REPUBLIC OF TURKEY
ISTANBUL GELISIM UNIVERSITY
INSTITUTE OF GRADUATE STUDIES

Department of Economics and Finance

IMPACTS OF FOREIGN AID ON ECONOMIC GROWTH OF ETHIOPIA

Master Thesis

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Istanbul – 2022

THESIS INTRODUCTION FORM

Name and Surname : Mohamed Mohamud Mohamed

Language of the Thesis : English

Name of the Thesis : Impacts of Foreign Aid on Economic Growth of Ethiopia

Institute : Istanbul Gelisim University Institute of Graduate Studies

Department : Economics and Finance

Thesis Type : Master

Date of the Thesis : 14.04.2022

Page Number : 70

Thesis Supervisors : Asst. Prof. Dr. Lokman Kantar

Index Terms : Foreign aid, economic growth, foreign investment and external debt.

Turkish Anstract : 1981-2018 dönemi boyunca, bu çalışma Etiyopya'nın ekonomik büyümesine doğrudan yabancı yatırımlar, dış borç ve dış yardım arasındaki bağlantıyı deneysel olarak incelemektedir.

Distribution List : 1. To the Institute of Graduate Studies of Istanbul Gelisim University
2. To the National Thesis Center of YÖK (Higher Education Council)

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SUMMARY

Over the period 1981 to 2018, this study examines experimentally the link between foreign direct investments, external debt, and foreign aid to Ethiopia's economic growth. Econometric techniques can be improved by employing basic correlation and deterministic models. Ordinary Least Squares were used to create a model and evaluate the data. The data's unit root was tested for all variables, and the variables were non-stationary in the level model but stationary in the first-difference model. The results of the cointegration test suggested that there is at least one cointegrated vector between the examined variables, while the VAR Granger causality test showed that there is a unidirectional causal relationship between foreign aid and economic growth and also there is a unidirectional causal relationship between foreign direct investments and economic growth, while external debt and economic growth have a bidirectional causal relationship among them. The two explanatory variables of external debt and foreign aid were statistically significant for economic growth, while only the explanatory variable of foreign direct investment was statistically insignificant for economic growth.

Keywords: Economic growth, Foreign direct investments, External debt, Foreign aid

ÖZET

1981-2018 dönemi boyunca, bu çalışma Etiyopya'nın ekonomik büyümesine doğrudan yabancı yatırımlar, dış borç ve dış yardım arasındaki bağlantıyı deneysel olarak incelemektedir. Ekonometrik teknikler, temel korelasyon ve deterministik modeller kullanılarak geliştirilebilir. Bir model oluşturmak ve verileri değerlendirmek için Sıradan En Küçük Kareler kullanıldı. Verilerin birim kökü tüm değişkenler için test edildi ve değişkenler seviye modelinde durağan değil, birinci fark modelinde durağandı. Eşbütünleşme testi sonuçları, incelenen değişkenler arasında en az bir eşbütünleşik vektörün olduğunu öne sürerken, VAR Granger nedensellik testi dış yardım ile ekonomik büyüme arasında tek yönlü bir nedensellik ilişkisinin olduğunu ve dış yardım ile ekonomik büyüme arasında tek yönlü bir nedensel ilişkinin olduğunu göstermiştir. doğrudan yatırımlar ve ekonomik büyüme, dış borç ve ekonomik büyüme ise aralarında çift yönlü bir nedensellik ilişkisine sahiptir. Dış borç ve dış yardımın iki açıklayıcı değişkeni ekonomik büyüme için istatistiksel olarak anlamlıyken, yalnızca doğrudan yabancı yatırımın açıklayıcı değişkeni ekonomik büyüme için istatistiksel olarak anlamsızdı.

Anahtar Kelimeler: Ekonomik büyüme, Doğrudan yabancı yatırımlar, Dış borç, Dış yardım

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ABBREVIATIONS

FDI	**:**	Foreign Direct Investment
GDP	**:**	Growth Domestic product
IMF	**:**	International Monetary Fund
OLS	**:**	Ordinary Least Squares
NEA	**:**	National Economic Association
ODA	**:**	Official Development Assistance
DAC	**:**	Development Assistance Committee
OECD	**:**	Organization for Economic Cooperation and Development

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PREFACE

CHAPTER ONE

INTRODUCTION

This chapter relates to the introduction of the study. It consists of the background of the study, problem statement, objectives of the study, research questions, scope of the study, significance of the study, operational definitions of key terms, and conceptual framework of the study.

1.1 Background of Study

Ethiopia, with a total population of nearly 117 million (in 2021) and an annual growth rate of 2.6% is the second most populated country in the continent, alongside Nigeria (Tasew, (2021). The population of the world is estimated at 119 million recently in 2022. (WB, 2022).

Ethiopia is now Africa's second-most populated country, with a low urban population of 21.7% and 80.5% of the population dependent on agricultural production, while most Ethiopians reside in rural regions (World bank), (2020).

The biggest economicstay is agriculture and the highest foreign exchange exports are almost fetches. FAO [ll] estimates that 85% of all jobs are in Ethiopia in the agricultural sector (FAO, 2020). Whilst its contribution to the country's general employment is the highest, its GDP contribution is slowly decreasing, while the contribution to the country's GDP from the service sector is increasing. In the last few years, from 2018 to 2019, the country's economy registered 9% growth, attributable to 12.6% industrial production growth, 11% service growth, and 3.3% agriculture growth. According to business share of GDP has risen from 27% from 2017 to 2018 to 28.1% from 2018 to 2019, while the service sector has risen marginally to 39.8% from 39.2%, according to the National Bank of Ethiopia estimates. By comparison, farming's share of GDP fell to 33.3% over the same time, down from around 35%. This gradual yet steady change in economic structure reflects the political path the government takes in developing and fostering output development, while continuing to pay close attention to

upgrading the agricultural industry, which was the backbone of the country's economy for many years (National Bureau of Statistics, from 2018 to 2019).

Ethiopia has historically suffered low economic results, as has any other developing nation. But the country has experienced considerable economic growth recently (particularly after 2003) (Tasew, 2011). From 2004 to 2011, Ethiopia experienced high, overall broad, true growth of 10.6% annually, business and service growth averaged 10% annually, while FDI increased from a total of USD 0.5 billion (from 2011) to USD 1.2 billion in foreign direct investment.

From 2000 to 2010, exports of goods and services grew almost 10% annually, and Ethiopia achieved significant advances in the diversification of manufactured exportations. There were significant increases in access to service standards and a smaller degree (World Bank, 2012). Over the 2007/2008 to 2017/2018 years, the economy has seen solid, wide expansion, with an average of 9.9 a year (WB, 2020). However, the country reported 9 percent real GDP growth a year recently in 2018/19 (NBE, 2018/19).

While the country's recent economic success is extremely impressive, the current pattern in economic growth presents a range of challenges. Structural restrictions face the economy are highly dependent on economic development regarding precipitation and the susceptibility of the country to trade and related external shocks. Moreover, because of weak finances, low savings rates, and weak export efficiency, the country has limited investment potential. According to National Bank data, from 2018 to 2019 there is a significant disparity between both the investment to GDP ratio and the internal saving to GDP ratio. During this period, the government's investment to GDP ratio was 35.2% while the government's domestic savings ratio was 22.3% (National Bureau of Economic Research, from 2018 to 2019).

Ethiopia looks to opportunities beyond its growth capabilities, thanks to its high degree of importation of economy, limited ability to manufacture capital goods, limited domestic saving rates, and limited capacity for generating foreign exchange (Tessew,2011; Fentaye, 2015,).

Without a doubt, capital is a scarce resource in developing nations, and this is especially true in Ethiopia. There isn't nearly enough money in the country to support economic growth and health care, so the country has to turn to outside sources of funding. Developing countries in general, and Ethiopia in particular, benefit greatly from financial assistance from various foreign capitals. There is an allegedly objective reason for the country's need for an enormous influx of foreign support because of its many characteristics (Haile, 2015).

Foreign aid is a kind of financial help, with donor countries providing money, goods, or services to recipient countries. Giving donations is most suitable when it is made with charitable or altruistic intentions, or when the donation promotes the donor country's national interests. In the case of international aid, a bilateral or multilateral agreement may be signed between two organizations or nations or many institutions or governments (multilateral). Any type of assistance provided to beneficiaries that include purchasing goods or services from the donor country is classified as conditional aid. Donations from across the world usually include different assistance and may be used in any part of the country receiving it (Muresh and Mustari, 2014). For Development Assistance Committee (DAC) member nations, multilateral organizations, and non-DAC countries, concessional loans and grants are made available to support economic growth and welfare in their respective countries (World Bank, 2020). The majority of African economies in the 1950s received foreign assistance. Also, in Sub-Saharan Africa, Ethiopia received substantial sums of foreign assistance beginning in 2002 and continuing until 2006. Tanzania, the Democratic Republic of the Congo, and Mozambique are countries listed among those that include it (Nestory, 2008). Although the Oakland Institute's research indicates that a nation in the Horn of Africa is flourishing, it is nevertheless afflicted by poverty and hunger. This nation is highly dependent on foreign assistance as a consequence. As of the start of 2010, 3.5 USD billion in foreign donations constituted between 50% and 60% of the country's total budget, more than the U.S., UK, and World Bank combined (Oakland institute report, 2013, P 1). This year, development aid from the government of the country. Had a contribution of USD 732.240.234.375 due to the NEA. Around 11.4 percent to 28.7 percent of the population (WB, 2019) Ethiopia was among the primary providers of assistance both by the World Bank and the IMF as well as a several bilateral donors for a time. Following the implementation of new legislation in 1992, humanitarian assistance significantly surged. Sinterhümsted (2007) for decades, Ethiopia has been among the most impoverished countries,

having received more international assistance than any other country. While the exact reasons remain unknown, it seems that the country has so far failed to invest and develop because of new opportunities that have emerged. Averaged, across-the-board impact results will be reported. This will have a significant impact on the national economy.

