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**ST. MARY'S UNIVERSITY  
SCHOOL OF GRADUATE STUDIES**

**THE EFFECT OF PRIVATIZATION OF PUBLIC ENTERPRISE ON  
ECONOMIC GROWTH, IN ETHIOPIA**

**By  
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**May 2021  
Addis Ababa**

**THE EFFECT OF PRIVATIZATION OF PUBLIC ENTERPRISE ON  
ECONOMIC GROWTH OF ETHIOPIA  
VECTOR AUTOREGRESSIVE MODEL**

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ADDIS ABABA, ETHIOPIA**

## DECLARATION

I, the undersigned, declared that this thesis is my original work and has not been presented for a first degree or master's degree in any other university, and that all source of materials used for this thesis have been duly acknowledged.

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## ENDORSEMENT

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May 2021

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As members of board of examining of the final MSc thesis open defense, we certify that we have read and evaluated the thesis prepared by Mahlet Belay under the title “THE EFFECT PRIVATIZATION OF PUBLIC ENTERPRISE ON ECONOMIC GROWTH OF ETHIOPIA: A TIME SERIES ANALYSIS” we recommend that this thesis to be accepted as fulfilling the thesis requirement for the Degree of Master of Science in Development Economics

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## **ACRONYMS AND ABBREVIATIONS**

ADF	Augmented Dickey Fuller
AIC	Akaike Information Criteria
ARDL	Autoregressive Distributed Lag
EAC	East African Community
ECM	Error Correction Method
EPDRF	Ethiopian Peoples of Democratic Republic Front
CLPRIV	claims on private sector
GDP	Gross Domestic Product
FDI	Foreign direct investment
IMF	International Monetary Fund
MOFEC	Ministry of Finance and Economic Corporation.
NBE	National Bank of Ethiopia
OLS	Ordinary Least Square
PP	Phillips - Perron
PWT	Penn World Table
SSA	Sub Saharan Africa
VEC	Vector Error correction
EPA	Ethiopian privatization Agency
IPOs	Initial public offerings
BCR	Banca Comerciala Romana
OECD	Organization for Economic Cooperation & Development
PPESA	Privatization and public enterprise supervising authority
PEs	Public enterprises
SOEs	State owned enterprises
WDI	World development indicator

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## ***Abstract***

*This study aims to see whether privatization has long run or short run significant impact on economic growth of Ethiopia by considering GDP per capita as a proxy for economic growth and claims on private sector % of GDP as to measure of the magnitude of privatization. In order to analyze the secondary data from 1994 up to 2019 Vector error correlation model (VECM) is used. The result of the study shows debt, privatization and foreign direct investment found to have positive and statistically significant impact on long run economic growth in Ethiopia. On the other hand, both privatization and debt has statistically insignificant impact while foreign direct investment has positive and statistically significant impact on short run economic growth. Based on finding of the study, the study recommended economic growth can be improved significantly when the privatization policy accompanied with other structural changes was implemented. The government of Ethiopia should strive to strengthen privatization policies together with other policies. Still, privatization alone will not be the enchanted solution to the elusive quest for growth.*

*Key words: privatization, GDP per capita, foreign direct investment, privatization, Vector error correction model*

# CHAPTER ONE

## 1. INTRODUCTION

### 1.1. Background of the Study

Economic growth is a sustained increase in the real gross domestic product over a long period of time. Another quantification of economic growth is that national output should be composed of goods and services which satisfy the maximum want of the maximum number of people. Economic growth can be determined by Human resources, National Resources, capital formation and technological development. This economic factor can be influenced by privatization because the privatization system adopted by any country can be encouraged or discourage the inflow of foreign direct investment and private domestic investment Ogbonna and Ebimobowei (2012).

In preliminary phases of turning from social ownership to market economy in transitional countries, institutional assumptions for public capital privatization are created by conversion processes. All these processes are argued with tendencies towards modern economic trends that in privatization find fundamental assumption for transition from socialistic to modern market economy and growth of its efficiency and competitiveness Kalogjera (1993). Correspondingly, Gregurek, (2001) brings out statement which declares that fast public sector privatization is favorable in order to faster ensure company efficiency, whereas country manifested as a bad entrepreneur, and that privatization is precondition for normalization business of not privatized companies. However, that argumentation can only partly be acceptable and with significant limitations considering all functioning elements of present transitional countries, modern market economies and less developed countries which are strengthening their economy very fast and record high growth rate.

The reasons for privatization are well established and are not covered in any great detail here. Developing countries have used privatization as a tool to: improve the productivity of state enterprises which is typically two to three times lower than private firms and in some cases significantly lower; access investment capital and improve service delivery of high-cost critical sectors that impact the economy as a whole; and reduce the fiscal burden of lossmaking firms Alen et al. (2010).

Many development economists hope that the privatization of infrastructure services will have a positive impact on economic development. Activities such as energy generation and distribution, water sanitation, transportation, and telecommunications help shape the investment climate and determine business opportunities in the rest of the economy. Developing country governments recognized the need for such infrastructure services early on, and typically attempted to provide them by creating SOEs. In most cases, however, these enterprises became highly inefficient. Lack of investment and failure to upgrade facilities often transformed these sectors into bottlenecks instead of producers of multiplier effects with positive externalities.

Currently Ethiopian government is practicing new economic reform (home grown) in initiative of making Ethiopia middle income country by 2025 and an “African icon of prosperity” by 2030. The Africa report, Ethiopia insight, (September 2020). In filling this gap the government has taken new initiative to private the existing wholly state-owned enterprise including Ethiopian Airlines and Ethio-telecom for local and foreign owners. Not everyone is convinced that privatization is the best path forward.

## **1.2. Statement of the Problem**

A number of empirical studies have been conducted in order to measure the financial effects of privatization on the newly privatized firms throughout the world, only a limited number of empirical studies have attempted to measure the effect of privatization on the economic growth in Ethiopia. There are limited researches made to address the impact of privatization on economic growth. Perhaps the main reason for the lack of such studies arises out of the fact that privatization has been a fairly new phenomenon, particularly in Ethiopia. The privatization program usually starts with most profitable SOEs so as to create an enabling environment and also confidence among the investors that privatized firms are profitable. This seems to create a false impression to the public and might cost the government loss of revenue and Loss of employment due to transfer or change of hands for organizations can also create unrest in the state if not properly handled.

In cases where domestic investors lack financial resources to buy them, foreigners will take up privatized SOEs. Selection of SOEs for privatization is another problem. It sometimes creates problems in terms of regional balance and location of organizations. If not properly handled, this

also creates rising of “political temperatures” that may make governance difficult. There are concerns in civil society circles that the economic environment of Ethiopia as presently constituted, as well as the way the privatization program has been implemented cannot lead to success. According to the World Bank (2003): most privatization success stories come from high income and middle-income countries. Privatization is easier to launch and more likely to produce positive result when the company operates in a competitive market and when the country has a market-friendly policy environment and a good capacity to regulate. The poorer the country, the longer the odds against privatization producing its anticipated benefits, and the more difficult the process of preparing the terrain for sale. There are inconsistencies in empirical results related to impact of privatization on economic growth in Ethiopia.

For instance, the empirical result of Dr. Venkata et al. (2018) showed that privatization & foreign direct investment due to privatization are found to have a positive impact on Ethiopian economic growth during the study period. In other hand, the empirical research result of Samuel Adams (2007) indicates that privatization policy did not have a significant impact on economic growth and income inequality in the developing world between 1991 and 2002. It is essential to note that the success of privatization largely depends on the government commitment to legal and regulatory reforms. Cook and Uchida’s study suggests that the lack of appropriate governmental reforms might be the cause for a negative relationship between privatization and economic growth. Although, empirical result of Alen Jugovič et al. (2010) show that countries which had gradual privatization reach higher output levels than those countries which had privatization on the principle of mass and fast renunciation of state ownership. But they also said that, countries which favored gradual privatization of public companies have higher output recovery rate than those countries which gave advantage to mass and fast privatization. Subsequently, the conclusion in their study is that privatization per se is not a significant determinant of economic success.

In this respect, this paper aims to fill the gap of the inconsistency of the above empirical studies and to address if privatization of SOEs in Ethiopia helps to improve their performance to produce more goods and service that have an effect on economic growth?

### **1.3. Objective of the Study**

The general objective of this research is to examine the effect of privatization on economic growth in Ethiopia

- a) Assessment of privatization of public enterprises
- b) To examine foreign direct investment due to privatization has an effect on economic growth
- c) To examine the effect of privatization on economic growth

### **1.4. Research Hypothesis**

Ho: privatization has no impact on economic growth.

Ha: privatization has impact on economic growth.

Ho: Foreign Direct investment due to privatization has no effect on economic growth

Ha: Foreign Direct investment due to privatization has effect on economic growth.

### **1.5. Significance of the Study**

Government ownership by some means leads to decreased efficiency as compared to private ownership. The inefficient SoEs, in turn, are seen as creating other problems such as the use of public funds through subsidies and non-competitive industries in the economy. Privatization is the transfer of public assets to private sector through different means like sale or lease of government land, infrastructure, and other different ventures Starr (1988). Privatization may be in the form of delegation of power and deregulation of entry in certain business sector or activities which were in the past considered as public monopolies. The government has more options to provide better services to the community and business sector instead of involving it in producing goods and services. Proponents of privatization claim that privatization can enhance efficiency, reduce public sector debt and consequently improve overall economic performance the most serious problem for privatization as a policy has been the weak legal and institutional environment. In such cases, it rarely appears to have improved national economic performance, though it did provide the government of Ethiopia with much needed revenues by selling state assets. Thus, in this paper we will investigate the impact of privatization on national economic performance in Ethiopia. Our main objective is to estimate, using time series data, and vector error correction model



## **1.6. Scope and limitation of the Study**

This paper focuses on whether privatization has long run or short run significant impact on economic growth of Ethiopia by considering GDP per capita as a proxy for economic growth and claims on private sector on percentage of GDP as to the measure of the magnitude of privatization.

