the results of the estimated model are consistent and efficient.

5.2.5 Error Correction Estimation Result

After confirming the existence of long-run co-integration relationship among the variables, the next step is running the appropriate ARDL model to find out the long-run and short-run coefficients. Hence, error correction model estimation for both the short-run and long-run coefficients simultaneously presented in Table 5. Besides, the model passed all the post estimation diagnostics tests including the normality, heteroscedasticity, serial correlation, model

specification, and model stability. In addition, the estimation results show that the estimated model has good fit (R^2= 0.938). The coefficient estimate for the error correction term is the lagged dependent variable and the short-run dynamics are captured by the first differenced variables while the long run is captured by level variables in the error correction model.

Table 5: Error correction estimation result

	(1)	(2)	(3)
VARIABLES	ADJ	LR	SR
GRRGDP		1.251*	
		(0.611)	
GRPUI		0.446***	
		(0.133)	
RIR		-0.537*	
		(0.299)	
REER		0.205**	
		(0.0965)	
OPEN		0.219	
		(0.357)	
CONF		0.661	
		(1.641)	
CORR		-11.84	
		(9.566)	
L.GRPRI	-0.964***		
	(0.127)		
D.GRRGDP			1.407***
			(0.330)
D.GRPUI			-0.147**
			(0.0666)
D.RIR			0.633***
			(0.183)
D.OPEN			0.499
			(0.421)
D.CONF			-5.074**
			(1.818)
D.CORR			52.51***
			(12.95)
Constant			-5.938
			(38.11)
Observations	33	33	33
R-squared	0.938	0.938	0.938

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The coefficient estimate for the error correction term is also that for the lagged dependent variable.

Source: own computation using STATA14

Table 5 presents Error Correction Model results and the estimation result reveals that the error correction terms (ECT-1 = -0.964) (represented by for the lagged dependent variable) coefficient of the given equation is statistically significant and have negative signs, as expected and confirms the existence of co-integration among variables at 1% level of significance. The negative and significant error correction term (L.GRPRI) shows that the short run disequilibrium adjusts to its long run equilibrium by 96.4 percent each year. Moreover; the value of the R-Squared implies that about 93.8% of variations in private investment are explained by the variations in the independent variables considered. Therefore, the goodness of fit of the short run model is proved to be strong.

5.2.5.1 Long-Run Result

In line with previous empirical studies in Africa, in this study, most of the explanatory variables have their expected signs in the long run except real effective exchange rate and political instability. In this study, the estimation result revealed that the growth of real GDP, public investment growth, and real effective exchange rate were found to have a positive and significant effect on private investment growth in the long run whereas real interest rate was found to have a negative and significant effect. However, trade openness, political instability, and corruption are insignificant in the long run.

This means an increase in growth of real GDP results in an increase in private investment growth due to the fact that an increase in real GDP stimulate domestic investors to invest more by increasing aggregate and effective demand as disposal income increases. This investigation is also supported by Hailu (2013) and Woldemariam (2018).Another economic variable public (government) investment growth has a crowding-in effect on private investment growth in long run. On other words, an increase in the growth of public investment induces the growth of private investment. This is due to the fact that public investment in the country primarily concentrated on the development of basic economic infrastructures (such as road, telephone, power, irrigation canals, etc) and social overhead capitals (like schools, universities, health centers etc.) could lead to favorable effect on private investment growth. A similar significant effect of public investment on private investment has been reported in prior studies for different countries (see Frimpong and Marbuah, 2010; Yan, 2014). In Ethiopia, this positive effect

(crowding in effect) of public investment on private investment is also supported by Mamo(2017), Woldemariam (2018), and Temesgen (2020).

In this study, the estimation result also revealed that private investment growth and real interest rate are negatively associated in the long run. Because the negative sign of the parameter of real interest rate indicates that the response of private investors for an increase in interest rate is negative. This is due to the fact that for an adjusted inflation at a higher interest rate, the opportunity cost of investment is very high and firms prefer not to invest. In line with this, a one percent increases in real interest rate causes a statistically significant 0.537 percent decline in private investment growth in the long run. Hence, for a rise in real interest rate private agents prefer saving to investing more in the long run. Previously, a study conducted by Frimpong and Marbuah (2010) also supports this investigation.