1.2. Statement of the problem

Poor domestic savings and exchange income in developing nations result in low overall consumption and economic development. The bad economy has made life harder for a significant portion of the population in several of these nations for many years. International aid has a crucial role to play in decreasing the nations' deficits in savings, including investment deficit, business gaps, and fiscal gap. Like the industrialized nations, Ethiopia's history is one of consistent development. According to recent estimates from National Bank, the investment-to-GDP expenditure gap is now the widest since the 2008 financial crisis, while the domestic saving-to-GDP ratio currently stands at its lowest level since then. Between 35.2% and 22.3%, the country's GDP spending ratio was almost equal to its domestic savings. Because of these facts, we should thus realize that in order to raise investment levels and the promotion of economic development, Ethiopia's domestic capital resources and private capital flows are not nearly enough. As a result, foreign aid is no longer contentious. About 99% of foreign assistance money (e.g., aid to poor nations such as Ethiopia) is spent on sustainable development and health. Despite this, Ethiopia has been left with an unusually high influx of international assistance and recent success. In light of this, the position of money flowing in from outside has turned into a point of dispute. In recent years, Ethiopia has provided a considerable amount of international aid. The results are plain to see: despite large amounts of donor money going into the country's economy, slower economic growth and rising prices have remained an issue for some time. Students in affluent nations often debate the role of financial assistance in the development process, and therefore, the implications of aid for poverty reduction. International aid and economic development studies have shown conflicting results in the past. This is another of Papanek's, Dowling and Hiemenz's, Gupta and Islam's, Hansen and Tarp's, Burnside and Dollar's, Gomanee's, Dalgaard's, and Karras' articles. Studies conducted to influence the effect of foreign aid on economic growth failed to find evidence to support this theory. Other studies, including (Mosley, 1980), (Mosley, 1987), (Boone, 1996), and (Jensen and Paldam, 2003) have

shown that the findings don't show that having access to resources improves child development. The majority of individuals think that foreign aid in growth-promoting countries is unsuccessful. In this study, researchers wanted to address the problem of help effectiveness (measured by a growth of a time series that starts in 1981) by focusing on the time period of 2018. The researcher, to his or her knowledge, does not believe that any studies have been done on this issue in Ethiopia. Previous investigations failed to get to the bottom of the issue. There is more that is needed.

1.3. Research question

The following research questions guide this report.

 What is the role of external debt on the economic growth of Ethiopia?

 What is the relationship between foreign aid and economic growth?

 What is the impact foreign direct investment and economic growth in the long run?

1.4. Hypothesis of the study

H0: $\beta 2 = 0$ (There is no nexus between external debt and economic growth.)

H1: $\beta 2 \neq 0$ (There is a link between the external sector and economic growth.)

H0: $\beta 3 = 0$ (Foreign Aid has no impact on Economic Growth.)

H1: $\beta 3 \neq 0$ (Foreign aid has an impact on economic growth.)

H0: $\beta 4 = 0$ (There is no relationship between foreign direct investment & economic growth) H1: $\beta 4 \neq 0$ (There is no relationship between foreign direct investment & economic growth)

H0: $\beta 2 = \beta 3 = \beta 4 = \beta 5 = 0$ (There is no connection between all explanatory variables and economic growth)

H1: $\beta 2 = \beta 3 = \beta 4 = \beta 5 \neq 0$ (There is a link between all explanatory variables and economic growth)

1.5. Objective of the study
1.5.1. General objective

The main objective of this analysis is to empirically evaluate, using the ARDL method, the relationship between foreign aid and economic growth in Ethiopia between 1981 and 2018.

1.5.2. Specific objectives

To investigate the role of external debt in Ethiopia's economic growth

To assess the relationship between foreign aid and economic growth

To identify the impact of foreign direct investment and economic growth in the long run

1.6. Significance of the study

In Ethiopia, there are few studies on the impact of foreign aid on economic development, and some of these studies are very long and require further research. By examining the relationship between help and growth, this research is expected to provide the following values:

It contributes to policymakers' efforts to develop adequate policy mechanisms and institutions for successfully implementing, monitoring, and evaluating the successful use of international assistance to assist the nation in its transition to a middle-income economy.

1.7. Method of Study
1.7.1 Data Type and Sources

In its research, the study primarily used secondary macroeconomic time series evidence. The World Bank Development Index, the International Monetary Fund, and the World Economic Outlook Index are all used in research. Other reference materials include written articles and journals, working papers, textbooks, and related online resources.

1.7.2 Data Analysis

Descriptive and econometrics were applied to the results. Tables and charts, as well as other features such as trends and summaries, were utilized to help in the interpretation

of the evaluation of results. A stationary test was applied to all variables to rule out the possibility of spurious regression in econometrics additionally, the Autocoradian procedure developed by Pesar et al. (2001) was used for estimation of the short- and long-run relationships with economic development and its contributing factors, including foreign assistance. Both econometric estimations were done using the respective programs: STATA and Eviews.

1.8. Scope of the study

The report only includes the time frame from 1981 to 2018, including all forms of international aid and other macroeconomic variables the sample time frame most relevant to the variables used in the study depends on the availability of data.

1.9. Structure of the study

The research is divided into five major chapters. The remainder of the article is structured as follows. The second chapter examines the applicable theories and methodology of international aid. The third chapter discusses the study's analysis approach, including topics such as data classification and meaning, as well as model specifications. Chapter 4 discusses and analyzes the performance of the predicted growth model. In chapter five, the report ends with an overview of key conclusions and their policy consequences, as well as shortcomings of the analysis and questions for further research and conclusion.

1.10 Conceptual framework

The study has two chief variables: dependent variable (DV) and the independent variable (IV). The researcher will hypothesize that independent variable (IV) can be foreign aid external debt, foreign direct investment, and economic growth dependent variable (DV) as shown in the conceptual framework.

Figure 1.1 conceptual frame work

I V   D V

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┌─────────────────────────────┐              ┌──────────────────────────────┐
│                             │              │                              │
│   Foreign aid               │              │                              │
│   External dept             │   ───────▶   │      Economic growth         │
│   Foreign direct investment │              │                              │
│                             │              │                              │
└─────────────────────────────┘              └──────────────────────────────┘
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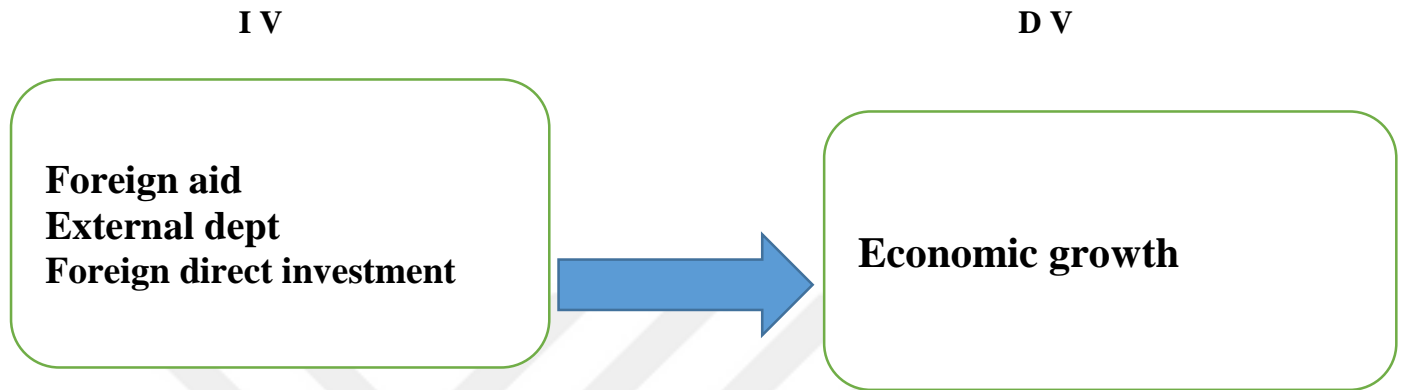
CHAPTER TWO

LITERATURE REVIEW

2. Definition of Foreign Aid

In foreign aid, all resources are considered, whether they be in the form of goods, training, knowledge, or financial assistance. The greatest of the best According to the Official development assistance (ODA) is defined by the Development Assistance Committee of the Organization for Economic Cooperation and Development (OECD). According to the OECD, development aid is defined as official development assistance (ODA), which is provided by the government of a country (2019, p 1). The aid which strives to enhance a country's economy and welfare is known as ODA, which the OECD Development Assistance Committee (DAC) defines as follows: (OECD, 2019, p 1).

The DAC defines "assistance" as ODA with these three requirements: it should be carried out by the formal agencies; it should primarily advance economic growth, and development; and grants should be 20% or more. For most projects, humanitarian help, including food assistance, technical aid, and program support is usually provided to outside parties (Assistance for the balance of payments and budget support). In addition, the NGOs assist in poverty reduction efforts and humanitarian aid in the nations where poverty is concentrated. The definition of foreign aid used in this study utilizes the DAC standard.

The practice of transferring subsidized resources from foreign governments or international institutions to non-governmental organizations in recipient countries is referred to as foreign assistance. In the spectrum of several possible motivations, it may be for purposes of diplomatic, commercial, cultural, or developmental. It is primarily used to finance project development in the country that receives it. Typically, help developing countries finances development initiatives, such as building roads, schools, training, and family planning. Since 1980, an increasing percentage of aid has been utilized as a substitute for payment of debts and budget support for governments that have agreed to pursue reform initiatives (Lancaster, 1999).