The main difficulty with constructing an empirical study that measures the effect of privatization on economic growth is data availability and inconsistency of data from different source. In this paper, this paper will attempt to identify numerous factors that can potentially influence growth and describes their interdependence on each other. But then again time constraints affect to produce the actual effect of privatization on economic growth. Furthermore, data from each source is only available for a limited number of years. Measures Used in studying Privatization and Economic Development is another limitation for the study. The inconsistencies of the effect of privatization on economic performance may be attributed to the numerous methodologies and the abundance of measures used to represent privatization and measures of performance

## **1.7. Organization of the Study**

This thesis was organized in five chapters. The first chapter deals with the introduction, background of the study, statement of the problem, objective of the study and significance of the study. The second chapter deal with related literature consists of theoretical reviews, empirical reviews, conceptual meaning, definitions and trend of variables in the study frame work. The third chapter considered the research methodology which includes research design, research approach, type and sources of the data, data collection methods, a method of data analysis and presentation, econometric models, a different test, data presentation. In the remaining part of the study, the estimation procedure employed and findings are discussed in chapter four. And lastly, conclusion and recommendation are given in chapter five.

## CHAPTER TWO

### 2. LITERATURE REVIEW

This section presents an overview of the theoretical frame work of privatization, the link between privatization and economic growth and finally discusses the empirical literature on privatization.

#### 2.1. Definition of Terms and Concepts

What is privatization?

Privatization is defined as —a method of allocating assets and functions from public sector to the private sector (Fillipovic (2005)). As such privatization constitutes a fundamental structural change of ownership which is transferred from public to private sector, leading to a drastic shift in the underlying incentives of the respective owners and in the objectives of the firm (from political oriented to profit oriented) Conceptually, the commercialization and privatization Decree (FRN 1988) perceives privatization as —the transfer of government owned shareholding in designated enterprises to private shareholder, comprising individuals and corporate bodies, it involves the sales of equities in public enterprises to private investors, with or without the loss of government control in these organizations. It may take the form of deregulation of state monopolies by the abrogation of legislation restricting entry into economic activities.

A world-wide era of privatization has been picking up momentum in recent decades, making it a fairly new trend in the area of economic policy. The modern idea of privatization as an economic policy was pursued for the first time by the Federal Republic of Germany in 1957, when the government eventually sold majority stake of Volkswagen to private investors. The next big move in privatization came in the 1980s with Margaret Thatcher's privatization of Britain Telecom and Chirac's privatization of large banks in France. Privatization spread to other continents as Japan and Mexico privatized government owned communication companies Megginson et al. (1996).

The term Privatization was not very popular between Western and South African countries, though it well existed on a small scale, according to Scholars, Nigeria was one of the most frequent sellers of state-owned enterprises through initial public offering. Even though the South Africa government adopted nationalization themes, it sold several partial sales of state-owned

firms. Megginson (2005) Privatization reached its peak in 2000 when the sum raised for governments by selling state owned firms reached \$180 billion. The cumulative value of proceeds rose by privatizing governments, topped \$1 trillion in the second half of 1999, and reached more than \$1.5 trillion in 2003. Even though governments continued to follow privatization agendas, particularly in China, when the Chinese government offered stakes in its major oil companies; privatization slowed down due to the decline of stock markets of NASDAQ in March 2000. After the \$180 billion record of 2000, privatization's proceeds dropped to \$51 billion in 2001, \$69.2 billion in 2002 and \$46.6 billion in 2003. Megginson, (2005) Privatization implies the transfer of ownership from the public to the private sector, as well as changes in income flows between groups. It has thus important socioeconomic implications for the various interest groups, not least the bureaucratic elite. Thus, politically and in terms of administrative resources, privatization and public sector reforms have been more demanding than the 'stroke of the pen' measures such as exchange rate and price reforms, which brought about macroeconomic stability. Furthermore, in recent years, donors and multilateral agencies have made privatization a key conditionality. Indeed, more African countries undertook privatization in an effort to assuage donor fears over domestic reform commitment than out of ideological or economic conviction. Privatization thus touches on a complex set of issues, including property rights, nationality, ethnicity, bureaucratic practices, donor conditionality, nature of markets and politics Steve et al. (2002).

## **2.2. Theoretical Frame Work**

### **2.2.1. Origination of Privatization**

Yarrow (1986) indicated that privatization was first argue by Adam Smith in the year 1776 about two centuries ago that: in every great monarchy in Europe the sale of the crown lands would produce a very large sum of money, which, if applied to the payment of the public debts, would deliver from mortgage a much greater revenue than any which those lands have ever afforded to the crown. Privatization has grown rapidly since 1988. At the same time, however, there exist substantial differences among individual countries and regions regarding the intensity with which this policy has been pursued. Privatization programs in sub-Saharan Africa (SSA) occurred in successive waves, with some countries privatizing much earlier than others (Bennell

1997). The first group to start such programs in the late 1970s to early 1980s was composed of francophone West African countries (e.g., Benin, Guinea, Niger, Senegal, and Togo) but their progress was limited. The second group, both Anglophone and Francophone countries (Ghana, Nigeria, Ivory Coast, Mali, Kenya, Malawi, Mozambique, Madagascar, and Uganda), started privatizing in the late 1980s. These programs were often influenced by pressure from the international financial institutions Nellis (2003) though, as noted by Bennell (1997), no significant progress was made anywhere except Nigeria until the late 1990s. The final group, the “late starters”, did not begin to privatize until the early to mid-1990s. Among this group, Tanzania, Burkina Faso and Zambia have shown a strong political commitment to privatization, whereas in the other three countries (Cameroon, Ethiopia, and Sierra Leone), only minimal progress was made in the 1990s

### **2.2.2. Arguments on Privatization**

The theoretical framework behind the idea of privatization is largely dependent on understanding the concept of property rights. In order to develop an expanded, specialized market system, a society must have an efficient way of dealing with numerous transactions that take place in a specialized economy. Specialization and allocation of resources depends on low transactions costs, which are dictated by prices in market economies. Competitive markets, in which transactions are effectively handled by market prices, rely heavily on formal, well-defined property rights Mankiw (2001)

Hernando De Soto explains, legally protected property rights are the key source of the developed world's prosperity, and the lack thereof is the reason why many nations remain mired in poverty, he also said that “To be exchanged in expanded markets, property rights must be ‘formalized’, in other words, embodied in universally obtainable, standardized instruments of exchange that are registered in a central system governed by legal rules” (1996). Furthermore, the lack of property rights limits the amount of goods and services that can be exchanged in the market. An important implication of well-defined property rights is that it creates strong individual incentives, which, according to Easterly, is a significant factor in the quest for long term growth. By creating strong incentives, property rights led to an increase in investment since people are certain and secure about the ownership of their property. Furthermore, individuals gain an access to credit since they can use their formal titles as a collateral for loans, ultimately

leading to an increase in investment. Finally, property rights give people an incentive to pursue long-term rather than short term economic goals. In the case of land ownership, individuals who have secure and well-defined ownership will invest in their land instead of continuously draining new land Soto (1996).

Ronald Coase proposes that the private sector is effective in solving the problem of externalities through costless bargaining, driven by individual incentives. According to the Coase Theorem, individual parties will directly or indirectly take part in a cost-benefit analysis, which will eventually result in the most efficient solution Mankiw, (2001). Thus, Coase argues the role of the legal system is to establish rights that would allow the private sector to solve the problem of externalities with the most effective solution. A major implication of the Coase Theorem is the fact that the initial allocation of rights does not affect the outcome as long as the rights are well-defined. Furthermore, the solution that results from bargaining of private parties will be a Pareto optimal solution. From the perspective of privatization, the Coase Theorem implies that by shifting the assets from the state to the private investors, the market will become more effective in dealing with numerous externalities Medema and Zerbe, (1999).

### **2.2.3. Overview Privatization Trend**

In the late 1980s, privatization was pursued far more vigorously by developing countries than by OECD countries, usually as part of broader programs of stabilization, deregulation, and structural reform. These programs, often implemented with the support of the IMF and the World Bank, sought to substitute market discipline for the previous static-protectionist development regimes, which were seen as having led to unsatisfactory economic results. Similarly, after 1989, the post-Communist countries of Central and Eastern Europe concluded that privatization was essential for successful transition to market economies.

In 1998, global privatization proceeds had dropped significantly, with a large part of the decline concentrated in non-OECD countries. The 1999 recovery was focused in OECD countries where proceeds slightly surpassed their 1997 levels. However, preliminary estimates suggest that activity in non-OECD countries remained quite low and almost unchanged from the year before. OECD Privatization Database.

### Privatization in OECD countries

In 1999, OECD countries accounted for over two thirds of the global privatization activity. Consistent with earlier trends, Western Europe alone accounted for more than half of all OECD proceeds. The desire to reduce the role of government in the economy, market liberalization and the emergence of new technologies in sectors such as energy and telecommunications, as well as the drive for globalization have also contributed to this change.