Another macroeconomic variable real effective exchange rate which represented nation's nominal effective exchange rate adjusted for inflation in the home country is positively associated with private investment growth in the long run. This positive and significant long run relationship may indicate effectiveness of the respective policies. This is due to the fact that strengthening of the home currency with respect to other currencies creates an opportunity for private investors via determining the real cost of import. Moreover, our country Ethiopia is mainly importing capital goods and intermediate goods, hence, an increase in real effective exchange rate causes imported capital goods more cheaper which in turn helps them to produce more products. Therefore, weakening of home currency or devaluation is not long lasting a solution to encourage private sectors. Because, devaluation makes imported raw materials more expensive and reduces the demand for domestic products in the domestic market. In addition, an increase in real effective exchange rate decreases the cost of imported capital goods, and thus increases private investment in import-dependent production sectors as supported by Branson and Buffy (1986), and Ayeni (2009).

5.2.2.2 Short-Run Result

The short run estimate of the ARDL model revealed that the relationship between public/government investment and private investment is negative and statistically significant unlike to long-run effect. On other words, public investment has a crowding-out effect on private

investment. This is due to the fact that private sectors and public sector compete for the same resources in the economy in short run and thereby reducing private sectors potential to produce more output. Further, public investment may crowd out private investment by increasing lending interest rate and by reducing the amount of money available for credits to private sectors. Public investment majorly financed from increased taxes and by borrowing from domestic markets, which in turn reduces the level of saving and pushed up domestic lending rates. This leads to difficulty credit rationing for private sector. In short run, it may also crowds-out private sectors via competition for certain scarce resources (skilled labour, key raw materials, etc).A similar significant crowding-out effect of public investment on private investment has been also reported in prior studies (see Ramli et al. 2015; and Habtu, 2018).

The relationship between real interest rate on private investment growth in the short run is positive and highly significant in contrast to the long run relationship. This is due to the fact that, in short run, an increase in real interest rate may encourages households to save more in banks and this in turn gives the opportunity for private investors to have good credit access channeled through financial institutions which mobilizes savings and advance credit borrowers. In line with this, one percent increase in real interest rate is associated with0.633 rises in private investment growth in the short run. A similar significant positive effect of real interest rate on private investment growth has been reported in prior studies (see Habtu, 2018).

When we came to political and institutional variables, the negative sign of political instability proxy by conflict indicates that political instability and private investment growth are positively associated. An increase in index of conflict reflects better political stability and conversely a decrease in index size of conflict reflects high political instability. Hence, the negative sign of the parameter of conflict has shown that political instability may have a positive effect on private investment growth which means political instability may promotes private investment growth. The ration behind this justification is that socio-political instability characterized by riots, antigovernment demonstrations which represent collective protests promotes private investment growth as countries experiencing collective protests typically under take political and economic reforms. In addition, political instability in the form of post-election violence may also lead to an adoption of market reform policies. As stated by Feng (2015), in a situation of collective protests, major government change, countries experience to undertake reforms, including

transition to democracy, which leads to stability that provides signal of policy readjustments towards market oriented reforms, hence, inducing more private investment. A similar significant positive effect of political instability on private investment growth has been also reported in prior studies. For instance, QUAN (2004), concluded that countries experiencing collective protests typically undertake political and economic reforms which intern promotes private investment. Fedderke and Klitgaard (1998) also argue that political instability may have a positive impact on economic growth. For example, the Asian financial crisis in 1997 led to wide spread collective protests in Thailand and in South Korea followed by a series of radical political and economic reforms. However, the violent uprisings experience in Indonesia during the Asian financial crisis made the adoption of economic reforms more difficult. Thus, the possible reason for the short run statistically significant and positive effect of political instability may relate to the fact that riots, antigovernment demonstrations or collective protests may led to different economic and political reform, which in turn promotes private investment.

In this study, the estimation result indicates that corruption and private investment growth are negatively related and statistically significant. An increase in index of corruption reflects low political risk or lower corruption and conversely a decrease in index size of corruption reflects high political risk. Hence, the positive sign of the coefficient shows a negative association between private investment growth and corruption. This negative association between private investment growth and corruption can be explained due the fact that corruption causes inefficient allocation of resources, unethical business practices and shadow economy. In addition, corruption raises operational cost, reduces the quality of investment potentials, discourages foreign investment, and prevents the natural laws of the economy from functioning freely. In a corrupt economy companies would not be qualified to win government contracts and awarded projects as a result of bribery or kickbacks and is a disincentive for foreign investment. Investors who seek a fair, competitive business environment avoids investing in countries where there is a high level of corruption. A similar significant negative effect of corruption on private investment growth has been also reported in prior studies (see Fiestas and Sinha, 2011; Shleifer and Vishny, 1993; Wei, 1997 and Campo et al., 1999).