2.1. External Debt on Economic Growth

A substantial domestic income and saving deficit have a detrimental effect on the economies of the LDC and the accumulation of capital is difficult to achieve (Barro et al, 1995). Foreign debt was a major source of filling the gap caused by the mismatch between domestic savings and investment, fiscal deficit, and those nations' current account deficit (Todaro, and Smith, 2009). The degree of foreign credit that helps the economy by boosting the accumulation of capital and improving productivity is moderate. However, if a nation has enormous debts, it cannot meet the resources that are now accessible to fulfill its external debt commitments. The government will need to pay debt related to the economy and certain investments will be repaid to serve the debt. This leads to a reluctance to spend, reduces the economic development, and slows the economic growth of the country owing to money (Fosu, 1996). Depending on the individual circumstances involved, a possible study of the impact of external debt on economic development may be characterized as (a) debt overhang and (b) the overhanging effect. These words relate to the two main indicators of the debt load, the total-GDP ratio, which gauges the impact of debt overhangs, and the other is the debt service ratio, which represents the external debt 'out' effect. This has consequences for the debt scale. The greater the ratios, the more debt excess, and the repercussions will crowd out.

According to Krugman, the debt of a country is deemed excessive if the foreign debt exceeds the country's payment capacity, leading to debt arrears, (1988: 13). The government has to impose more taxes on the private sector because of increasing debt service obligations in order to compensate for the difference between repayment agreements. The rationale for taxes reducing incentives for saving, investing and working is because higher taxes reduce the desire for saving, investing, and working individuals. As a result, resources allocated for investment are spent instead to repay the debt (Claessens et al, 1990).

The maintenance of debts is an increasing function of the output level of the economy. Since the foreign creditors essentially "tax" some of the return on investing in the domestic economy with the growth of their debt. When the external debt increases, investments reduce their earnings expectation; the larger the higher the tax on their return to the repayment of debt will be. Therefore, investors are less inclined to spend now in order to increase future

production, which in turn delays the buildup of capital stocks and has resulted in investments being squeezed. The steeply taxed return will also jeopardize potential investors. the investment will eventually be discouraged by both domestic and foreign investors. In this situation, then, debt overhang acts as a levy on future production that dissuades investment, undermines economic development, and prevents heavily indebted countries from escaping poverty (Clements et al, 2005). According to Sachs (2002: 12), debt exceedance occurs when the debt payment charge of the country is so heavy that a substantial part of current production is generated by foreign lenders which therefore discourages investments because of tax discouragement and macroeconomic instability. Tax discouragement means a high stock of debt hinders investment-since investors anticipate that future income tax will be available to settle debts.

Country liquidity and solvency are key factors for managing foreign debt economic growth consequences (Ajayi, 1991). A limit of liquidity refers to the failure of the government to release its obligations in the amount previously negotiated, due to a shortage of cash available for the payment of its present commitments. The question of whether the value of a liability of a country exceeds the capability to pay anytime, at the same time, concerns solvency; (Ajayi, 1991). The country will be illiquid, and solvent capacity will be affected if the debt service ratio of the country is large as well as the debt-GDP ratio of the country. The county must thus strive for speedier growth, so that its financial problems may be minimized and, more importantly, its low revenue breaks apart. A liquidity constraint is an external debt 'crowding-out' impact. The increase in the maintenance of foreign debt reduces the money available (export revenues) and provides less investment space for development. This also indirectly affects a country's ability to buy more from foreign resources, which is pressure on local debt and crowded (Taylor, L. 1994). This liquidity constraint has negative consequences for private investment as well as assured state investment. A decline in public expenditures as a consequence of liquidity constraints as a result of debt is the a negative impact on the growth of debt servicing.

As Fosu (1996: p19) points out, a liquidity constraint resulting from an increase in debt-service requirements may cause the budget to be diverted away from the social sector or public investment in order to satisfy debt obligations. He emphasized that public expenditure is

a significant driver of economic activity in many functional areas, particularly in the manufacturing sector. He further claimed that debt may have an extra impact on economic growth through its effect on the productivity of investment and that it can reduce output growth by reducing productivity and as a result of detrimental changes in the mix of investments made in the economy. In this way, due to expected tax increases, the crowding-out effect inhibits capital development and at the same time promotes capital flight (Cohen, 1993).

2.2. Foreign Aid and Economic Growth

Foreign aid has always been a contentious issue due to the macroeconomic implications. The most contentious issue is undoubtedly the influence of aid on growth in impoverished countries. This fact is also a critical issue since the second key criterion for evaluating aid is its impact on poverty reduction. Economic development and livelihoods, which are considered to be significantly influenced by foreign aid inflows, remained low in developing countries despite massive external aid. McGillivray et al. (2005) in their early years of delivering foreign aid to developing nations an excessive amount of optimism. Due to insufficient investment, poor countries are still poor. Nations that are impoverished are poor. This idea was due to insufficient domestic savings, insufficient foreign currency to buy foreign capital goods, or a combination of the two. This issue may be addressed by foreign assistance, which would supplement domestic savings or foreign reserves. The investment would be boosted, as would growth. However, such expectations were dashed. The literature on aid efficiency remains controversial, despite a considerable infusion of aid to impoverished countries and decades of empirical research on the link to promoting growth. Durbarry, Gemmel, and Greenway (1998) argued that the effectiveness of foreign aid in achieving such goals remained unknown, despite decades of capital transfers into these countries and numerous research on the empirical relationship between aid and growth. Earlier, macroeconomic studies conducted across nations demonstrated that aid has an indirect effect on economic growth via its effect on savings and subsequent investment using a Harrod-Domar growth model. They discovered a negative relationship between aid (which is frequently confused with foreign capital influxes) and GDP growth and attempted to explain it by assisting in the reduction of domestic savings or by overwhelming local savings (Griffin, 1970; Griffin and Enos, 1970; Weisskopf, 1972). According to Papanek (1972), aid may reduce domestic savings by increasing income and

consumption, but total savings and investment may continue to grow. He has demonstrated a strong correlation between GDP growth and aid but also large unexplained variations in the efficiency of help between nations. Numerous individuals and organizations have long had divergent views on the macroeconomic implications of foreign aid. To the extent that the impact of aid on growth in poor countries is debatable, this event is certainly the most contentious issue. Even more than that, there are other pertinent factors at play here. This aid, in particular, will have a huge influence on poverty reduction and should be seen in that light. Even while we know that international aid has a significant influence on developing countries, economic growth and living conditions, which are believed to be significantly impacted by foreign aid, were found to be missing. By McGillivray et al. (2005), it is clear that the early years of foreign aid to developing countries were fraught with hope. This issue occurred following the Marshall Plan's implementation. To make this approach work, emerging nations may have to reconsider the method's apparent success. It is no surprise that many impoverished nations remain poorer due to insufficient investment. This idea began as a result of the low amount of domestic savings.

As well as the fact that acquiring foreign capital goods necessitated a large amount of foreign currency. By increasing domestic savings or foreign exchange reserves, this problem can be solved through some external assistance. This event would result in an increase in investment, which would promote growth. Generally, the most efficacious economic argument for aid is that it has a direct influence on recipient nations' economic progress. Although there are some examples of success in the literature on the effectiveness of aid in Sub-Saharan Africa, Sub-Saharan Africa continues to be the primary obstacle. Gomannee, Girma, and Morrissey (2005) argued that Sub-Saharan Africa presents a challenge to the aid effectiveness argument, the region has been a key recipient of aid for decades, yet has had a dismal record of economic progress throughout that time period. Tasew and Tadesse (2011)

The results of these earlier studies on aid effectiveness imply a linear link between help and growth since most of them use Harrod-Domar growth models. Although it is commonly assumed that there is a linear relation between capital and production, this assumption is wrong. Among 138 nations, just I was able to pass the test, and Easterly (1998) discovered that investment was less influential on growth than previously thought Moreover, the impact of foreign aid is not equal to one person to another, as proposed by the Harrod-Domar

theory. Instead, foreign help may instead substitute domestic resources, and, therefore, it can have an impact on the currency rate. In turn, this facts can affect investment and hence domestic growth, with unwanted outcomes. Aside from the problem of fungibility, issues such as the availability of investment capital and internal and external market influences may disrupt the link that links aid, investment, and growth. The help money that is given may be embezzled through corruption, which might be one issue. In other words, the naïve expectations about early ideas and their positive effects in the context of development and aid are mistaken. As was done in this study by Boone (1996), 91 nations' investment, consumption, and indicators of well-being were evaluated to see if they were impacted by foreign aid during the years 1971-90. He observed that help led to greater consumption rather than to investment and growth. In a study published in Foreign Affairs, Professor Mamdani made the case that government intervention and governmental control of assistance recipients prevent assistance from being an effective instrument for fostering growth. A liberal political system is, thus, crucial in helping promote growth and poverty reduction through assistance. In this study, Ovaska (2003) investigated the effects of aid on economic growth for 86 developing nations from 1975 to 1998 and found a negative correlation. Rajan and Subramanian (2005) likewise found no short- or medium-term beneficial benefits of help on economic growth, and they discovered a statistically significant negative association between help and growth in the long run. In their study, Doucouliagos and Paldam (2009) tracked down and identified 97 research that had been done on the aid-growth link by the end of 2004, and after putting them all together, conducted a meta-analysis of 68 papers, all of which came to the same conclusion: "Development aid was not successful after having been implemented for 40 years." This would require each neighborhood to apply for funding for improvement projects and work together to finance and carry out the improvements. In his study, which studied the effects of foreign aid on investment and economic growth in Ethiopia from 1970 to 2009, Dr. Tasew-T studied the association between several covariates and multivariate co-integration analysis. The empirical investment outcome from the aid-programs evaluation demonstrates that help has a strong long-term beneficial influence on investment. In contrast, instability in the flow of aid inhibits domestic capital growth. Economic growth may be boosted with the help of foreign aid. There has been a negative impact on growth due to the support interplay, which implies that poor policies might limit the efficacy of aid.