### Privatization in non-OECD countries

Preliminary estimates for 1999 suggest that privatization activity remained relatively unchanged from 1998. As in last year, it continued to be dominated by transactions in the telecommunications, and power sectors. However, a notable change from 1998 was the shift in the regional distribution of sales – away from Latin America and in favor of Asia. In 1998, the bulk of activity was focused in Latin America, and in particular the USD 19 billion trade sale of Tele bras (the Brazilian telecommunications company). In 1999, however, Latin American activity declined. The most important sale in the region was the USD 2 billion sale of the Argentinean government's minority stake in YPF (energy sector) to Repsol (a formerly state-owned Spanish company, which subsequently proceeded to acquire the remaining stakes of YPF in the market). In other countries activity was slower

#### **2.2.4. Privatization in Ethiopia**

As part of its public sector reform and private sector development process, Ethiopia initiated in 1994 a privatization program aimed at reducing the size of the portfolio of public enterprises. The Ethiopian Privatization Agency (EPA) was established in the same year by Proclamation No. 87/1994 to provide the institutional framework for ensuring an orderly implementation of the privatization program. During the first phase of the program, the EPA privatized 176 PEs, comprising mostly small enterprises using mainly in-house expertise and government resources. To facilitate the successful implementation of the second phase of the privatization program (involving larger and more complex enterprises) initiated in 1998, the Government prepared a technical assistance project aimed at strengthening the institutional capacity of the EPA and sought the support of the African Development Fund (ADF), the German Development Co-

operation (GTZ) and the World Bank for its implementation African development fund (October 2000).

Ethiopia is regarded as a late-starter with regard to privatization, even by African standards. Privatization of SoEs undertaken since 1991 under the government of the Ethiopian People's Revolutionary Democratic Front (EPRDF), which ended decades of socialist rule under the Derg regime. In Ethiopia the treasury was empty and the government had little alternative but to yield to donor conditionality Deneke (2001).

After the establishment of the Ethiopian Privatization Agency (EPA) by Proclamation N0. 87/1994. In 1998, further amendment was made through Proclamation N0.146/1998 (as amended) that allowed the EPA to have more mandate and responsibility, among other things, to exercise post privatization monitoring activities. It then became necessary to merge the EPA and the Public Enterprises Supervising Authority with a view to coordinating the implementation of the privatization program with the activities of public enterprises. Therefore, Privatization and Public Enterprises Supervising Authority (the PPESA/Authority) has been established by Proclamation No.412/2004 (as amended). However, Proclamation No. 146/1998 has only been partially amended and its provisions with regards to privatization remain intact. PPESA, among other duties, had been responsible for leading the privatization process of public enterprises until the coming into force of the Definition of Powers and Duties of the Executive Organs of the Federal Democratic Republic of Ethiopia Proclamation No. 916/2015. Hence, as per the provisions of Proclamation No. 916/2015 the powers and duties given to a Supervising Authority of Public Enterprises by Proclamation No. 25/1992, with respect to public enterprises and shares to be privatized and the powers and duties given to the Privatization Board by Proclamation No.412/2004 are transferred to the newly established Ministry of Public Enterprises (the Ministry). Furthermore, Proclamation No.412/2004 has been repealed with the exception of its provisions on Industry Development Fund. However, according to the proclamation the objectives of the privatization program were as follows:

- To generate revenue required for the government in the economy to enable it to exert more effort on activities requiring its attention; and to promote the country's economic development through encouraging the expansion of the private sector" (Privatization of Public Enterprises Proclamation No. 146/1998).

- In the 1970s and 80s, public enterprises (PEs) formed an integral part of the Ethiopian centrally planned economy. In some sectors such as manufacturing, mining, power and transport, output of PEs accounted for over 50 percent of the total output of the respective sectors. However, since 1992, the focus of economic policy has shifted from a command to a market system. Due to the legacy of the restrictive economic policy, which characterized the Derg regime, poor enabling environment for private sector development has been a key problem in Ethiopia. However, economic reforms since 1992 have accorded a high priority to public sector reforms and private sector development. To this end, the Government has been implementing measures to progressively liberalize the environment for private investment. The investment code issued in 1992 has been revised twice in 1996 and 1998. The 1998 revision increased private sector (including foreign) participation in infrastructure provision by opening up key areas formerly under state control such as domestic civil aviation, power and telecommunications to private investment. To increase foreign direct investment in the economy, the Government has removed the minimum capital investment limit (less than US\$ 20 million) applying to foreign investment in joint ventures and the upper limit (greater than US\$ 20 million) applying to sole ventures in the engineering, metallurgical, pharmaceutical, chemical and fertilizer industries. Overall, Ethiopia has recorded some achievements in improving the environment for private investment since 1992. Private investments in manufacturing, agriculture, agro-business and mining contributed, on the average, about 10.5% to the GDP during 1995-97. (OECD, October, 2000)

Privatization was facilitated through the sale of the SoEs, which were converted to share companies in some cases Bennell (1997). The literature is unclear as to whether companies were sold in their entirety or in part.

The main causes for privatization were as follows:

- ❖ Pressure from the international financial institutions Deneke, (2001) and Nellis (2003).
- ❖ Large public debt and external debt leading to a high budget deficit Selvam, (2007)
- ❖ Poor performance of SoEs in terms of production and profitability Hansson et al. (2004); Selvam, (2007).
- ❖ Implementation of privatization In Ethiopia



In the Ethiopian context, 166 state-owned enterprises were ‘privatized’ from 1996 up to December 2000. Out of these enterprises, 130 were bought by private persons and 10 businesses, and the remaining 36 enterprises were bought by government and parastatals. Out of the 130 enterprises sold to the private sector, 45 are sold to Addis Fana, trenched workers. This a commendable move on the part of the government because, the lives of many workers and their family members would have been at stake had the industries been sold to private investors. And Out of the total 166 government-controlled establishments, 16 are bought by foreign investors. Likewise, out of the 400 million USD total sales income 358 million USD (89.5%) comes from 16 enterprises sold to foreigners as sales revenue Deneke, (2001)

Poor growth prospects of SoEs Selvam, (2007). There were two phases of privatization: the first wave occurred from 1991 to 1994 and the second wave lasted from 1999 to 2004. There are a number of varying estimates of the scale of the privatization in the literature, as follows:

- ❖ 223 SoEs were privatized from 1994-2002 Gebeyehu (2000).
- ❖ 362 SoEs were privatized from 1994-2004 (Selvam et al. (2005).
- ❖ 166 SoEs were privatized from 1996-2000 Deneke, (2001).
- ❖ 287 SoEs were privatized from 1997-2009 Altenburg, (2010).
- ❖ 160 SoEs in the manufacturing sector were privatized from 1994-2010 with a focus on textiles and apparel, food and beverages, tobacco, leather goods and chemicals Wodajo & Senbet, (2017).

#### **2.2.5. Relationship Between Economic Growth and Privatization**

Perchance, as a theory implies, it is possible that some of the success of privatization as a policy that promotes economic growth lays in the fact that privatization leads to other structural changes in the economy, furthermore, any policy over the past 50 years that isolates a single macroeconomic ideology has been a failure as a source of economic growth. Therefore, Cook and Uchida’s empirical results reaffirm the idea that privatization as a policy of economic growth should be analyzed in context with other economic policies Cook and Uchida (2003).

## **Property Rights**

Theory of property right states that people should respect the allocation of resource in social and economic relations. Owners of companies should address the losses they cause to others against the profit they gain (Starr, 1988). Property rights are the social institutions that define or delimit the range of privileges granted to individuals of specific resources, such as parcels of land or water. Private ownership of these resources may involve a variety of property rights, including the right to exclude non owners from access, the right to appropriate the stream of economic rents from use of and investments in the resource, and the rights to sell or otherwise transfer the resource to others. Property rights institutions range from formal arrangements, including constitutional provisions, statutes, and judicial rulings, to informal conventions and customs regarding the allocations and uses of property. Such institutions critically affect decision making regarding resource use and, hence, affect economic behavior and economic performance. Contracting for Property Rights Libecap's (1989).

## **Public Choice Theory**

Interest in politics and the political process topics that economists consider to be the purview of the sub-field of study known as public choice appears to be as high as ever. This edited volume, Public Choice, provides a collection of high-quality studies covering many of the varied topics traditionally investigated in the growing field of public choice economics. These include, but are not limited to, voting/voters, elections, constitutions, legislatures, executives, judiciaries, bureaucracy, special interest groups, parliamentary procedures, government failure, rent seeking, public finance, and international organizations. In bringing these topics together in one place, this volume offers a nice mix of conceptual/formal and empirical studies in public choice economics.

The study by J.R. Clark, of the University of Tennessee Chattanooga, and Dwight Lee, of Southern Methodist University, re-considers the conclusions of a well-known test by Geoffrey Brennan and Loren Lomasky of instrumental voting Brennan and Lomasky (1993), a concept indicating that as presidential elections become close, the probability of a tie, and of casting a decisive vote, increases “multi-billionfold”, resulting in a large increase in voter turnout. As reported in their 25-year-old study, Brennan and Lomasky failed to find a relationship between closeness and turnout in presidential elections since 1940, thus leading to their rejection of the

instrumental voter hypothesis. Clark and Lee (2018) do not dispute the results of the Brennan-Lomasky test, only their arguments about the reason for the results

### **2.3. Empirical Literature Review**

Developing country studies. In developing economies, most of the growing body of work assessing performance before and after privatization concludes that privatization improves enterprise performance. La Porta and López-de-Silanes (1997), in a study of 218 nonfinancial firms privatized in Mexico during 1983–91, conclude that state enterprises went from being highly unprofitable before privatization to being profitable thereafter, closing the performance gap with control groups of similar firms in the private sector (The World Bank Research Observer, vol. 19, no. 1 (Spring 2004)).