CHAPTER SIX

CONCLUSION AND RECOMMENDATION

6. 1 Conclusion

The primary objectives of this study was to investigate the macroeconomic, political, and institutional determinants of private investment in Ethiopia using a time series data from 1985-2018. To fulfill the objective, the researcher has reviewed theoretical explanations and empirical literature regarding to the determinants of private investment in the context of developing countries. The study used secondary data sourced from NBE, EIC, ICRG, IMF, and World Bank data basis in examining the trending behavior of real GDP, public investment, real interest rate, real effective exchange rate, trade openness, political instability, and corruption in Ethiopia. In this study, an Autoregressive Distributed Lag (ARDL) bounds test approach to co-integration was employed in data analysis to help in addressing the objectives along with ADF unit-root tests and convectional tests for reliability of the models. The ADF test conducted on the series showed that private investment growth, public investment growth, growth real GDP, real interest rate, and conflict are stationary at level or integrated of order zero I(0) while real effective exchange rate, trade openness, and corruption are integrated of order one I(1).

After the stationary test, the bound test for co-integration was conducted and the empirical analysis indicates that that private investment growth and its determinants considered (i.e. public investment growth, real gross domestic product, real interest rate, real effective exchange rate, trade openness, political instability, and corruption) are co-integrated. Hence, an error correction model (ECM) developed by Coutinho and Gallo (1996) was then estimated. The model passed all the required diagnostic tests including model stability. Besides, the error correction coefficient represented by the lagged dependent variable (L.GRPRI =-0.964) is negative and highly significant which further confirmed the existence of a stable long-run relationship among the data series. Moreover, the negative and significant error correction term shows that the short run disequilibrium (shock) adjusts to its long run equilibrium by 96.4 percent each year.

In this study, the descriptive analysis indicates the existence of poor governance in our country as revealed in the trends of political risk variables. Moreover it is shown in that the distribution private investment is affected and determined by geographical location. Whereas the estimation result revealed that public investment growth has a crowding-out effect on private investment growth in short run but crowding-in effect in long run. Another economic variable growth of real gross domestic product has a positive and significant effect on private investment growth both in short-run and long run. Furthermore, a macroeconomic variable real interest rate is found to have significant and positive effect on private investment growth in the short run but it has a negative and significant effect on private investment growth in long-run. Whereas real effective exchange rate has a positive and significant effect on private investment growth. However, the effect of trade openness on private investment growth is found insignificant both in short run and long run. With regard to political and institutional variables the study revealed that political instability promotes private investment growth in short run while corruption hinders private investment. But, in the long run, political instability and corruption are both insignificant. Finally, this study, ascertained that private investment growth is not only determined by macroeconomic factors but also by political and institutional factors. The descriptive analysis also shows that the distribution of private investment is determined by geographical location.

6.2 Recommendations

Investment plays an important role in promoting long term economic growth and expanding the productive capacity of the country (Jongwanich and Kohpaiboon, 2008).Especially, a private investment made by the private sectors has remained very great importance to the developing countries' development program (Muhdin, 2016). It is also viewed as a powerful tool in maintaining and expanding the capital formation and production capacity of an economy (Rowan et al., 1965). However, knowing these facts, the growth rate and performance of private investment did not show an impressive growth as it was expected. It has remained low and shy to make significant strides in Ethiopia (World Bank, 2004; Ambachew, 2011; Hailu, 2013). In this argument, there are factors why private investment did not growth as it was expected; macroeconomic, political and institutional factors. With this regard, the determinants of private investment in Ethiopia were analyzed using both descriptive and econometrics methods. On the

basis of both descriptive and econometric analysis, the study recommends the following points to promotethe performance of private investment in the country;