May just be a result of it having the incorrect variables. Although rainfall variability has a major negative influence on the economy's growth, the growth equation demonstrated that it also has a large influence on rainfall variability. The findings of his analysis suggest that the government does not have a problem with capacity restrictions regarding the amount of foreign aid flowing into the nation. According to Yohannes B (2011), by utilizing the Johansson maximum likelihood methodology, which was applied to the period of 1970/1 to 2008/9, it was possible to see the influence of foreign assistance on economic development and how foreign assistance is distributed (i.e. investment, import, and government consumption spending). The results of the cointegration test reveal that all of the variables in the models have a deep connection. His belief that aid's favorable and significant impact on GDP, in the long run, is due to its significant contributions to investment and imports. The flexible short-term model, on the other hand, contends that development aid should have a significant impact on growth and that this impact will be supported by a range of favorable monetary, fiscal, and trade policies. Another noteworthy effect is that, in the short term, assistance has a significant impact on government consumption spending.

Which shows the presence of assistance fungibility It is further supported by his findings, which corroborate the claim that there is a debt overhang problem in the Ethiopian economy. After considering the three gaps, he felt that aid may help stimulate growth by helping to close the gaps. Although it is clear that for aid fungibility and debt overhang, foreign aid has to be part of a well-developed national strategy, it must be emphasized that to ensure effective assistance distribution, the foreign aid must be connected to sound domestic policies. Haile Girma (2015, P6)

Since cross-country regression analyses are typically used in researching the influence of foreign aid on growth, there aren't many country-specific studies. With conflicting results thus far, study on this topic has proven inconclusive. Studying further in order to find the deficiencies in this area is vital. Another notable fact to remember in Ethiopia is that foreign assistance is on the rise, yet country-specific research has demonstrated that the long-term impact of foreign assistance on the economy is negative. Consider how Ethiopia's weak domestic capacity, a lack of capital goods creation, and restricted domestic funds all help to keep the Ethiopian development project impossible. This is to explain why a lot of foreign aid

is on the way. While external financing increased substantially in Africa, some empirical analyses conclude that the positive impact of aid on the long-term development potential of Africa has been negligible. Per the example, between 1970 and 1997, Sub-Saharan Africa's real per capita GDP was only 0.6%, despite a significant amount of help coming in. having a significant impact on the region (Gomanee et al, 2002). Do experts such as the World Bank (1998) and Burnside and Dollar (1997) believe that help works? This issue has been settled. It depends on the policies used. If aid is provided in a manner that works effectively, it will be efficient; but, if it is provided ineffectively, it will be inefficient, and no amount of money will matter. Some suggest that to an even greater extent, aid should be directed to countries with sound policies rather than to those who already have policies in place. In this way, the problems of assistance efficacy and aid selectivity are simultaneously addressed. From poet and translator (Fentaye Setargie: 2015)

2.3. Foreign Direct Investment

International trade theories built on comparative advantage and variations in factor endowments are used to explain FDI. In general, multinational corporations are drawn to certain countries by the country's comparative advantage. FDI is the process through which people from one nation (the source country) buy up assets from other countries (the host countries) in order to obtain new economic advantages elsewhere (in the countries where the host countries are located) (Morgan et al, 1997). It is also a process of transferring money, as well as a movement. A controlled subsidiary will get input from both financial and non-financial assets, including knowledge of management, technological advancements, as well as other tangible and intangible assets when it comes to other countries, portfolio managers have no say. Subsidiaries, FDIs have broad autonomy. A direct investment must be considered a foreign direct investment (FDI) if held at ten % or more of the firm's share or voting power. FDI options include: Greenfield investments, cross-border mergers, and acquisitions, and reinvested income. Investing in Greenfield is the construction of manufacturing assets in a new host nation for a brand new firm. In the majority of cases, investors receive funding from their own countries. Cross-border M&A deals with sales of local productive assets are referred to as international or cross-border M&A. Reinvested profit is the money that is not repatriated to the host nation but is instead reinvested (UNCTAD, 1998). The terms market-seeking FDI and market-seeking FDI

driven by market demand may also refer to the foreign direct investment that goes to local and regional markets, companies that are focused on international export, and government-led FDI (Accolley et al, 1997). Just like in the case of foreign direct investment, there are also three broad categories of foreign direct investment: a thorough investigation of market conditions in quest of new resources, as well as a search for ways to get more out of resources in order to maximize productivity (UNCTAD, 2007) In order to succeed in the global marketplace, a business must be able to interact with the outside market and foreign direct investment. The idea of internationalization states that internationalization (also known as cross-borderization) happens if interacting with the foreign market is inefficient (Harrison et al., 2000). Dunning (1993) studied Haymer's theory and found three factors, which he named the three criteria. He also noted that before engaging in cross-border activities, these three requirements must be satisfied. Owning, location and internalization all have benefits. Basu and Srinivasan (2002) and Morisset (2000) found that natural resources endowment is a major influencer on the attractiveness of the foreign direct investment. Even so, foreign direct investment inflows are beneficial when the overall economy, society, and politics are stable (Root and Ahmed, 1979, Asiedu 2002). Root and Ahmed reviewed a number of variables, such as the percentage of people living in urban areas, the level of modern infrastructure, GDP growth rate, and political stability, and found that countries that have received the most non-extractive direct foreign investment are those that are heavily urbanized, have the cutting-edge infrastructure, have a higher growth rate in GDP per capita, and are subject to political upheaval. Within the year 2021, in general, Debate rages about the effect of foreign direct investment on economic growth. Neoclassical economists, like Robert Solow, contend that only foreign direct investment (FDI) will increase if it has a lasting and good impact on technology. As a result, they argue that increased foreign direct investment leads to short-term economic growth only under three conditions: (1) The productivity of capital in the host economy decreases; (2 with that decrease, the economy moves to a steady-state, and (3) Increased FDI has no lasting impact on the economic growth of the host economy. The Endogenous Growth Theory states that foreign direct investment (FDI) has a major role in human capital formation, technology dissemination, innovative management practices, marketing expertise, and organizational improvements that contribute to long-term growth. Another facet of the new growth theory states that knowledge transfer through a foreign direct investment to emerging nations is crucial. A theoretical

relationship may be discovered between foreign direct investment and economic growth, according to the idea of modernization and dependence. FDI can increase capital accumulation and productivity through increases in total factor productivity (Mamun and Nath, 2005). In contrast, the dependence hypothesis argues that a nation's economic progress will be hindered if it depends on foreign investment. This is because foreign direct investment (FDI) gives rise to monopolies in the industrial sector, which results in indigenous resources being underutilized (Adams, 2009). Also, because of this, the economy is said to be mostly controlled by investors from other countries, and little growth occurs. This leads to poor growth in developing nations because of the low multiplier effect. It should have been Dejene Gizaw. Some growth theories propose that economic growth results from increases in investment, namely investment financed by domestic savings and foreign capital inflows, such as foreign direct investment. More recent studies reveal that Ethiopia's domestic resource mobilization and private capital inflow capabilities are far lower than international standards (EEA, 2007). This effectively demonstrated the necessity of foreign direct investment for overall economic prosperity. Studies have shown that foreign direct investment (FDI) in African nations has increased in the last two decades, particularly during the 1990s, including Ethiopia. Ms. Mulatie Chanie spoke.

The paper by Adewuni (2006) examines the impact of foreign direct investment on Africa's economic development. The data consists of time series for a panel of eleven nations spanning the decades of the 1970s to the early 2000s. Investing in foreign direct investment seems to be modest in most nations, but has a beneficial impact on overall growth. In addition, Anna (2007) focuses on China's experience with foreign direct investment from 1994 to 2003. Although foreign direct investment had a favorable impact on economic development, it had a negligible effect on growth. Despite the many studies on foreign direct investment in Ethiopia, few research topics have addressed the issues that foreign direct investment may have on the country's economic development. Empirical analysis shows that over the period 1970-2009, foreign direct investment and poverty are inversely correlated. The research used a VAR (variational autoregressive) model. Foreign direct investment thus slows down economic development, which contributes to poverty. Tibebu (2014) utilizes time-series data to assess the link between foreign direct investment (FDI) and domestic private investment (PII). The research claims that FDI (foreign direct investment) crowds out local private investment, and foreign direct investment (FDI) has no impact on the development of the economy. The research

claims that both foreign direct investment and local private investment increase in the long term thanks to growth. Asmelash (2015) does an in-depth analysis of foreign direct investment in Ethiopia over the period 1974/75 to 2013/14, utilizing a co-integrated VAR method. In order to gain an understanding of the various factors influencing the inflow of foreign direct investment in Ethiopia, the study took into consideration various factors Infrastructure development, domestic economic size, macroeconomic stability, human resource development, availability, and external debt are all factors to consider. Long-term economic characteristics According to the conclusions of the study, factors such as infrastructural development, domestic market size, human capital, openness, and external debt are all connected and statistically significant.

Show a positive relationship and statistical significance, while inflation does not. Statistically, over the near term, gross capital creation and inflation are negatively correlated. The correlation between GDP and FDI was determined to be positively significant. Investing in capital construction and foreign direct investment is associated with rising gross fixed capital formation, inflation, GDP, debt, and openness. Granger causes FDI but it does not induce FDI. (Betelhem Dessie, 2016, P27) Direct investments in a foreign nation may have a strong impact on the local economy since they help a country accumulate money and acquire new technology. An important benefit of foreign direct investment is that it immediately transfers knowledge and techniques as well as improves labor training and skill development. New management approaches and practices are also made possible. Foreign direct investment has a greater impact on the growth of a nation using a classical or endogenous growth model, but in the context of a new classical or endogenous development model, the effect of FDI on economic growth will be lower (Mohammed ND). Foreign direct investment is intended to assist the nation where it is implemented by aiding the country's ability to convert natural resources, providing more employment, improving the balance of payments, and transferring new expertise. Investing in direct foreign investment (FDI) gives companies the ability to get access to physical capital, the latest technology, management and marketing skills, the finest business practices in the world, and improved competitiveness. This resource may have the potential to be distributed to indigenous businesses, which may lead to higher productivity and creativity. Foreign direct investment (FDI) supports the local economy by directly generating new jobs and by indirectly boosting the local economy by increasing the number of purchases made by new employees. the many research studies that have explored the possibility of a causal connection between foreign

direct investment and the development of the local economy have all come to the same conclusion. There is a significant impact that foreign direct investment has had on many economies around the globe, therefore the government decides to expand the number of special economic zones. Additionally, foreign direct investment is believed to improve productivity and development in the country or region where it is established. Frank and Mei-chu (2006) investigate the Granger causality connection between GDP, export, and FDI in eight East and Southeast Asian countries across time series and panel data from 1986 to 2004 in a research article that they wrote in the aforementioned publication [3]. Both unidirectional and bidirectional effects result from FDI, since it both boosts GDP directly and indirectly by helping businesses sell their products elsewhere. However, comparable findings published by other researchers have shown that Odongo (2012) used a multivariate vector autoregressive model (VAR) and revealed that FDI led to additional employment in Uganda from 1970 to 2010. According to the study's results, it can be assumed that the country's economic development is greatly dependent on foreign direct investments. Direct investment has had a triple effect on GDP growth: First, by having an impact on GDP from direct investment to direct investment, and second, by leading to multipliers that lead to even more investment and more GDP. Finally, FDI contributes to an increase in exports, which results in export-led growth. The competition winners were Ahmed Kasim Dube and Burhan Özkan, 2018.