In 2006, 48 developing countries carried out 249 privatization transactions valued at a record US\$104.9 billion. This result was driven by two mega minority initial public offerings (IPOs) in China—of the Industrial and Commercial Bank of China for US\$22 billion and the Bank of China for US\$13.7 billion. These two deals, the largest and the fifth largest offering ever, accounted for a third of the total.<sup>1</sup> Excluding these two deals, transaction values amounted to nearly US\$70 billion, a record in nominal terms but in line with results in the late 1990s (figure 1)—and in real terms 17 percent less than the peak of 1997. Ten countries accounted for nearly 80 percent of the total. China again led, with US\$14.6 billion, most of it from 17 other large IPOs in various sectors.<sup>2</sup> The Russian Federation followed with US\$10.8 billion, mostly from the IPO of Rosneft (an oil and gas concern). Turkey’s US\$8 billion came largely from oil refinery and steel sales. More than half of the Arab Republic of Egypt’s US\$7.6 billion came from three transactions in telecommunications and banking. Romania’s fifth place resulted mostly from the US\$4.7 billion sale of Banca Comerciala Romana (BCR). Rounding out the top 10 were the Republic of Serbia, Kazakhstan, Tunisia, Hungary, and Nigeria, with large transactions in banking, telecommunications, and oil and gas. Privatization trend World Bank (2006)

While 120 countries have engaged in privatization over the past 14 years, proceeds are highly concentrated in a handful of countries: over two-thirds of total developing country proceeds over the entire time period were generated in just ten countries or 8 percent of all privatizing countries

with over half of all proceeds generated by the top five alone. While ten countries consistently generated the bulk of all proceeds, the composition of the group changed over time (Figure 3). Brazil, Argentina and Mexico dominated the 1990s, with these three countries alone accounting for virtually 50 percent of all proceeds. Argentina and Mexico fell off the list in more recent years due to near completion of much of the privatization agenda, but Brazil remained and together with China, Poland, and the Czech Republic accounted for nearly 60 percent of all proceeds since 2000. For the first time, two countries in the Middle-East and North Africa region made it to the group of ten on account of the partial sale of Saudi Telecom and the sale of Regie de Tabac (tobacco manufacturing) in Morocco. Five countries remained on the list in both periods - Brazil, China, India, Poland, and Russia – representing 41.3 percent of total proceeds from 1990-2003 World Bank Policy Research Working Paper 3765, (November 2005)

A number of empirical studies have been conducted in order to measure the economic effects of privatization on the newly privatized firms throughout the world, few recent studies among others have attempted to measure the impact of privatization on economic growth in developing countries, some of which are presented here:

Javadshahraki, (2006) studied the relationship between privatization and economic growth in Iran, using Auto Regressive Distributed Lag method to characterize relationship between GDP and independent variables. The result showed that there is a positive relationship between privatization and economic growth in Iran, but competitive or openness situation of the economy have not helped in the growth of the economy and no significant relationship between privatization and economic growth was found.

Water and telecommunications sectors are the two most studied industries in the developing world. Li and Xu (2002) claim that in 1980 less than 2% of the telecommunications firms in 167 countries were privatized, but the number of privatized telecommunications firms increased to nearly 42% in the 1990s. Li and Xu (2002) further assert that the telecommunications industry in most countries is the fastest growing industry because it offers positive externalities to other industries. This is primarily due to reduction in the transaction cost for businesses. The impact of privatization of the telecommunications sector, however, is mixed. While Ros (1999) asserts that privatization of telecommunications infrastructure is positively correlated with network expansion, Wallsten found the opposite in a 2001 study.

Alotaibi, (2006), in his study investigated the effect of privatization on economic growth in fifteen (15) countries with developing economies, by Privatization & Economic Performance using a cross-section model (OLS estimation) and a cross section-time series model using panel data analyses including four panel types, namely; None, Common, Fixed effect and Random effect. The results of the OLS regression revealed that, in case of Saudi Arabia, Kuwait, Bahrain, Jordan, Iran, Morocco, Pakistan, India, Indonesia, Malaysia, Venezuela, Mexico, and Argentina, privatization had a significant impact on the GDP level which reflected on the economic growth at 5% significance level. In case of Egypt and Turkey, the results revealed that there is a negative relationship between privatization indicators and economic growth at 5% significance level. The result of the four-panel tests revealed that privatization has a positive and a significant impact at 5% significance level. This is consistent with study hypothesis that privatization has an impact on the productivity of all factors in the economy and it leads to improving the investment climate in the developing countries. Hence, foreign direct investment (FDI) will increase and economic growth will improve. These results are consistent with the effect of the privatization policy on the economic growth of each country individually (by OLS regression), except Egypt and Turkey.

Filipovic, (2005) wrote on impact of privatization on Economic Growth using Extreme Bound Analysis, he concluded that privatization is a potential successful policy of growth which has to be implemented in context with other economic reforms.

Boubakri et al. (2009) researched on privatization dynamics and economic growth using a large panel data of fifty-six (56) developed and developing countries spanning the period, 1980 to 2004. They used GMM estimation techniques to examine whether privatization had an impact on economic growth, they also characterized privatization along two dimensions; the extent of privatization efforts (proceeds) that proxy for the size of the program, and the method of privatization that proxy for government commitment.

In order to take into account, the dynamics of privatization and tackle potential endogeneity issues, they used a dynamic panel approach and found that privatization has a robust systematic positive effect on economic growth, and also found that the method of privatization, through share issues on the stock market is positively related to economic growth, suggesting that one

potential channel of benefit is indeed to use the stock market to divest State-Owned Enterprises (SOEs).

Katsoulakos and Likoyanni investigated the relationship between privatization and macroeconomic variables using country level panel data of OECD countries. They also examined the link between privatization receipts, budget deficit, public debt, output growth and unemployment rate. Their estimation results indicate that there is no statistically significant relationship between gross domestic product (GDP) growth rates and the privatization proceeds of the previous period.

Barnett (2000) used country-level panel data of eighteen (18) countries which included ten (10) developing countries, the rest being transition economies. This study explored the impact of privatization on fiscal variables, growth, unemployment and investment. The empirical evidence indicated that privatization is positively correlated with real GDP growth rates. The estimate, suggested that privatization of 1% of GDP would be associated with an increase on the real GDP growth rate of 0.5% in the year of privatization and 0.4% in the following year.

Plane (1997) carried out a study on thirty-five (35) developing countries covering the period, 1984 to 1992. He used Probit and Tobit models and found that privatization positively affected GDP growth and that the effect on growth was more significant for activities of a public goods type than for other sectors. The study concludes that, on average, institutional reform increased economic growth from 0.8% to 1.5% between the sub-periods 1984-88 and 1988-92.

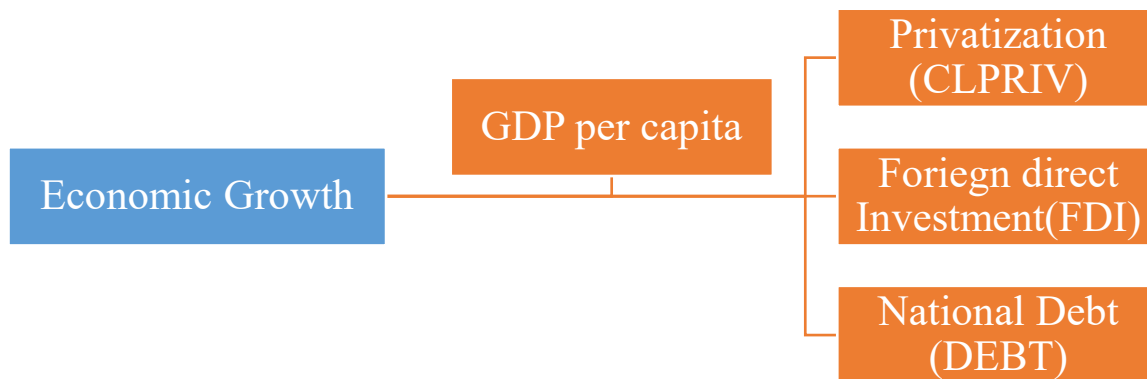
Shahraki et al. (2011) found on his study of “Privatization Impact on Economic Growth in Ethiopia”: using ARDL Approach) Autoregressive Distributed Lag (ARDL) method to characterize long run and the short run relationship between real GDP growth and independent variables that privatization & foreign direct investment due to privatization are found to have a positive impact on Ethiopian economic growth during the study period

Cook and Uchida (2003) applied a cross country growth regression analysis using the extreme bounds analysis. They used data from 63 developing countries for the period from 1988-1997 and found that privatization has contributed negatively to economic growth. They clarified result by the lack of competition.

## Conceptual Frame Work

The study claims that privatization of state-owned enterprise can affect economic growth positively also FDI due to privatization can eventually lead to increase in GDP per capita growth.

Note that in this study there are four variables associated with economic growth (FDI, GDP, CLPRIV and DEBT). But one is a dependent variable (GDP) and the other is independent variable (CLPRIV, FDI and DEBT).



## CHAPTER THREE

### 3. RESEARCH METHODOLOGY

#### 3.1. Research Design

The purpose of the study is to examine the effectiveness of privatization as a policy to promote growth in Ethiopia. Thus, this study uses quantitative research since the most appropriate way to analyse the variables that can be measured such as FDI and Economic growth. Quantitative design enables research and description of economic problems and processes that are not directly observable (Bayai et al 2013). Quantitative approach to research is convenient for quantitative description; comparisons between groups, areas or variables. Therefore for this research quantitative design is used.