Firstly, it is essential to take a measure that increases the market size and improve real income of people which in turn induces market demand. Secondly, government should make public investment in basic infrastructures (like road, electivity, water, education, health) and institutions that are crucial to attract private investment by taking into account its crowding-out effect. Thirdly, devaluation is not a long lasting solution to encourage private sectors to invest more; rather it may have negative impact by increasing the cost of imported capital and intermediate goods which are used in production process and by reducing the domestic demand for domestic products. Hence, the exchange rate policy should be in favor of reducing the cost of imported capital goods and the government should look inward for the supplying of raw materials which locally promotes investment in the area where the required raw materials are available locally. Fourthly, political instability characterized by collective and non-violent protests, riots, government demonstrations, constitutional government change, and regime type instability may stimulates and promotes private investments since they signal the need for economic, political, and market oriented reforms and leads to a gradual policy readjustments. However, violent uprisings, wars, ethnic tensions which are outside of government control can hinder private investment growth. Hence, the government should create stable investment environment for private sectors. Lastly, as indicated in the descriptive part, investment growth remained low in performance because of governance problems including corruption which is a disincentive for investors. The estimation result also revealed that corruption has a negative impact on private investment performance. Hence, the government should address and devoid institutional inefficiencies and poor governance problems such as corruption to build up long- lasting confidence of private sectors.

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APPENDIXES

Annex 1: Correlation Matrix

Variable	GRPRI	GRRGDP	GRPUI	RIR	REER	OPEN	CONF	CORR
GRPRI	1.000000							
GRPUI	0.440647	1.000000						
GRRGDP	0.565318	0.395080	1.000000					
RIR	0.144499	0.077777	-0.029947	1.000000				
REER	-0.255207	-0.405096	-0.458197	-0.17907	1.000000			
OPEN	0.363285	0.341539	0.421554	-0.09655	-0.76815	1.000000		
CONF	0.203811	0.395989	0.381063	0.26599	-0.70026	0.512987	1.000000	
CORR	-0.307278	-0.356782	-0.363527	-0.00608	0.669487	-0.75604	-0.695304	1.000000

Source: own computation by STATA14

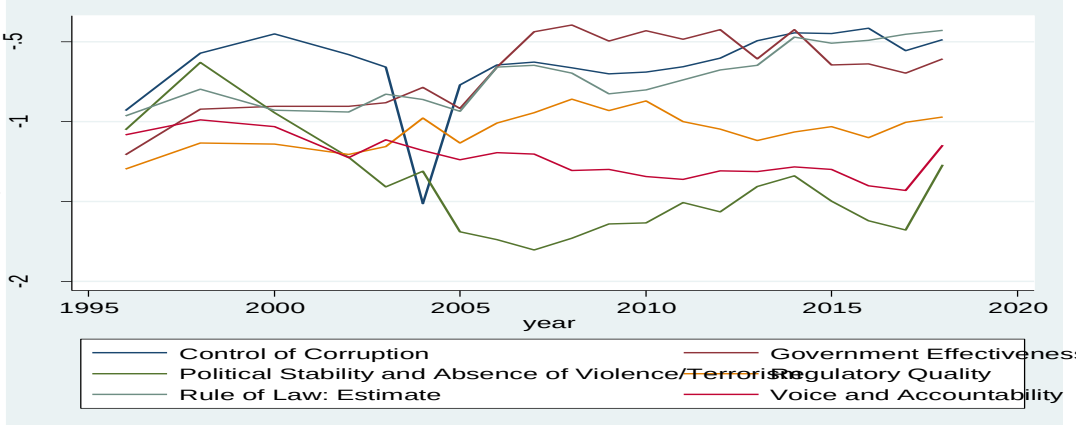
Annex 2: Descriptive summary

A. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
grpri	34	8.754	17.603	-35.019	44.99
grrgdp	34	6.036	7.799	-12.681	22.96
grpui	34	14.066	32.118	-45.87	68.4
rir	34	-4.394	14.772	-51.2	19
reer	34	148.644	47.95	71.9	261.5
open	34	34.578	11.36	14.85	55.038
conf	34	6.638	2.095	2.25	10.948
corr	34	2.179	.42	1.667	3