2.4. Summary

Over the last several decades, it has been widely accepted that help may also have a significant impact on the development of a country's economy. Even so, for whatever econometric methodologies employed, whether or not other variables are included, the nations under study's phases of development, and the length of time over which analysis is done, the evidence of these researches remains in question at this time. Due to the unclear and inconsistent results of the research on the interaction between aid and development, the concept of foreign aid in the growth process of developing countries has become one of the most controversial issues. Since its beginning, the debate on foreign aid and economic growth has been a major point of interest for economists. This issue has drawn researchers to the field for decades, and several studies have been carried out by economists.

CHAPTER THREE

RESEARCH METHODOLOGY

A methodology is a set of principles or a strategy for resolving a research problem. To accomplish the objectives, the researcher must choose from a several methodologies models, and research techniques. The data used in this study comes from the World Bank database and the Statistical, Economic, and Social Research and Training Centre for Islamic Countries (SESRIC) across a 30-year period (1981-2018), which is referred to as the sample period. It was decided to utilize ordinary least squares (OLS) regression to create correlations between three independent variables and real GDP as the dependent variable, which was used to quantify economic growth and measure to economic growth. The factors of economic growth were estimated using an economic technique, which was used in this study. It was decided to use the OLS technique to acquire numerical estimates of the coefficients in the econometric equation based on its optimal properties:

In addition to having the best linear unbiased estimator (BLUE) features, its computing technique is rather straightforward.

In this chapter, you will learn how to collect data, why you chose this method of obtaining data, how to analyze sets of data, and how to address any additional questions you may have about data collection and analysis. The previous researcher has supplied effective methods for collecting and analyzing data, which allows the researcher to quickly choose and make decisions in the most appropriate position, which may result in the preparation of a powerful answer to the research issue in the future. The following subtopics will be discussed in addition to the research design: data gathering methods, data processing methods, and methods of data analysis.

3.1 Research Design

The purpose of this research is to investigate the relationship between the explained variable, which is economic growth, and the explanatory factors, which are external debt, foreign aid, and foreign direct investment.

3.2 Population of the study

The population is the entire number or the group of possible units for observation (Zikmund et al 2013.). the population is a total number of your research individual from which the sample may be drawn (MO, 1990, P.33). Therefore, here the researcher has selected a sample of 38 years' time-series data from 1981 to 2018 in Ethiopia Economic Data source from World Bank.

3.3 Data Collection Method

A "time series" is a collection of data that is gathered on an annual, semiannual, quarterly, or monthly basis. We'll examine Ethiopia between 1981 and 2018 using a time series of data we've collected. Data obtained are all secondary information. Using this type of data can help researchers save time while still producing high-quality work on time. The World Bank's exact and complete data, which academics may easily obtain, reduces the costs of secondary data collecting. It is merely a handful of the variables that the researcher is keeping track of in the World Bank database that will influence Ethiopia's, GDP. The GDP has typically been used as a metric of economic growth, although this is changing. In other words, the quantitative study is complete, which indicates that all the data has been collected.

3.4 Data Processing

| Obtain the data | → | Key the data into Excel format | → | Import data to EViews | → | Identify and interpret the finding |
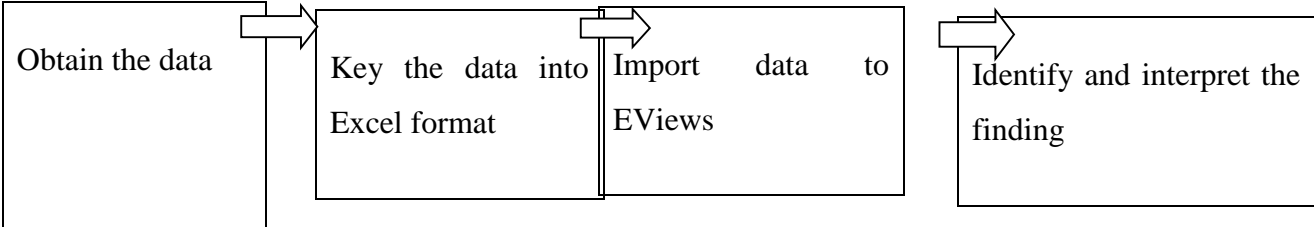
Data processing necessitates several of stages. The first step is to collect the data from the World Bank that the researcher needs. Using E-views, a well-known econometric program, researchers may then estimate time-series data by entering the data into Excel.

3.5 E-Views

E-views is utilized to characterize the econometric examination for instance time series investigation, cross-sectional examination, board information examination, and gauging. he E-Perspectives concerned the use of accounting page and data set advancements with measurable programming. What's more, it helps in supporting undocumented document design for information stockpiling. As proposed by (Schwert, 2010), the information can be fast fosters a measurable connection and it likewise can be utilized to foresee the future upsides of information by utilizing the E-views

As indicated by Startz (2009), E-views is utilized to gauge both basic relapses and various relapses. Additionally, the specialist utilized E-views for the analytic checking. Later run the test the specialist can know have multicollinearity, autocorrelation, and heteroscedasticity issue emerged or not.

What's more, specialists direct model particular tests to analyze the model is accurately indicated or inaccurately determined. The analyst likewise runs the ordinariness test to know whether the mistake term is typically disseminated by utilizing the E-views.

3.5.1 Data Analysis

In this study, the econometric analysis is carried out and tested using Electronic Views (E-views).

3.5.2 Unit root test

Before estimating the equation, the variables are tested for stationarity in the time series to avoid the problem of false regression. If the data series are differentiated and found to be stationary, they can be integrated into one or greater order, otherwise, there is a non-stationary series. Unit root tests are evaluated using enhanced Dickey-Fuller and Phillip-Perron tests, which are based on the null hypothesis of non-stationarity and failure to reject zero, meaning rejection and the need for appropriate differences to induce stationary.

3.5.3 Granger Causality Test

Granger causality is the most effective way for determining and searching causation between two variables in a time series data set. This method is a probabilistic description of causation relationships that employs empirical data sets to determine the form or design of correlations.

3.5.4 Cointegration test

Multiple linear regression models, according to Gujarati and Porter (2009) have more than two explanatory variables (Xi) in relation to a single explained variable (Y). If there are two or more explanatory variables, we have a dependent variable (Y) (Xi). An independent variable's relationship to a dependent variable may be predicted by using the function.

Furthermore, the researcher has used a multiple linear regressions model for their study. The researcher included three independent variables to explain GDP in Ethiopia, while the explanatory variables are external debt, foreign aid, and foreign direct investment. The multiple linear regression model formed below:

$$GDP = \beta 0 + \beta 1 EDt + \beta 2 FAt + \beta 3 FDIt + \varepsilon$$

Where GDP stands for economic growth which is the dependent variable of this model, β0 is Intercept which means if we hold other independent variables zero The Economic Growth will remain β0.

EXD, FI, and FDI stand for external debt, foreign aid, and foreign direct investment of Ethiopia respectively, while all β1, β2, and β3 are slopes coefficients of the Independent

Variables such as EXD, FI, and FDI, and ε is an Error term which that stands for other factors that are outside of the models and can have an influence in the model while t is the lag of time series data. There should be no link between the independent variables and this assumption of the parameter (β) in the model, and the model should be in linear form. This is due to the fact because there is a link between independent variables, a multicollinearity problem will occur, causing the findings to be skewed. The researcher, on the other hand, uses the

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variance inflation factor (VIF) to determine whether or not they have multicollinearity in their data.

3.5.6 T-test Statistic

Likewise, the T-test for theory testing and statistics is regarded as one of the Factual Information Investigation techniques. It puts two logical instances to the test of various.

(Lucey, 2002). statistics of the T-test have occurred by some coincidence. Other than that, the example populaces are expected to have identical fluctuations and have an ordinary appropriation.

As per Lucey (2002), span or proportion information is needed in the T-test Statistic in terms if information assortment. In particular, the measurements T-test investigates the information gathered by utilizing the t-test via deciding a P-esteem that shows the probability that individuals will get the outcome by some coincidence. Henceforth, the scientists will dismiss invalid speculations when the P-worth of the T-test falls underneath 0.01, 0.05, or 0.1, and the reason that autonomous the variable and ward variable are fundamentally related

3.5.7 F-test Statistic

F-test Statistics is one of the factual tests to quantify the entire meaning of relapse. Under the flawed hypothesis, there is an F-conveyance of the measurement of the test. Models with more than three borders are subject to F-test measurements. Generally speaking, it is reasonable to compare factual models since the models fit their informational gathering in the process of selecting the best-fit model for the general population. A key component of the f-test statistical analysis is the determination of the value of likelihood, which illustrates the probability that one may achieve the desired outcome in a favorable situation.