#### 3.2. Data Type and Source

This research will mainly rely on secondary data sources of quantitative nature as well, the study cover time period of 1994-2019. Necessary semiannual secondary data on GDP(GDP per capita(annual%)), FDI(Foreign direct investment), DEBT(External Debt) and CLPRIV(claims on private sector) collected from the National Bank of Ethiopian website, Ministry of finance and economic cooperation (MoFEC), & World Development Indicator (WDI)

#### 3.3. Method of Data Analysis

Since secondary data will be used mainly, much of the data collection will be done by reviewing all the sources mentioned above. To fit the information available to the purpose of this research, some restructuring of the original data may be done. Descriptive statistics used to analyze the impact of privatization on economic growth and trend of the variables such as significance of FDI inflow on privatization proceed using graph and percentage.

#### 3.4. Econometric Model Specification

**Vector Auto Regression (VAR)** is a statistical model used to capture the relationship between multiple quantities as they change over time. VAR is a type of stochastic process model. VAR models generalize the single-variable (univariate) autoregressive model by allowing for



multivariate time series. VAR models are characterized by their order, which refers to the number of earlier time periods the model will use. VAR model is written as

Theory suggests that each of these factors could play a role in determining the type of impact that privatization has on economic growth. Thus, this study estimates the following basic model using VAR model: written as

$$GDP_t = C + CLPRIV_t + FDI_t + DEBT_t + e_t \dots (1)$$

The study covers the period 1994-2019 and level-log regression is used, thus variable discussed have constituted time series information in all of the models, variables  $GDP_t$ ,  $CLPRIV_t$ ,  $FDI_t$  and  $LNGDP_t$  first same as expressed in their natural logarithms and same is in their first difference are denoted by  $LNGDP_t$ ,  $CLPRIV_t$ ,  $LNFDI_t$  and  $LNDEBT_t$ . The above equation takes the following general basic model form

$$LNGDP_t = C + LNCLPRIV_{2Y_{t-2}} + LNFDI_{3Y_{t-3}} + LNDEBT_{4Y_{t-4}} + e_t \dots (2)$$

Where,

$LNGDP$  = Natural logarithm of GDP

$LNCLPRIV$  = Natural logarithm of claims on private sector

$LNFDI$  = Natural logarithm of foreign direct investment

$LNDEBT$  = Natural logarithm of external debt

$C$  = coefficient

$e$  = error term

### 3.5. Estimation Procedure

Since the nature of the data is time series, tests such as stationary test (Unit root test), lag order selection test and co-integration test will be applied. Correspondingly, other diagnostic tests like serial correlation, functional form, normality distribution of the residuals and heteroscedasticity tests are checked

In order to examine both the long-run and short-run effect of privatization on economic growth, the study applies Vector Autoregressive Model (VAR) co-integration and Vector error correction method (VECM) depending on the degree of stationary levels of the variables. The VECM is preferred because the possibility of endogeneity in the relationship between dependent variables in time series data analysis. Eviews9.5 was employed for the above tests

### **3.6. Definition of Variables and Measurement**

#### **Economic Growth (Real GDP per capita growth)**

As it is standard in the economic growth literature, we measure economic growth by GDP per capita growth rate (Barro, 1991). The GDP per capita growth rate series were drawn from the World Bank 's Development Indicators.

#### **Privatization Variable (CLPRIV)**

Plane (1997), Cook and Uchida (2003) and Barnett (2000) argued that total amount of privatization proceeds is a good measure of the magnitude of the privatization and provides an adequate measure of the change from public to private ownership. Besides, it captures the level of political commitment towards better economic policies Barnett, (2000); Davis et al. (2000). Therefore, we used total privatization proceed as percentage of GDP, and it is expected that privatization affects economic growth positively. To measure proceed on privatization, I used one of privatization growth indicator which is claims on private sector % GDP. CLPRIV include gross credit from the financial system to individuals, enterprises, nonfinancial public entities not included under net domestic credit, and financial institutions not included elsewhere.

#### **National Debt (DEBT)**

National debt is also included in the model, since large external debt may influence numerous economic and political policies. And it affects growth negatively. We control for DEBT using the ratio of total external debt to GDP. Therefore, we expect DEBT to be negative.

#### **Foreign Direct Investment (FDI)**

A measure of Foreign Direct Investment (FDI) is essential in the model due to the fact that foreign direct investment can have positive spillover effects particularly in the field of new technology and improved firm efficiency. Therefore, theories imply that high levels of foreign direct investment might facilitate the effectiveness of privatization as a policy of economic growth. We control for the level of Foreign Direct Investment using the ratio of FDI to GDP. We expect positive relationship between FDI and economic growth.

## **CHAPTER FOUR**

### **4. RESULT AND DISCUSSION**

In this chapter the results of the study and its analysis is presented followed by discussion for the outcome of the research in comparison with theories and other similar works done by others

#### **4.1. Descriptive Statistics Result**

##### **4.1.1. Foreign Direct Investment and Privatization**

When countries engaged in economic policies favoring private ownership, they simultaneously attracted much attention from foreign investors, particularly from multinational corporations, in the form of foreign direct investment (FDI). This is especially true for developing countries. The World Bank (2003) notes, for instance, that FDI has become the largest and most resilient form of capital flows, especially for developing countries. Some studies sustain that privatization was instrumental in the FDI growth observed worldwide. For example, Baer (1994) notes that privatization had an impact on foreign investments in many Latin American countries, as he documents that the presence of foreign capital has increased as the extent of involvement of the state in the economy declined. Other arguments in the literature hold that privatization, often accompanied with a combination of other reform measures that aim to improve the investment climate, lift barriers to trade and provide a better and more effective institutional environment, contributed to the rise in FDI flows over the last twenty years. Like privatization, FDI has made significant progress around the world. The rising trend in FDI in several regions around the globe appears in several World Bank reports. Particularly, the World Bank (2002) reports that FDI has positively responded to government implementations of privatization programs, and notes that seven of the ten largest FDI recipients received more than \$US1 billion from foreign investors to participate in the privatization transactions that were conducted in 1999. The intensity of the privatization program seems to be strengthened by massive increases in FDI flows which continued to increase throughout the 2000s. FDI brings about many benefits ranging from fundraising, new technologies, improvements in human capital, new managerial skills and improved corporate governance. It is thus no surprise that several privatization transactions on the stock market involved the sale of a tranche directly aimed at foreign investors.

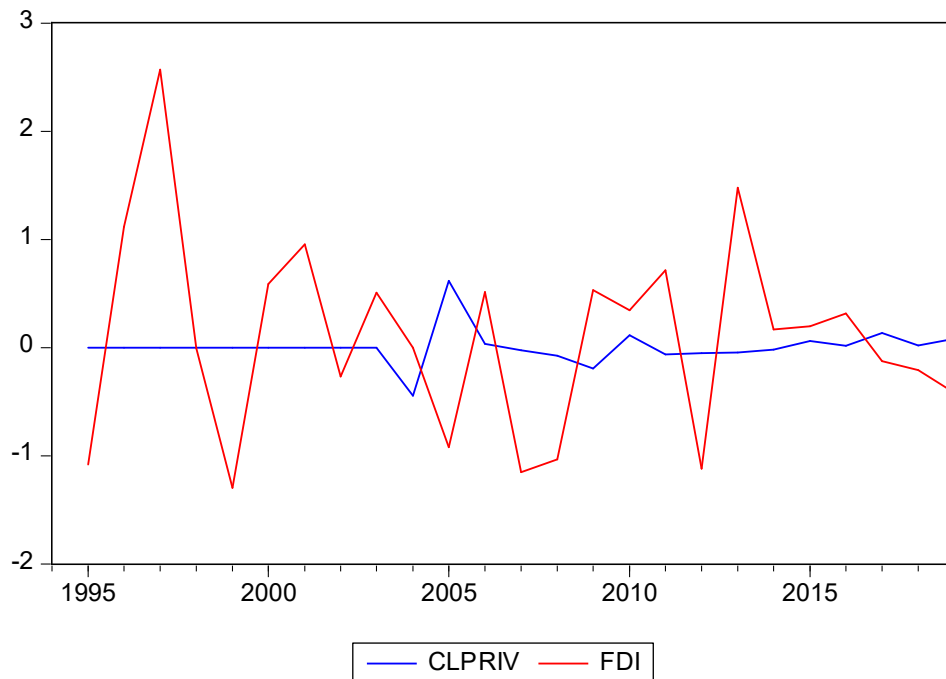


Figure 1: FDI and privatization trend

Source: computed based on World Bank database

#### 4.1.2. Privatization of public enterprise overtime

The regulation of PEs and their privatization has gone through several legislative and institutional reforms in the last 25 years. Between 1992-2004, PEs and their privatization was regulated by two separate regulatory regimes. Claims on private sector in Ethiopia have reached the highest and the lowest in 2005 and 2004 respectively