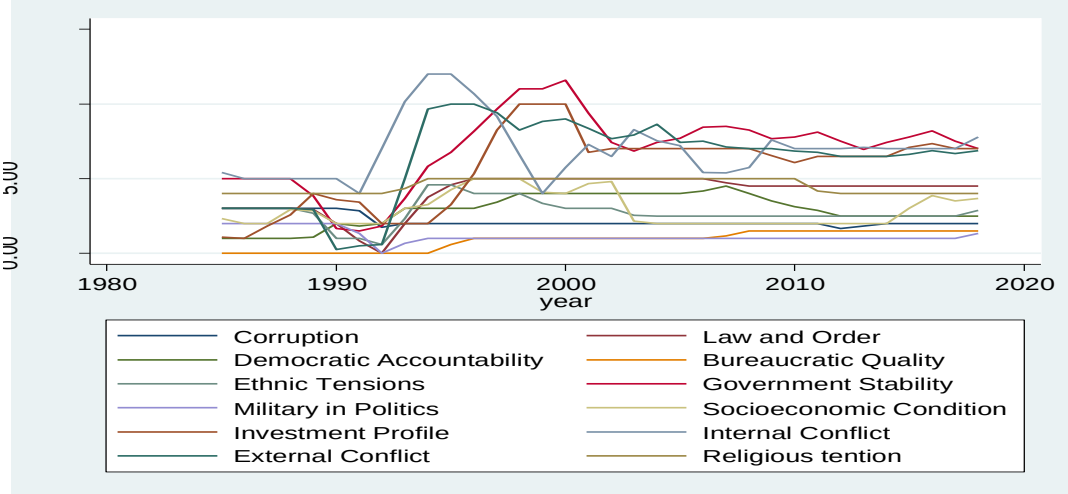
Source: own computation by STATA14

B. World Governance Indicators



Source: own computation by STATA14

C. Political Risk Index



Source: own computation by STATA14

Annex 3: Unit root testing result

Table: Result for Unit root tests

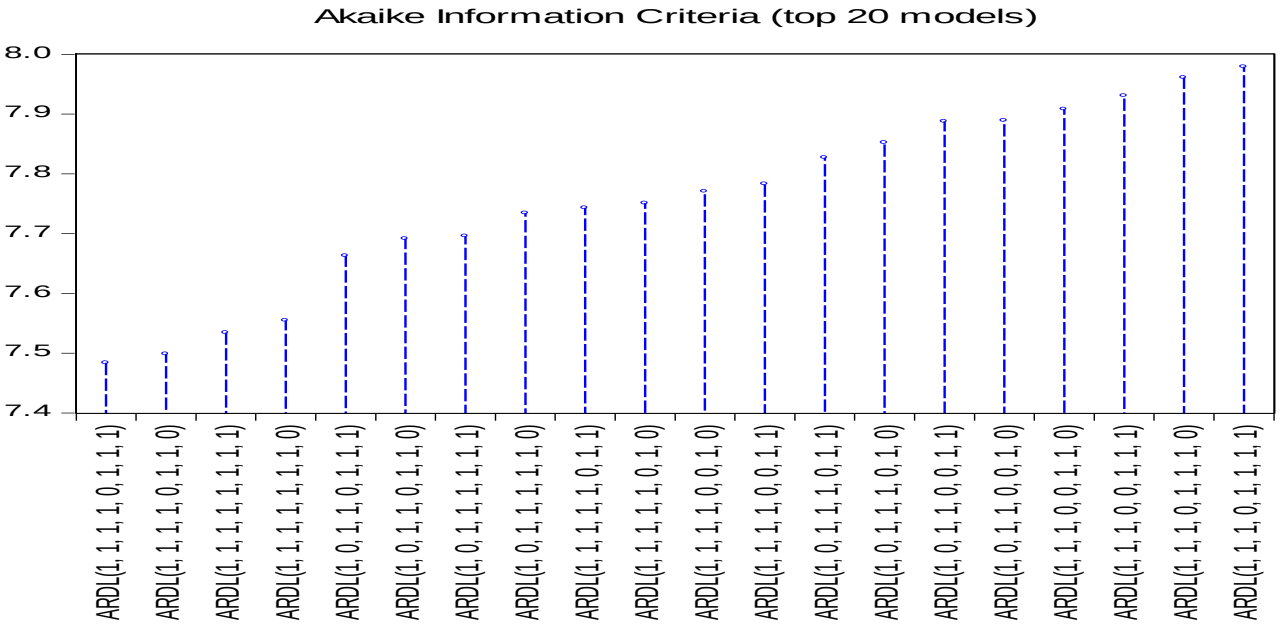
Variable	ADF Test				PP Test				conclusion
	Level		Difference		Level		Difference		
	Intercept	Intercept & trend	Intercept	Intercept &trend	Intercept	Intercept &trend	Intercept	Intercept &trend	
grpri	-0.26	-5.99*	-5.28*	-5.19*	-6.88*	-22.87*	-37.39*	-37.06*	I(0)
grrgdp	-5.39*	-6.93*	-6.87*	-6.84*	-5.45*	-7.27*	-38.54*	-40.29*	I(0)
grpui	-3.48	-3.09**	-2.09**	-2.05	-6.59*	-12.90*	-35.14*	-34.99*	I(0)
rir	-4.91*	-3.68**	-7.71*	-7.60*	-4.97*	-5.26*	-14.14*	-13.73*	I(0)
reer	-2.44	-1.21	-5.23*	-5.36*	-2.46	-1.87	-5.26*	-5.96*	I(1)
open	-1.65	-0.69	-4.83*	-2.21*	-1.62	1.19	-5.03*	-5.40*	I(1)
conf	-3.44	-3.44***	-3.37***	-3.82***	-2.13	-2.12	-2.44**	-2.35**	I(0)
corr	2.17	2.16	-4.38*	-4.65	-2.12	-1.96	-6.15*	-7.39*	I(1)