According to this method, analysts will take into account the elective guesses and show that the endogenous variable may be completely clarified by using the full model. 0.01, 0.05, or 0.10 there is a good chance that the endogenous variable can be fully explained by the complete model if the probability is less than 0.01, 0.05, or 0.10.

3.5.8 Diagnostic test

Because of the possibility that the model has an econometric flaw, the researcher employs a variety of hypothesis testing techniques. Check that the model is devoid of multicollinearity, autocorrelation, and heteroscedasticity issues first. In addition, researchers must conduct a model formulation and normalcy test.

3.5.9 Model Specification and Normality test

It's important to note that the phrase "model determination mistake" refers to a model that was successfully predicted in light of the possibility of heteroscedasticity and autocorrelation. To guarantee that a model is correct or a good model, scientists must choose the most important informational variables to include in the model. The free factor, on the other hand, has no correlation with the error term. In addition, the scientist must select the right sort of components. It's important to note that the assessed border respect is steady.

There are three kinds of model detail mistakes which is overlooking a significant autonomous variable that assumes a significance part in the assurance of the ward variable. Also, model detail blunder happens while including a pointless, superfluous, or non-expansion autonomous variable. At the point when the specialist incorrectly determines a model, the issue may be emerging. Gujarati and Watchman (2009) that a model determination mistake happens if there does not include any linked variables or does so with an ellipsis on a related variable A model detail error is, in the end, selecting the wrong utilitarian style of clarity and logic. The Ramsey RESET test can be used by the expert to identify a mistake in the model detail. A design flaw, as stated by Ramsey (1969) indicates that autocorrelation and heteroscedasticity concerns cannot be addressed if the result of the Ramsey Reset test confirms that there is one. To fix the problem, the analyst will need to alter the model.

3.5.10 Multicollinearity

Multicollinearity emerges when there was a few or each of the logical factors that are profoundly related to with each other. If that it is available, the relapse model experiences issues telling which illustrative factors are impacting the reliant factors. There were five viable results of multicollinearity which are huge differences and covariance of OLS

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assessors, more extensive certainty span, immaterial t proportion, a high R-squared however scarcely but any huge proportion, and affectability of OLS assessors and their standard blunder to little changes in information. The multicollinearity issue might cause an impact on the relapse model. In the event that there is any connection between the clarified variable and logical factors it might cause the analyst to empower decipher the outcome accurately because it might have an inverse sign to the real relationship.

Subsequently, to recognize multicollinearity issues, there are a few strategies to apply, for example, by assessing a low r2 esteem, notice and anticipate this by noticing and investigating the unwavering quality of the T-test, change expansion factor (VIF) and resilience (TOL). Assuming the VIF of a variable surpasses 10, the variable is said to be exceptionally collinear. Also, assuming the TOL is more like zero, the level of collinearity of that variable with other illustrative will be more prominent as well as the other way around (Gujarati and Watchman). (2009).

3.5.10.1 Heteroscedasticity

Scientists do the heteroscedasticity test to test for the steady difference of mistake idiom. Scientists use the Breusch-agnostic Godfrey test to decide the heteroscedasticity issue in this examination. Gujarati and Watchman (2009) despite of that when heteroscedasticity issue emerges in a model which is have mistaken locution that has an irregular difference. There may be bigger fluctuation while amounts of several informative factors offer bigger or more modest. In the way, heteroscedasticity issue in the model will no more have the least differences and cause a mistaken outcome. Assuming heteroscedasticity emerges in the model, it will be hard to tackle the issue.

3.5.10.2 Autocorrelation

As indicated by Gujarati and Doorman (2020) autocorrelation alludes to connection in blunder term among part of perception request in interval or space. In this exploration, analysts utilize time-series information and may starting point relationship among aggravation terms. On the other hand, autocorrelation likewise may happen when scientists incorporate such a large number of immaterial factors or overlooked some significant factors

from the model. Specialists may get an inclination result when autocorrelation happens in the model. The Breusch-Godfrey Sequential Relationship LM Test will then check for autocorrelation.

3.6 Quality control
3.6.1 Validity

Validity is the quality of the test doing what is designed to do, so the researcher an econometric and statically model that checked the data validity before any steps.

3.6.2 Reliability

The reliability of the research instruments is the degree to which the research instrument will give the same result under similar conditions. Therefore, in this study, the researcher was used secondary data that most reliable in the research field.

3.7 Ethical considerations

This study was fully conducted ethically and all copyrights were observed where permission was required reproducing materials will have been The data used in this study was received from the World Bank database and the data is free from any underestimation and over estimation.

3.8 Limitation of the study

It is difficult how to obtain correct data that concerns the variables you want, also time May data faces many econometrics problems

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

The data analysis was given in this chapter. Following the collection of empirical data, this researcher used multiple linear regression to identify which independent factors had a substantial impact on economic development. In addition, the diagnostics checks, which include tests for normality, multicollinearity, autocorrelation, heteroscedasticity, and model specification, have been applied to the empirical results of ordinary least squares.

Also include this chapter unit root test, VAR Granger causality, and cointegration Test by using E-views 12 student version

4.1-Unit root test

A unit roots test is used in statistics to determine if a time series variable is non-stationary and has a unit root. The null hypothesis is defined as the existence of a unit root, while the alternative hypothesis is defined as a sationary, trend stagnant, or explosive root, depending on the test employed. As a result, this part will determine whether or not there is a unit root cause issue.

Table 4.1 Summarizing Unit Root Test at 95%

Variables	Test for unit root in	Test critical Values at5%	t-Statistic	p- value	Remark
GDP	Level	-2.9943427	5.031244	1.0000	Nonstationary
FDI	Level	-2.9943427	-2.026500	0.2747	Nonstationary

EXD	Level	-2.9943427	-1.387819	0.5777	Nonstationary
FI	Level	-2.9943427	0.833625	0.9933	Nonstationary
GDP	1stdifference	-2.945842	-3.750546	0.0318	Stationary
FDI	1stdifference	-2.945842	-7.265575	0.0000	Stationary
EXD	1stdifference	-2.945842	-5.03981	0.0002	Stationary
FI	1stdifference	-2.945842	-5.896836	0.0000	Stationary

Source: Own Computation Using Eviews 12.

Hypothesis

H0: there is a unit root (time series is non-stationary)

H1: There is no a unit root problem (time series is stationary)

Decision rule

If the computed $|\tau|$ does not exceed the absolute critical value, the null hypothesis is accepted in which instance the time series is nonstationary otherwise, to reject it in which case the time series is stationary.

Conclusion

Since ADF at the level computed |τ| of each variable of GDP, FDI, EXD, and FI doesn't exceed the absolute critical tau value at 5% as shown the table 4.1, we have no reason to reject the null hypothesis therefore the variables of GDP, FDI, EXD and FI are non-stationary at level but are stationary at the 1st difference because ADF at 1st difference computed |τ| of each variable of GDP, FDI, EXD and FI are higher than the absolute analytical tau value at 5%. So that our model is Cleary free from any unit root problems all variables of GDP, FDI, EXD, and FI were stationary at 1^{s}differenced.

4.2 Granger causality test

Table 4.2.1 Granger Causality/Block Exogeneity Wald Tests

Dependent variable: GDP

Excluded	Chi-sq	df	Prob.
FDI	47.46994	12	0.0000
All	47.46994	12	0.0000

Dependent variable: FDI

Excluded	Chi-sq	df	Prob.
GDP	37.11669	12	0.0002
All	37.11669	12	0.0002

Source: Own Computation Using Eviews12.

Hypothesis

H0: there is no causal relationship between FDI and GDP.

H1: there is a causal relationship between FDI and GDP.

Conclusion

Since the probability value in the 4.2.1 is 0.0000, 0.0002 which is less than 0.05 a level of significance the null hypothesis is rejected so we can conclude that FDI and GDP have bidirectional causality

Table 4.2.2 Granger Causality/Block Exogeneity Wald Tests

Dependent variable: GDP

Excluded	Chi-sq	df	Prob.
EXD	15.36997	12	0.2218
All	15.36997	12	0.2218

Dependent variable: EXD

Excluded	Chi-sq	df	Prob.
GDP	30.83951	12	0.0021
All	30.83951	12	0.0021

Source: Own Computation Using Eviews12.

Hypothesis

H0: there is no causal relationship between EXD and GDP.

H1: there is a causal relationship between EXD and GDP.

Conclusion

Since the probability value in 4.2.2 is 0.0021, 0.2218 which is less than 0.05 at the level of significance we have no reason accept so we can conclude that EXD and GDP have unidirectional causality because the second probability which is 0.2218 is greater than 0.05.

Table 4.2.3 Granger Causality/Block Exogeneity Wald Tests

Dependent variable: GDP

Excluded	Chi-sq	df	Prob.
FI	128.4318	12	0.0000
All	128.4318	12	0.0000

Dependent variable: FI

Excluded	Chi-sq	df	Prob.
GDP	79.69473	12	0.0000
All	79.69473	12	0.0000

Source: Own Computation Using Eviews12.

Hypothesis

H0: there is no causal relationship between FI and GDP.

H1: there is a causal relationship between FI and GDP.

Conclusion

Since the probability value in 4.2.3 is 0.0000, 0.0000 which is less than 0.05 at the level of significance we have no reason to accepted Ho. so, we can conclude that FI and GDP have bidirectional causality.

4.3 johnson cointegration test

Hypothesis:

H0: There is no cointegration equation.