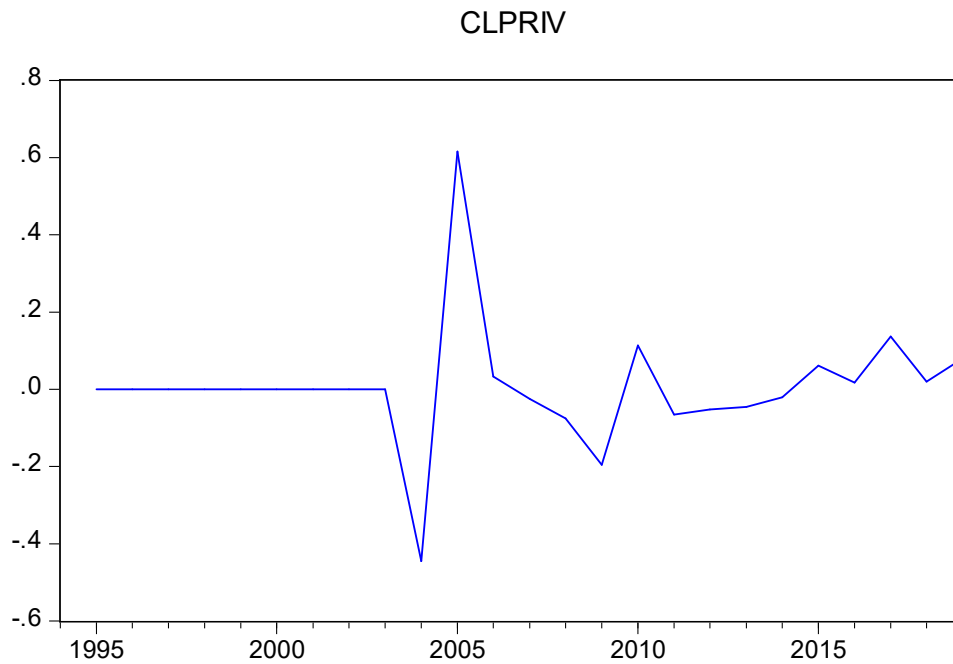


Figure 2: privatization trend

Source: World Bank database

#### 4.1.3. Privatization of public enterprise and economic growth

Figure 2 below shows the trend of private sector claim on Ethiopian GDP from 1994 -2019. Since 1994, private sector starts to play its role and increase impacts for economic growth of Ethiopia. As shown in the figure below claims on private sector show decline from 2011 - 2016. Correspondingly, as we can see in the graph, as CLPRIV increase GDP also increase and as CLPRIV decrease GDP also decrease.

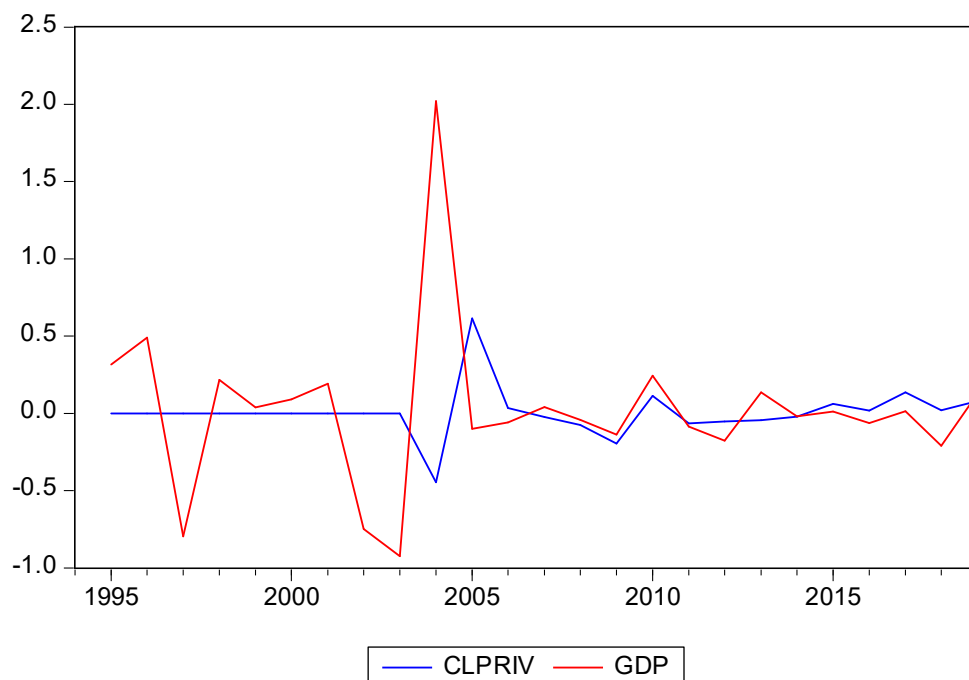


Figure 3: GDP per capita and CLPRIV

Source: computed based on World Bank data base (1994-2019).

## 4.2. Econometrics Model Result

### 4.2.1. Test of Stationarity

A time series is strictly stationary if all the moments of its probability distribution are invariant over time but its mean and/or variance need not to be finite. If the stationary process is normal and the normal stochastic process is also fully specified by its two moments (i.e., the mean and the variance), the weakly stationary stochastic process is also strictly stationary

In statistics, a unit root test tests whether a time series variable is non-stationary and possesses a unit root. The null hypothesis is generally defined as the presence of a unit root and the alternative hypothesis is either stationarity, trend stationarity or explosive root depending on the test used. The Dickey–Fuller test used to tests the null hypothesis that a unit root is present in an autoregressive model. The alternative hypothesis is different depending on which version of the test is used, but is usually stationarity or trend-stationarity.

Table:4.1 Unit Root Test Using Augmented Dickey Fuller method

UNIT ROOT TEST RESULTS TABLE (ADF)					
Null Hypothesis: the variable has a unit root					
At Level					
		GDP	CLPRIV	DEBT	FDI
With Constant	t-Statistic	-3.7986	-3.8353	-0.9015	-2.5982
	Prob.	0.0084	0.0077	0.7707	0.1066
		***	***	n0	n0
With Constant & Trend	t-Statistic	-4.1036	-3.7248	-1.2567	-2.5481
	Prob.	0.0179	0.0392	0.8754	0.3045
		**	**	n0	n0
Without Constant & Trend	t-Statistic	-0.3162	0.1227	-1.296	-2.0501
	Prob.	0.5613	0.7121	0.1747	0.0408
		n0	n0	n0	**
At First Difference					
		d(GDP)	d(CLPRIV)	d(DEBT)	d(FDI)
With Constant	t-Statistic	-5.9607	-6.9731	-4.1755	-5.1746
	Prob.	0.0001	0	0.0037	0.0003
		***	***	***	***
With Constant & Trend	t-Statistic	-5.7934	-6.8624	-4.1676	-5.2857
	Prob.	0.0005	0	0.0162	0.0014
		***	***	**	***
Without Constant & Trend	t-Statistic	-6.1137	-7.1182	-4.1645	-5.1566
	Prob.	0	0	0.0002	0
		***	***	***	***

NOTE: In all the tables used in this section, the standard errors of each coefficient appear in the parenthesis right below the corresponding coefficient. \*, \*\*, \*\*\* represent coefficients that are statistically significant at 10%, 5%, and 1% respectively. Source: Model result

The null hypothesis for unit root test states the variable is non stationary or has unit root problem and the rival hypothesis states the variable under investigation is stationary or has no unit root problem in the data generation process. The result from Augmented Dickey Fuller method of unit root test as depicted in the table above; analysis for all variables shows that all variables in the model fail to reject the null hypothesis and found to be non stationary in levels at 5% level of significance. The result shows that trending for all variables when drawn against time variable. As discussed in the previous section to deal with non stationarity problem and to transform the data we use the technique called differencing of the variables and we take first difference of all variable and see if they become stationary or not after first differencing. The order of integration of the variables is also determined. The result from ADF method of unit root analysis for differenced variables as summarized in the above table shows that the null hypothesis of the

variables are non stationary is rejected at 5% level of significance indicating that all variables are integrated of order one I(1).

#### 4.2.2. Vector Autoregressive (VAR)

Before estimating the VECM, one has to decide the maximum lag length, to generate the white noise error terms. To determine the optimal lag length different information criteria can be used. The objective of the information criteria (IC) method is to select the number of parameters which minimize the value of the IC. The most popular ICs are the Akaike (1974) information criterion (AIC), Schwarz's (1978) Bayesian information criterion (BIC) and the Hannan-Quinn information criterion (HQIC). The lag length that is selected by most of these criteria will be included in the VECM system.

Table: 4.2 VAR lag Length Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
1	-6.540069	NA	9.27e-05	2.049097	2.842583*	2.236018
2	15.76531	28.38866*	5.91e-05*	1.475881	3.062852	1.849724*
3	32.85454	15.53567	7.92e-05	1.376860*	3.757316	1.937624

\* indicates lag order selected by the criterion

LR: sequential modified LR test statistics (each test at 5% level)

FPE: Final prediction

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

Source: Model result

As shown in the table above the result of lag length selection criteria, lag length one is suggested by SC 5% level of significance and lag length two is suggested by FPE AIC and HQ. Lag length one is an optimal lag order used by the model.



### 4.2.3. Co-integration Analysis

Economic theory suggests that many time series datasets will move together, fluctuating around a long-run equilibrium. In econometrics and statistics, this long-run equilibrium is tested and measured using the concept of co-integration. Co-integration is an important tool for modeling the

The **Engle Granger test** is a test for co-integration. It constructs residuals (errors) based on the static regression. The test uses the residuals to see if unit roots are present, using Augmented Dickey-Fuller test or another, similar test. The residuals will be practically stationary if the time series is co-integrated. The null hypothesis for the Engle Granger test is that no co-integration exists. The null hypothesis is written, using standard hypothesis testing notation, as:

$H_0$ : No co-integration exists:

$H_1$ : Co-integration exists

#### 4.2.3.1. Johansen Co-integration test

Johansen's Test is another improvement over the Engle-Granger test. It avoids several issues, including having to choose a dependent variable and carrying errors from one step to the next. Johansen's is more suited to multivariate analysis than Engle Granger, because it can detect multiple co-integrating vectors. Gonzalo & Lee (1997) note that Engle-Granger tends to be more robust than Johansen's likelihood ratio test, so they recommend using both Engle-Granger and Johansen tests to weed out any potential problems. It is also used to find the number of relationships and as a tool to estimating those relationships (Wee & Tan, 1997). Long-run relationships in time series data.