Note: *, ** ,and *** indicates the significance level of variables at 1%, 5%, and 10 % respectively The null hypothesis is that the series is non-stationary or the series has a unit root against alternative hypothesis that the series are stationary

Source: own Computation by eviews9

Source: own computation by Eviews9

Annex 4: Lag length selection criteria



Source: own computation by Eviews9

```
. matrix list e(lags)


e(lags)[1,8]
      grpri   grrgdp   grpui     rir    reer    open    conf    corr
r1        1        1       1       1       0       1       1       1
```

Source: own computation by STATA14

Annex 5: Result of Bound Test for Co-Integration

Pesaran/Shin/Smith (2001) ARDL Bounds Test
H0: no levels relationship F = 17.093
t = -8.069
Critical Values (0.1-0.01), F-statistic, Case 3

	[I_0]	[I_1]	[I_0]	[I_1]	[I_0]	[I_1]	[I_0]	[I_1]
	L_1	L_1	L_05	L_05	L_025	L_025	L_01	L_01
k_6	2.120	3.230	2.450	3.610	2.750	3.990	3.150	4.430

Accept if F < critical value for I(0) regressors
reject if F > critical value for I(1) regressors
Critical Values (0.1-0.01), t-statistic, Case 3

	[I_0]	[I_1]	[I_0]	[I_1]	[I_0]	[I_1]	[I_0]	[I_1]
	L_1	L_1	L_05	L_05	L_025	L_025	L_01	L_01
k_6	-2.570	-4.040	-2.860	-4.380	-3.130	-4.660	-3.430	-4.990

Accept if t > critical value for I(0) regressors
reject if t < critical value for I(1) regressors
k: # of non-deterministic regressors in long-run relationship
Critical values from Pesaran/Shin/Smith (2001)

Source: own computation by STATA14

ARDL Bounds Test
Date: 04/17/21 Time: 23:36
Sample: 1986 2018
Included observations: 33
Null Hypothesis: No long-run relationships exist

Test Statistic	Value	k
F-statistic	10.84744	7

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.03	3.13
5%	2.32	3.5
2.5%	2.6	3.84
1%	2.96	4.26

Source: own computation by Eviews9

Annex 5: Diagnostic Testing Results

A. Autocorrelation test

Durbin-Watson d-statistic (15, 33) = 2.250369

```
. estat bgodfrey, lags(1)

Breusch-Godfrey LM test for autocorrelation
```

lags(*p*)	chi2	df	Prob > chi2
1	1.028	1	0.3105

H0: no serial correlation

Source: own computation bySTATA14

B. Heteroscedasticity test

```
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of grpri

         chi2(1)      =     0.35
         Prob > chi2  =   0.5527


White's test for Ho: homoskedasticity
         against Ha: unrestricted heteroskedasticity

         chi2(32)     =     33.00
         Prob > chi2  =    0.4180
```

C. MulticolinearityTest

```
. estat vif
```

Variable	VIF	1/VIF
corr		
L1.	12.59	0.079421
open		
--.	10.51	0.095130
L1.	9.79	0.102125
corr	8.26	0.121061
reer	7.77	0.128756
conf		
--.	6.83	0.146442
L1.	6.20	0.161253
rir		
L1.	3.13	0.319053
grrgdp		
L1.	2.84	0.351627
grpui	2.17	0.460320
grpri		
L1.	2.14	0.466312
grrgdp	2.02	0.494561
grpui		
L1.	1.96	0.510248
rir	1.59	0.630096
Mean VIF	5.56	