H1: There is at list one cointegration equation

Table 4.3 Cointegration Test

Unrestricted Cointegration Rank Test (Trace)

Hypothesized. No. of CE(s).	Eigenvalue	Trace. Statistic.	0.05 Critical value.	Prob.
None	0.803238.	98.95023.	47.85613.	0.0000
At most 1.	0.603596.	45.30011.	29.79707.	0.0004
At most 2.	0.311546.	14.76447.	15.49471.	0.0642
At most 3.	0.071422.	2.445336.	3.841465.	0.1179
Trace test indicates 4 cointegrating eqn(s) at the 0.05 level * denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values | | | | |

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized. No. of CE(s).	Eigenvalue	Max-e Statistic.	0.05 Critical value.	Prob.
None	0.803238.	53.65013	27.58434	0.0000
At most 1.	0.603596.	30.53564	21.13162	0.0018
At most 2.	0.311546.	12.31913	14.26460	0.0992
At most 3.	0.071422.	2.445336.	3.841465.	0.1179
Trace test indicates 4 cointegrating eqn(s) at the 0.05 level * denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values | | | | |

Source: Own Computation Using Eviews 12.

Conclusion

We have no reason to accept H0 since the level of significance t-statistics, 0.000, 0.0000, of Trac and Maxeigen value tests are less the critical value, so, we can conclude there is at least one Cointegration between GDP, FDI, EXD, and FI variables. That means they are moving to gather.

4.4 Multiple- Linear Regression

Table 4.4 Multi-linear regression

Dependent Variable: GDP

GDP Method: Least Squares

Date: 10/07/21 Time: 15:38

Sample: 1981 2018

Included observations: 38

Variable	Coefficient	std. Error	t-Statistic	Prob.
C	0.498889	0.752694	11.29130	0.0000
FDI	0.594607	0.337524	1.761674	0.0985
EXD	-0.052923	0.012008	-4.407407	0.0005
FI	0.006694	0.001257	5.325344	0.0001

R-squared	0.999016	Mean dependent var	22.09237
Adjusted R-squared	0.997572	S.D. dependent var	22.49083
S.E. of regression	1.108225	Akaike info criterion	3.324387
Sum squared resid	18.42244	Schwarz criterion	4.315557
Log likelihood	-40.16335	Hannan-Quinn criter.	3.677038
F-statistic	692.0008	Durbin-Watson stat	1.616325
Prob(F-statistic)	0.000000		

Source: Own Computation Using Eviews 12.

The multiple coefficients of resolution R-squared stand for the percentage or proportion of variations in the gross domestic product (GDP) explained by the three independent variables (Foreign direct investment, external debt, and foreign aid) jointly. Therefore as shown in the above table, the multiple coefficients of determination, are 0.999016 which is approximately 99.9%. The result implies on average about 99.9% of variations in Ethiopia's economic growth are explained by the changes of these three independent variables (foreign direct investment, external debt, and foreign aid) jointly. While about 0.1% of the variations in

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Ethiopia's economic growth are explained by other remaining independent variables. The unexplained variations are explained by other external factors not included in the model and the reason is common in many time series data to find that predictor variables have a weaker or modern effect on regresses. So that the variables of foreign direct investment, external debt foreign aid are fit in this model. The result also shows that there is a positive relationship between foreign direct investment and Ethiopia economic growth. According to the result of table 4.4 the estimated partial coefficient of FDI,) is about USD 0.594607. so, it can be said that if Foreign direct investment in Ethiopia increased by one, say by 1 dollar and the influences of the other explanatory factors such as foreign direct investment, external debt, and foreign aid held constant, on average Ethiopia's economic growth will increase by 0.594607 dollars. In addition, there is a negative relationship between the external debt of Ethiopia and Ethiopia's economic growth, the estimated partial coefficient of external debt (EXD) is USD 0.052923 which means that if the External debt of Ethiopia increased by one, say by 1 dollar and effects of the other independent factors such as foreign direct investment and foreign aid held constant, on average Ethiopia economic growth will decrease by -0.052923USD Also the result from the table 4.4 shows that there is a positive relationship between foreign aid of Ethiopia and Ethiopia's economic growth so that the estimated partial coefficient of foreign aid (FI) is USD 0.06694. so it can be said that if foreign direct aid to Ethiopia increased by one, say by 1 dollar and the impacts of other explanatory factors such as foreign direct investment and external debt held constant, on average Ethiopia economic growth will increase by 0.006694 USD. The Intercept value of the multiple regression model is about 8.498889 which is positive in number which is that the values of these independent variables (foreign direct investment, external debt foreign aid) were fixed at zero, on the average level of Ethiopia's economic growth would be 8.498889

4.4.1 T-statistic test

In this study, a T-test will be used to determine whether the explanatory variables are significant to the explained variable, assuming the model is normally distributed at = 0.05.

Hypothesis 1:

H0: $\beta1 = 0$ (FDI is not significant)

H1: β1 ≠ 0 (FDI is significant)

Decision rules:

We have no reason to reject the null hypothesis (H0) which is foreign direct investment is insignificance in Ethiopia economic growth if the probability value for the T-test is greater than 0.05. Otherwise, the null hypothesis is rejected (H0).

Conclusion

Since the P-value of foreign direct investment (FDI) in table 4.4 is 0.0985 which is greater than 0.05 We have no reason to reject H0, therefore we accepted that foreign direct investment (FDI) has no notable impact on Ethiopia economic growth that there is very great evidence to conclude that the FDI is insignificant on Ethiopia's economic growth at 5% significant level.

Hypothesis2:

H0: β2 = 0 (EXD is not significant)

H1: β2 ≠ 0 (EXD is significant)

Decision rules:

We accept the null hypothesis (H0) which is EXD is insignificance in Ethiopia's economic growth if the probability value for the T-test is greater than 0.05. Otherwise, we reject the null hypothesis (H0).

Conclusion

Since the P-value of EXD in table 4.4 is almost about 0.0005 which is less than 0.05 we have no reason to accept H0, therefore we accepted that EXD has a positive significant impact on Ethiopia's economic growth. So that there is very great evidence to conclude that the EXD is significant to ethiopia's economic growth at a 5% significance level.

Hypothesis3:

H0: β3 = 0 (FI is not significant)

H1: β3 ≠ 0 (FI is significant)

Decision rules:

If the probability value for the T-test is larger than 0.05, it is not possible to reject the null hypothesis (H0), which states that FI does not affect on Ethiopia's economic growth. If this is the case, we must reject the null hypothesis (H0).

Conclusion

Since the P-value of (FI) in table 4.4 is 0.0001 which is less than 0.05 we have no reason to accept H0, therefore we obtain that (FI) has a significant impact on Ethiopia's economic growth. So that there is very great evidence to conclude that the FI is significant to ethiopia's economic growth at a 5% significant level.

4.4. 2 F-statistics

Hypothesis4:

H0: β1 = β2 = β3 = 0 (no linear relationship)

H1: β2= β3 = β4 ≠0 (there is linear relationship).

Decision rule

We admit the null hypothesis H0 if the value of probability for the F-test is greater than 0.05. Otherwise, we will refuse the null hypothesis (H0).

Conclusion

Since the probability value of the F-test which stands for overall variables in the multiple regressions model is all about 0.000000 which is less than the level of significance at

5%, Acquirement to reject the null hypothesis (H0). So that we can conclude that jointly the three independent variables (FDI, EXD, FI) are statically and economically significant at α= 5%.

4.5 Diagnostic of the econometric problems
4.5.1 Normality test

In this section, the researcher investigated if there is normal distribution in our data. Normality tests are used to determine if a data set is well-modeled by a normal distribution and to compute how likely it is for a random variable underlying the data set to be normally distributed.

Hypothesis:

H0: Error term is normally distributed.

H1: Error term is not normally distributed.

Decision rule

In this case, we accept the null hypothesis Ho if the P-value for JB-stats is larger than 0.05. If the P-value for JB-stats is less than 0.05, the acquisition will reject H1 if the error term is not normally distributed (Brooks, 2008).

Series: Residuals	
Sample 1981 2018	
Observations 38	
Mean	-5.61e-16
Median	1.524201
Maximum	24.26769
Minimum	-16.89512
Std. Dev.	10.43629
Skewness	0.157962
Kurtosis	2.557657
Jarque-Bera	0.467835
Probability	0.791427
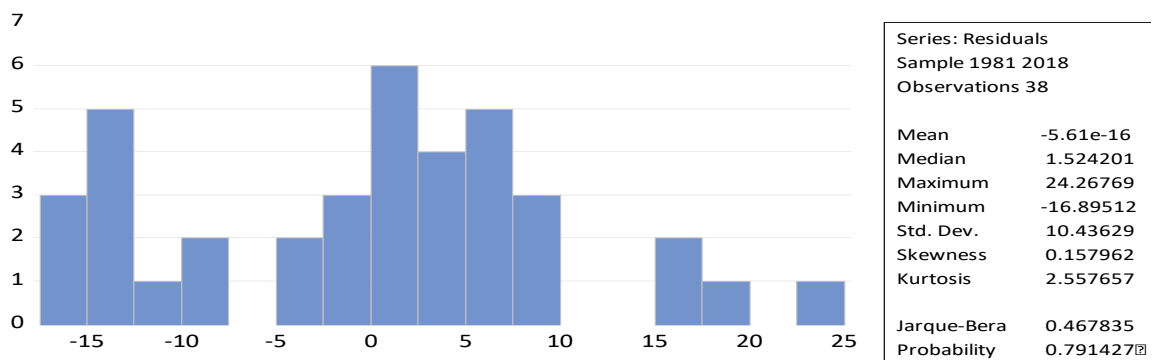
Source: Own Computation Using Eviews 12.

Conclusion

In the figure (diagnostic test for normality of residual), it can be seen that the P-value associated with the Jarque-Bera normality test probability value (0.7914) is significantly higher than the traditional significance threshold (0.05). It is thus impossible to reject the null hypothesis, which claims that the residuals are normally distributed. Thus, the model is unaffected by the normalcy issue.

4.5.2 Heteroscedasticity test Hypothesis:

Ho: Heteroscedasticity problem does not exist.

H1: Heteroscedasticity problem exists.

Decision rule:

There is no reason to reject Ho if Prob. Chi-Square more than 0.05, specify that there is no heteroscedasticity problem. Otherwise, Acquirement to reject Ho if Prob. Chi-Square less than 0.05, indicating that there is a heteroscedasticity problem (Spanos, 1986).