There are two types of Johansen's test: one uses trace (from linear algebra), the other a maximum eigenvalue approach (an eigenvalue is a special scalar; When you multiply a matrix by a vector and get the same vector as an answer, along with a new scalar, the scalar is called an eigenvalue).

Both forms of the test will determine if co-integration is present. The null hypothesis for both forms of test is that there are no co-integrating equations. The difference is in the alternate

hypothesis: the trace test alternate hypothesis is simply that the number of co-integrating relationships is at least one (shown by the number of linear combinations).

Table 4.4 Johansen co integration Rank Test (Trace statistics)

Unrestricted Co- integration Rank Test (Trace)

Hypothesized	Trace	0.05		
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.880636	93.21643	54.07904	0.0000
At most 1 *	0.674614	44.32811	35.19275	0.0040
At most 2	0.411070	18.50504	20.26184	0.0857
At most 3	0.240518	6.327722	9.164546	0.1669

Source: Model Result

The hypothesized number of cointegrating equation that states there is none cointegration equation and there is at most one cointegrated equations are rejected at 0.05% level because as can be read from the above table the probability value is 0.0000 and 0.0040 respectively and also the trace statistics is greater than the 5% critical value. However, the hypothesis at most two cointegrating equations is rejected at 5% level indicating that there are two cointegration equations in the system. The result of Johansen test of cointegration reveals that the variables are cointegrated meaning that they have long run relationship and this justifies the application of Vector Error Correction Model (VECM) on our data to examine both long run and short run relationship between the variables.

#### 4.2.4. Granger-Causality Test

The granger causality test is applied to investigate the direction of causality between the variables. This concept involves the effect of past values of one or more of the variables on the current value of the other. A chi-square (Wald) statistic is used to test for the joint significance of all other lagged endogenous variables in each equation of the model.

The Granger causality test undertake for the variables CLPRIV and GDP is presented in the table4.6. As can be read from the table the null hypothesis that CLPRIV does not granger cause

GDP per capita cannot be rejected at 5% level but the null hypothesis GDP per capita does not Granger cause CLPRIV is rejected at 5% significant level. This implies that in Ethiopia the direction of causality is unidirectional and the causality runs from economic performance measured in this study by GDP to CLPRIV but not from CLPRIV to GDP. To sum up it is economic growth that leads CLPRIV investment not CLPRIV that leads to economic growth.

Table 4.5 Pairwise Granger causality test

Null Hypothesis:	F-Statistic	Prob.
CLPRIV does not Granger Cause GDP	0.84998	0.4439
GDP does not Granger Cause CLPRIV	13.5693	0.0003

Source: Model result

#### 4.2.5. Vector Error Correction Model (VECM)

In the VECM there are long run relationship represented by long run cointegrating coefficients and there are short term coefficients represented by coefficients of lagged values of system variables. For estimation VEC coefficients the results of cointegration test and optimum lag order is used. The results of the VECM for long run as well as for the short run coefficients is presented in the following tables followed by discussion

Table 4.6 Vector error correction model

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-2.081557	0.409935	-5.077772	0.0001
LNGDP	0.856338	0.341949	2.504282	0.0227
CLPRIV	0.099566	0.546014	0.182351	0.8575
FDI	0.285998	0.105525	2.710228	0.0149
DEBT	-0.016260	0.481362	-0.033778	0.9734
C(6)	-0.006789	0.111311	-0.060988	0.9521
R-squared	0.724257	Mean dependent var		-0.015726
Adjusted R-squared	0.643156	S.D. dependent var		0.889214
S.E. of regression	0.531185	Akaike info criterion		1.792046
Sum squared resid	4.796679	Schwarz criterion		2.088262
Log likelihood	-14.60853	Hannan-Quinn criter.		1.866543
F-statistic	8.930309	Durbin-Watson stat		2.330049
Prob(F-statistic)	0.000263			

Source: model

Error correction coefficient gives speed of adjustment within which the model will restore its equilibrium following any disbursement. The coefficient of ECT with CLPRIV variable is negative and statistically significant which indicates that there is a convergence from short dynamics towards long run equilibrium. In other hand as can be seen in ANNEX A the adjustment coefficient of FDI and DEBT are positive and also statistically significant and there is a convergence in long run dynamics.

The long run coefficient C (1) is negative and significant at 1% significance level which shows long run causality between GDP and all the dependent variables (CLPRIV, FDI, and DEBT). The relative sign of the coefficient shows the ability to bounce back to equilibrium. This discussion emphasizes that understanding the pattern of productivity changes from privatizations over a long period of time has both normative and positive relevance to policy choice

This finding is in contrary with Cook & Uchida(2003) and Katsoulakos and Likoyanni Their estimation results indicates that there is no statistically significant relationship between gross domestic product (GDP) per capita and the privatization proceeds of the previous period. Yet it is consistent with empirical findings of Javadshahraki (2006) and Boubarkri et al(2009) ,both result showed that there is a positive relationship between privatization and economic growth. Barnnet et al (2000), Sharaki et al (2011) and plane (1997) also found that there is a positive relationship between privatization and economic growth.

Short run coefficient of GDP a percentage increase in itself (GDP) will lead to an increase in GDP by 0.87% also a percentage change in FDI will lead to 0.28 % increase in GDP per capita. And statistically significant at 1% significance level. As can be read in the table the coefficient of CLPRIV is positive (not statistically significant). Thus, a positive coefficient of CLPRIV implies that a lack of property rights positively impacts the effect of privatization on economic growth, which is certainly not supported by Hernando de Soto. This also indicates that no performance change during the first few years, but a positive impact over time that more than compensates for any short run effects.

One of the reasons for CLPRIV doesn't have short run impact on GDP per capita is because some managerial changes might take a few years to affect performance as with other major institutional changes, they may take many years to materialize fully. Yet, even if performance

does improve quickly following privatization, also measuring subsequent change is crucial to assessing the aggregate impact of privatization.

Political vulnerability might be another reason for short-term losses in productivity following privatization that reverse in the longer-run, even though they offer substantial gains in the long run. It is trite to say so, but governments should discourage indiscretion in assessment of important matters such as productivity change. But then again to credibly do so, they must encourage, indeed mandate, the assessment of the long run impacts.

**4.2.6. Residual Diagnostic Tests**

**I. Stability test**

The stability of the VAR model should be tested prior to further analysis to make sure the validity of further analysis. As can be seen from the following figure the stability test result shows that all roots of characteristic polynomial lie inside the unit circle indicating that the model is stable and further post estimation diagnosis is possible.

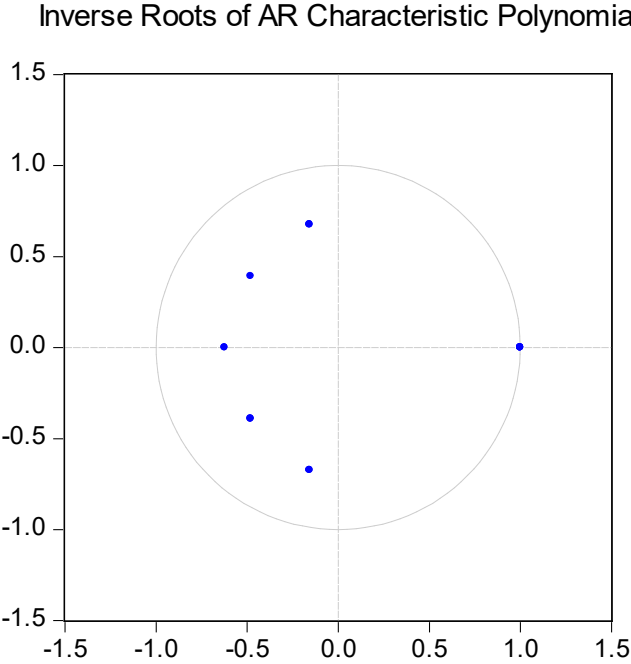


Figure: 4 Stability Test

Source: model

## II. Normality test

Table: 4.3 Normality Test Using Jarque-Bera

Component	Jarque-Bera	Df	Prob.
1	1.988051	2	0.3701
2	0.714663	2	0.6995
3	0.061264	2	0.9698
4	1.002821	2	0.6057
Joint	4.862204	8	0.8775

Source: model

Residual of this model is normally distributed and that is desirable probability value is more than 5% critical value.

## III. LM Serial correlation

### Post Estimation Diagnostics

Autocorrelation (serial correlation) and normally distribution of disturbances are checked to see how well the Vector Error Correction Model (VECM). The LM test for residual autocorrelatain indicates that the model is free from serial correlation problem because the p-value is 0.1488 at lag 1 and this is desirable. Meaning that the error terms has no correlation with one another that means the error that occurs in a given time period has no relationship with the error that occurs in the other time. Therefore, the sample used for this study is efficient in the sense that it provides maximum information about the variables and the test statistics used in the model did not suffer from estimation bias. The Jarque-Bera test for normality also rejects the null hypothesis that residuals are multivariate normal. Finally test of residual Heteroskedasticity fail to reject the null hypothesis that residulas are homoskedastic.

Table: 4.7. LM Serial Correlation

Lags	LM-Stat	Prob
1	21.82917	0.1488
2	17.98098	0.3250

Source: Model

The result of the above table shows that there is no correlation in both lag 1 and lag 2. Meanwhile the selected lag in lag criteria is lag 1 so we can say that our model is free from autocorrelation.

## CHAPTER FIVE

### 5. CONCLUSION AND POLICY IMPLICATION

#### 5.1. Conclusion

The main objective of this study is to examine whether privatization had an impact on economic growth in Ethiopia during the time period of 1994 – 2019. To determine the long run and short run relationship between the variables, VECM (Vector Error Correction Model) was applied. Before applying the VECM model, all the variables are tested for their time series properties (stationarity properties) using ADF and PP tests. AS a result, GDP (GDP per capita), CLPRIV (claims on private sector), FDI (Foreign direct investment) and DEBT (external debt) are stationary in their first difference.