D. Functional form

```
. ovtest

Ramsey RESET test using powers of the fitted values of grpri
       Ho:  model has no omitted variables
                  F(3, 15) =      2.13
                  Prob > F =      0.1387
```

E. Normality test//Test for Normality of Residuals By Shapiro-Wilk W test//

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
F. resid	33	0.984	0.544	-1.264	0.897

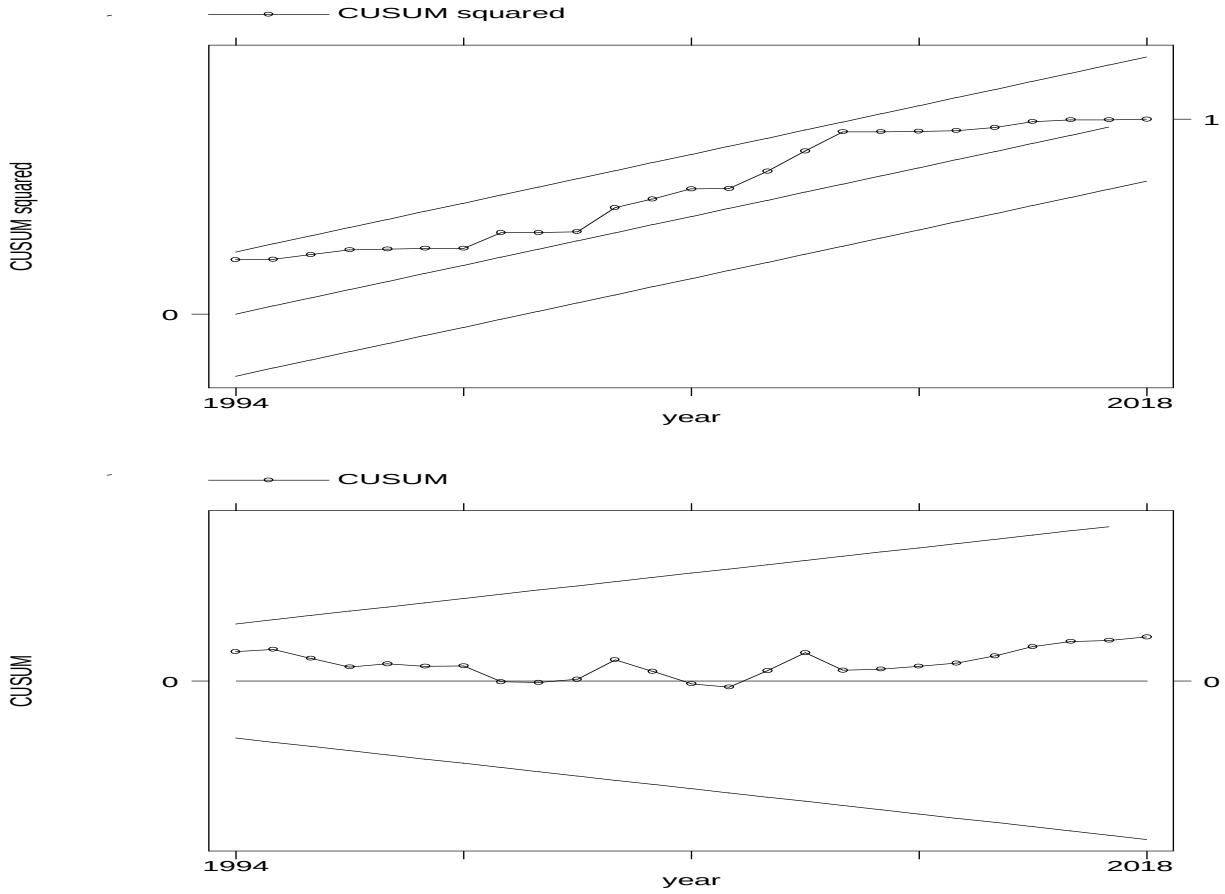
Skewness/Kurtosis tests for Normality

------ joint ------

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj_chi2(2)	Prob>chi2
resid	33	0.606	0.653	0.480	0.785

Source: own computation using STATA14

Annex 6: Modal stability



Source: own computation using STATA14