Table 4.5.2: Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.449420	Prob. F(17,20).	0.9495
Obs*R-squared	10.50376	Prob. Chi-Square(17)	0.8812
Scaled explained SS	3.640049	Prob. Chi-Square(17)	0.9997

Source: Own Computation Using Eviews 12.

Conclusion

The null hypothesis of no heteroscedasticity fails to be rejected at a 5% significant level, as shown in Table 4.5.2, because the P-value associated with the Breusch-

Pagan-Godfrey heteroscedasticity test (0.9495) is greater than the standard significance level (> 0.05).

4.5.3 Autocorrelation test

Hypothesis:

Ho: There is no autocorrelation problem.

H1: There is an autocorrelation problem.

Decision rule:

We admit the null hypothesis Ho if P-value of the Chi-squared more than 0.05, indicating that there is no autocorrelation problem. Otherwise, we refuse H1 if P-value of the Chi-squared more than 0.05, indicating that there is an autocorrelation problem (Stock & Watson, 2006).

Table 4.5.3: summarizing Breusch-Godfrey Serial Correlation LM Test

F-statistc	2.475254	Prob. F(2,31	0.1006
Obs*R-squared	5.095027	Prob. Chi-Square (2)	0.0783

Source: Own Computation Using Eviews 12.

Conclusion

Using the Brush and Godfray LM test, the null hypothesis of no serial correlation (p-value 0.1006 > 0.05) was rejected since the p-value is more than the conventional significant level.

4.5.4 Multicolinearity test

Hypothesis:

H1: Multicollinearity problem does not exist.

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H0: Multicollinearity problem exist.

Decision rule:

We admit the null hypothesis H0 if VIF less than 10, indicating that there is no serious multicollinearity problem. Otherwise Acquirement to reject if VIF more than 10, indicating that there is a serious multicollinearity problem (Baum, 2006).

Table 4.5.4: Variance Inflation Factor (VIF) Analysis

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	38.54676	12.35824	NA
FDI	1.232617	2.535796	1.400075
EXD	0.003896	6.232560.	1.659425
FI	3.63E-06	5.893823	2.154889

Source: Own Computation Using Eviews 12.

Conclusion

Since the VIF for each independent variable is not greater than 10 as a thumb of rule, there is sufficent evidence to indicate that no serious multicollinearity distrust among independent variables at the significance level of 0.05.

4.5.5 Model Specification Test

Hypothesis:

Ho: The model is correctly specified.

Ho: The model is not correctly specified.

Decision rule:

Ho is valid to accept if P-value of F-stat more than 0.05, indicating that the model is correctly identify. Otherwise Acquirement to reject if P-value of F-stat less than 0.05, designate that the model is not correctly specified (Gujarati & Porter, 2009).

Table 4.5.5: Ramsey RESET Test

	Value	df	Probability
T-statistic	0.434712	19	0.6687
F-statistic	0.188975	(1, 19)	0.6687
Likelihood ratio	0.376083	1	0.5397

Source: Own Computation Using Eviews 12.

Conclusion

Since the probability value of the F-statistic is 0.6687 which is more than 0.05. Hence, we have enough evidence to conclude that the model is correctly specified at the significance level of 0.05.

4.6 Major Findings and Discussions

The period from 1981to 2018 was covered. When the modified R-square of the model was 0.997572, or 99 percent, it was clear that the model was well-fitting the data; the complete variation in the observed behavior of GDP is jointly explained by the variation in FI, FDI, and EXD to up to 99 percent of its variance. The stochastic error term is responsible for the remaining 7 percent of the total. The F-statistic was employed to determine the overall significance of the model. The t-statistics of the various variables were used to determine the statistical significance of the parameters on an individual basis, as previously stated. FDI is the

sole variable that does not have a significant probability value, which was generated automatically by the E-Views software during the computation process. EXD and FI, on the other hand, have significant probability values. As a result, one of the most notable findings of this study is the existence of statistically significant correlations between EXD and FI and economic growth in Ethiopia.

The role of foreign direct investment (FDI) in the growth process of any economy has long been a source of heated discussion. Foreign direct investment (FDI) is a significant topic because of the implications it has for poverty reduction in recipient countries with sound economic systems. Three different explanatory factors were used in this study to examine the impact of determinants of economic growth in Ethiopia. The results were presented in a table. A time-series analysis was performed on the data, and the OLS estimation method was used to estimate the parameters. The data were collected from 1981 to 2018. The ADF test was used as the root of the unit root tests. The research provides evidence that the three factors of economic growth have positive effects on the economy. However, in the case of Ethiopia, only EXD and FI are expected to have an impact on economic development.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

In this chapter, the researcher focused on conclusion and recommendation of the research he conducted. section 5.1 presented the conclusions of the research, section 5.2 presented the recommendations of the researcher, and the results of the study were based on the findings of chapter four. And section 5.3 presented Practical Limitations & Further Research.

5.1 Conclusions

The GDP, foreign direct investments, external debt, and foreign aid were examined in this study using annual data from 1981 to 2018. A unit root was found in the variables studied at the level, while the variables remained stationary at the 1stdifference level. There are long-term equilibrium relationships between these variables based on the cointegration test study. Finally, we can deduce from the VAR Granger causality test that foreign direct investment and external debt have a bidirectional causal link with GDP, whereas foreign aid has a unidirectional causal relationship with GDP.

5.2 Recommendations

- It is imperative the Ethiopian government must build strong institutions and avoid relying on foreign help by establishing well-structured domestic resource mobilization programs as well as adequate engagement with the donor community.
- Effective debt management as a major policy priority should be implemented by the country to reap the benefits of external financing without creating difficult challenges for macroeconomic and balance of payment stability.
- The government must also put in place an effective monitoring and assessment system to ensure that foreign investors are using the incentives they receive. Government policymakers are also expected to devise policies that can make internal enterprises competitive enough to lessen the market sealing effect of foreign direct investment.
- The country's economic strategy should focus more on structural reform and industrialization rather than significant agricultural dependence.

As a result, when a drought occurs, foreign money is diverted to individual consumption instead of the intended objective of alleviating poverty.

- To lessen the country's dependence on imports, the government should diversify the country's export base and encourage industrialization. Government officials in charge of the monetary system should also take steps to slow the rate of inflation in the economy.

5.3. Practical Limitations & Further Research

However, as is typical for studies in underdeveloped nations, there were quality issues and data shortages on some of the most important variables that went into constructing the growth model. Even though the researcher was forced to rely on expensive international sources such as the World Bank and the International Monetary Fund (IMF) in an attempt to extend the data to 2019 or beyond, this attempt was ultimately unsuccessful.

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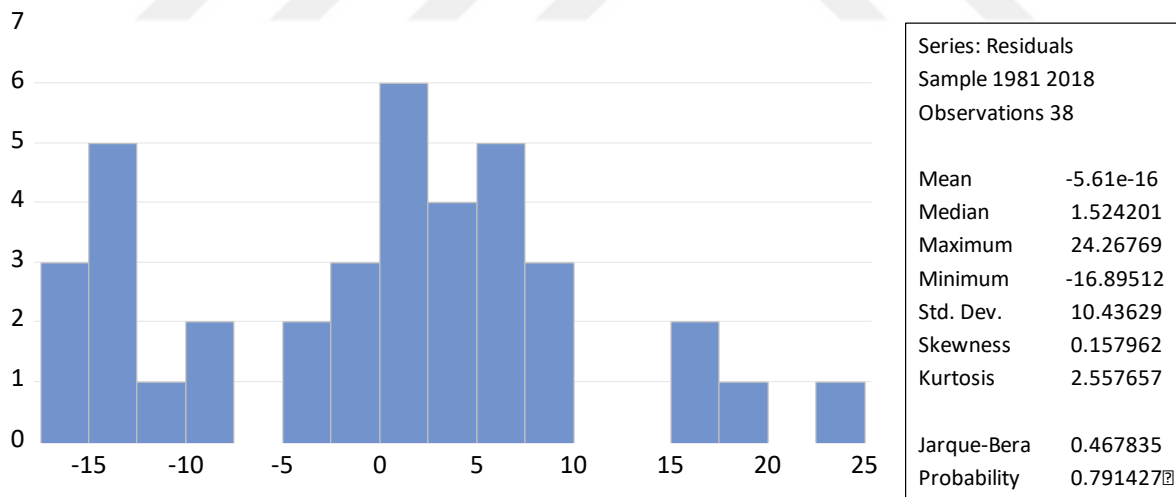
APPENDICES

Appendix A: Table 4: Unit Root Tests

ariables	est for unit root in	est critical alues at5%	-Statistic	- value	emark
DP	Level	2.9943427	.031244	.0000	Nonstationary
DI	Level	2.9943427	2.026500	.2747	Nonstationary
XD	Level	2.9943427	1.387819	.5777	Nonstationary
I	Level	2.9943427	.833625	.9933	Nonstationary
DP	1stdifference	2.945842	3.750546	.0318	Stationary

		1				S
DI	stdifference	2.945842	7.265575	.0000	tationary	
XD	stdifference	1 2.945842	5.03981	.0002	tationary	S
I	stdifference	1 2.945842	5.896836	.0000	tationary	S

Appendix B: Normality test

Series: Residuals	
Sample 1981 2018	
Observations 38	
Mean	-5.61e-16
Median	1.524201
Maximum	24.26769
Minimum	-16.89512
Std. Dev.	10.43629
Skewness	0.157962
Kurtosis	2.557657
Jarque-Bera	0.467835
Probability	0.791427

Appendix C: Serial correlation tests

F-statistic	2.475254	Prob. F $_{(2,31)}$	0.1006
Obs*R-squared	5.095027	Prob. Chi-Square $_{(2)}$	0.0783

Appendix D: Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	0.449420	Prob. F(17,20)	0.9495
Obs*R-squared	10.50376	Prob. Chi-Square(17)	0.8812
Scaled explained SS	3.640049	Prob. Chi-Square(17)	0.9997