Following to testing for time series property, the model was done by testing the diagnostic testing techniques. The result revealed that no evidence of serial correlation, no functional form problem (the model is correctly specified), the residual is normally distributed and no evidence of heteroscedasticity problem. As we discussed earlier, this study applied the methodological approach called VECM. As the result shows the bound test (F-statistic) value is larger than the upper bound critical value, which indicates there is long run relationship between GDP per capita and its determinant.

The empirical study results from vector error correction model shows as there is positive impact of CLPRIV on economic growth measured by per capita GDP between 1994 and 2019 in the long run model and significant whereas, there is positive relationship in the short run but not statistically significant. CLPRIV is positively signed with insignificant impact on economic growth on short run. The sign agrees with the expectation. But the insignificant impact could be as a result of the problems encountered in the privatization process and the controversies that arose out of the privatization procedures and method in Ethiopia. This also indicates that no performance change during the first few years, but a positive impact over time that more than compensates for any short run effects. As noted by Cook and Uchida (2003), the lack of appropriate governmental reforms might be the cause for insignificant impact of privatization on short run economic growth. Although, the report on national dailies (2008), affirmed that only 10% of the privatized enterprises are functional, others have become dilapidated. And this is



additional reason for insignificant impact of short run privatization variable on economic performance in Ethiopia. Also, the study finds that FDI is positively related to GDP per capita in both short run and long run model as expected and statistically significance. In the same way, DEBT has negative long run relationship but not statistically significant.

To sum up, privatization has longer-term implication in terms of revenues foregone and/or expenditures that will not be made in future and government of Ethiopia decisions on the use of privatization proceeds should reflect these intemporal effects and assessing them requires an analysis of the impact of privatization on the economic growth and on government net worth. As well privatization programs need to be explicit in terms of the country-specific conditions such as institutional, social and political characteristics.

## **5.2. Recommendation and Policy Implication**

Based on the finding of this study, the following policy recommendation are forward. Privatization policy has a significant positive impact on economic growth on long run and a positive and insignificant impact on short run. Therefore, the federal Government of Ethiopia should strengthen the existing privatization policies and modalities of privatization in development and promote investment, particularly in the manufacturing sector. Moreover, the researcher recommends that, as the finding implies, it is possible that some of the success of privatization as a policy that promotes economic growth lies in the fact that privatization should be strengthened with other policies. The extent to which expected productivity gains from privatization are realized and sustained has important implications for policy choice. The most direct implications concern the social desirability of privatizations. In fact, the private sector is emerging and it is not at the stage of being left to the clemency of the market. It requires active government intervention and support to ensure economic efficiency at a national level. Thus, government should continue strongly working in ensuring an enabling environment for a vibrant private sector and curbing negative effects of market failure in getting access for the required services. Meanwhile, maintaining and investing on areas that are not affordable to the capacity and interest of the private sector but likely to have a catalyst role in creating dynamism in the overall economy should not be overlooked. Most importantly, privatization is not supposed to be undertaken to fill a hole in the budget all by itself.

The principal policy implication of this analysis for the Ethiopian government is that policy-makers who study Ethiopian privatization should quickly move beyond a simplistic emphasis on the pace of privatization (i.e., with donor leverage and multilateral agencies being an important determinant of the pace of implementation), to the neglect of both political and organizational factors that could create a stable foundation for economic fair share, not to concentrate enterprises to some politically affiliated oligarchies due to the current race-based politics of the country, and market relations among newly privatized Enterprises.

However, the inconsistencies in the results of the various studies and findings of this study require a careful analysis of privatization as it has unfolded in the various regions of the world. The future in research with data permitting is to examine how the various sectors privatized, the methods of privatization, and the type of ownership (local or foreign) impact the economy as a whole. In the end, however, the debate should not just focus on the superiority of the private firm over SOEs or vice versa, but more important, how to create the necessary market supporting institutional environment needed to promote economic growth.

Consequently, this study argues that privatization can have potentially significant positive impact on economic growth and distributional equity, but this potential effect is dependent on the establishment of effective institutions. We conclude by stating that both the country conditions and market conditions matter in the success of economic reforms of which privatization is a major component.

In the other hand in order to enhance the contribution of the foreign direct investment, the government of Ethiopia has to strengthen privatization policies to increase FDI which is believed as a backbone of growth. This includes increase capability of advanced technology, increased access to foreign savings: create competitive advantage and accesses to the international market.

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## ANNEX

### A. Vector Error Correction Model

#### Vector Error Correction Estimates

Date: 05/30/21 Time: 00:46

Sample (adjusted): 1997 2019

Included observations: 23 after adjustments

Standard errors in ( ) & t-statistics in [ ]

Cointegrating Eq:	CointEq1				
GDP(-1)	1.000000				
CLPRIV(-1)	-0.820119 (0.32950) [-2.48897]				
FDI(-1)	0.216925 (0.04103) [ 5.28680]				
DEBT(-1)	0.429854 (0.17270) [ 2.48898]				
C	-0.026977				
Error Correction:	D(GDP)	D(CLPRIV)	D(FDI)	D(DEBT)	
CointEq1	-2.081557 (0.40994) [-5.07777]	0.466854 (0.09966) [ 4.68438]	-1.016368 (0.87361) [-1.16342]	-0.123859 (0.18576) [-0.66677]	
D(GDP(-1))	0.856338 (0.34195) [ 2.50428]	-0.126030 (0.08313) [-1.51599]	0.958969 (0.72872) [ 1.31596]	0.065811 (0.15495) [ 0.42472]	
D(CLPRIV(-1))	0.099566 (0.54601) [ 0.18235]	-0.452792 (0.13274) [-3.41099]	2.374399 (1.16360) [ 2.04056]	0.064182 (0.24742) [ 0.25940]	
D(FDI(-1))	0.285998 (0.10553) [ 2.71023]	-0.056391 (0.02565) [-2.19806]	-0.010118 (0.22488) [-0.04499]	0.047763 (0.04782) [ 0.99885]	
D(DEBT(-1))	-0.016260 (0.48136) [-0.03378]	-0.220389 (0.11703) [-1.88323]	-1.881873 (1.02582) [-1.83450]	-0.549785 (0.21813) [-2.52050]	
C	-0.006789 (0.11131) [-0.06099]	0.007441 (0.02706) [ 0.27498]	-0.010078 (0.23721) [-0.04248]	0.011559 (0.05044) [ 0.22917]	
R-squared	0.724257	0.846990	0.407412	0.333714	
Adj. R-squared	0.643156	0.801987	0.233122	0.137747	
Sum sq. resids	4.796679	0.283510	21.78427	0.984942	
S.E. equation	0.531185	0.129140	1.132002	0.240703	
F-statistic	8.930309	18.82077	2.337548	1.702913	
Log likelihood	-14.60853	17.91842	-32.01107	3.597076	
Akaike AIC	1.792046	-1.036385	3.305310	0.208950	
Schwarz SC	2.088262	-0.740169	3.601526	0.505166	
Mean dependent	-0.015726	0.003501	-0.066836	0.001251	
S.D. dependent	0.889214	0.290211	1.292659	0.259217	
Determinant resid covariance (dof adj.)	0.000174				
Determinant resid covariance	5.20E-05				
Log likelihood	-17.10970				
Akaike information criterion	3.922583				
Schwarz criterion	5.304924				

## B. Descriptive Statistics

	GDP	CLPRIV	FDI	DEBT
Mean	0.023095	0.006159	0.094346	-0.044967
Median	0.012232	0.000000	0.168036	-0.041165
Maximum	2.021465	0.615972	2.570323	0.473077
Minimum	-0.924381	-0.445307	-1.299583	-0.379139
Std. Dev.	0.531224	0.167634	0.920580	0.195508
Skewness	1.771297	1.167215	0.511449	0.529995
Kurtosis	9.605475	10.00559	3.400337	3.379359
Jarque-Bera Probability	58.52321 0.000000	56.79986 0.000000	1.256867 0.533427	1.320304 0.516773
Sum	0.577377	0.153984	2.358645	-1.124178
Sum Sq. Dev.	6.772773	0.674426	20.33920	0.917363
Observations	25	25	25	25

### C. Heteroscedasticity

Heteroscedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	2.168585	Prob. F(8,14)	0.0981
Obs*R-squared	12.72843	Prob. Chi-Square(8)	0.1215
Scaled explained SS	8.745486	Prob. Chi-Square(8)	0.3642

### D. Autocorrelation

Date: 05/30/21 Time: 00:55						
Sample: 1994 2019						
Included observations: 23						
Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
.  * .	.  * .	1	0.135	0.135	0.4766	0.49
. *  .	. *  .	2	-0.167	-0.189	1.2411	0.538
. *  .	. *  .	3	-0.149	-0.102	1.8775	0.598
. **  .	. **  .	4	-0.217	-0.226	3.3077	0.508
.   .	.  * .	5	0.062	0.085	3.4321	0.634
.  ** .	.  * .	6	0.277	0.187	6.0189	0.421
.  * .	.   .	7	0.138	0.071	6.7048	0.46
. *  .	. *  .	8	-0.085	-0.076	6.9849	0.538
.   .	.  * .	9	-0.044	0.082	7.0659	0.63
. *  .	. *  .	10	-0.132	-0.067	7.8327	0.645
.   .	.   .	11	0.021	0.061	7.8547	0.726
.   .	. *  .	12	-0.003	-0.158	7.8551	0.796

### E. Normality Test

