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Standard Gravity Inversion Modeling FDI Per Capita GDP in the Ethiopian economy Environment from 1998 to 2017

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ARTICLE INFO

Article history

Received: 20 March 2019

Accepted: 16 June 2019

Published Online: 19 July 2019

Keywords:

Foreign direct investment

Economic growth

Ethiopian economy

ABSTRACT

The reality of FDI in the Ethiopian economy environment as well as the standard and analytical modeling of the reflection of this type of investment on the economic growth during the period (1998-2017) based on the hypothesis that the policy of attracting foreign investments in the Ethiopian economy has a positive effect in general And per capita GDP in particular. The analytical and standard study concluded with a number of results, including: (1) The Ethiopian economy's qualitative leap coincided with the entry of foreign direct investment into Ethiopia until Ethiopia reached Africa's fastest growing economy in return for the second most attractive country for foreign investment in the world after Angola in 2016. (2) The strength of foreign direct investment (FDI) has been reflected in the size of the GDP, but it has not been reflected in the level required for the welfare of the Ethiopian individual. (3) The standard study indicates that there is a direct correlation between FDI and GDP per capita, meaning that any increase in the volume of FDI in the Ethiopian economy will lead to an increase in per capita GDP.

1. Introduction

Recently, there has been a growing interest among countries, especially developing countries, in attracting foreign direct investment because of its importance as a component of the capital flows of developing countries. In the 1970s, many governments of these countries did not welcome foreign direct investment Interest in improving the economies of those countries, but this view varied in the late eighties and the beginning of the nineties where governments are competing to attract foreign direct investment of the latter's importance on the international arena in recent years, in the neighborhood It

has become one of the most important sources of funding in developing countries, especially in light of the increasing volume of external indebtedness.

Ethiopia is one of the developing countries that have suffered primarily from the persistent poverty that makes it impossible to provide (savings-investment) this asset for economic development, where it will not be easily found, and the lack of knowledge and commitment to development creates another burden of saving. , The solution to this problem is to work and it is difficult to alleviate poverty and maintain continuous movement. However, doing so will take some time so it is best to be a way to fill the investment gap by attracting foreign direct investment

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where Ethiopia has attracted it in order to transfer the technology And Mild poverty and contribute to economic growth.

The natural wealth that characterizes the environment of the Ethiopian economy from other economies of the African countries made them ranked first in the list of the most developed countries Africa and the world by adopting and adopting a policy of attracting foreign direct investment, in this context, this research will try to answer the Question: To what extent can the volume of FDI contribute to per capita GDP growth in the Ethiopian economy?

In the light of the previous problem, the study is based on a number of hypotheses that the policy of attracting foreign direct investment at the level of the Ethiopian economy has a positive effect in general and on per capita GDP in particular. This study aims to identify a number of objectives including: - Recognition of the economic character of the State of Ethiopia. - Highlighting the nature and course of the behavior of per capita output in particular and overall economic growth in Ethiopia by indicating the determinants of attracting foreign direct investment. - Trying to build a standard economic model that reflects the impact of foreign direct investment on Ethiopia's per capita GDP for the period 1998-2017^[1].

2. Methodology

It Was based on two approaches:

First the analytical descriptive approach was used to examine Ethiopia's economy, analyze the data of economic growth and foreign investment in the same economy, and the second standard approach to measure the impact of foreign direct investment on per capita GDP during the study period.

In order to address the problem, the study was divided into four main areas:

- (1) The general features of the Ethiopian economy.
- (2) Foreign direct investment in Ethiopia in terms of definition and determinants.
- (3) Economic analysis of the relationship of foreign direct investment to economic growth in Ethiopia.
- (4) Analyzing and measuring the impact of foreign direct investment on per capita output in the Ethiopian economy.

2.1 The General Features of the Ethiopian Economic Environment

The Democratic Federal Republic of Ethiopia is a landlocked country located in the eastern part of Africa. It is a landlocked country with a capital of 1.10 million km²

^[2]. It is one of the most densely populated countries in Africa. It is the second largest African country in terms of population and population growth of 2.5% per year. Which is vulnerable to drought and is frequently affected by the food crisis and because it does not contain any coastline. Ethiopia is concerned with the port of Djibouti and is seeking to become an economic center in the region thanks to the international roads and railways it receives with the neighboring countries. This was thanks to the political transition of 1991, when a group of African rebels gathered in the mountains of poor Ethiopia to finalize the coup d'état on the military regime, ending their attempt to gain power through the establishment of a governing coalition led by Meles Zenawi, the former prime minister.

This alliance, headed by "Zenawi" belongs to the race of Tigray, the largest and strongest race in this former rebel alliance. After his rise to power, he sought to implement the growth plan within the impoverished country, which has a population of more than 104 million in 2017, making this African country in East Africa the fastest growing economy in Africa and one of the most active actors in conflicts in the region^[3].

2.2 The Efforts of the Ethiopian Government to Promote the Economy

The Ethiopian economy has suffered from several bad practices. In the agricultural sector, for example, despite the availability of natural ingredients, Ethiopia's agriculture has suffered from drought and scarcity of crops. However, following recent efforts by the Ethiopian government, agriculture and other economic sectors have developed significantly, reducing the number of Ethiopians threatened by famine Poverty alleviation and attracting foreign investment in a significant manner as the state attracts investors with tax incentives and the provision of a legislative environment and banking systems suitable for foreign investment^[3]. Large infrastructure budgets have been allocated to stimulate the growing economy with the aim of "raising Ethiopia to its former glory," where Ethiopia is known to be one of the four great ancient civilizations "by setting established goals." To achieve them, the government has adopted several reforms for various sectors in the country to improve their efficiency and productivity, and the reforms have borne fruit.

In 2017, they achieved a remarkable growth rate of 10.24% compared to negative growth of (-2.16%) in 2003^[3], And made the World Bank report predict that the country could join the lower middle income countries by 2025. At the Millennium Summit of the United Nations in 2000, 189 Member States adopted the Millennium Declaration^[3], And pledged to reach the eight Millennium

Development Goals by 2015.

Ethiopia was one of the 189 countries to sign the Millennium Declaration. The country has made commendable progress towards reaching most of the Millennium Development Goals:^[4]

Goal 1: eradicate extreme poverty and hunger.

Goal 2: Ensure universal primary education.

Goal 3: Promote gender equality and empower women.

Goal 4: Reduce child mortality.

Goal 5: Improve maternal health and reduce maternal mortality.

Goal 6: Combat HIV / AIDS, malaria and other diseases.

Goal 7: Conservation of the environment.

Goal 8: Develop a global partnership for development.

Ethiopia achieved most of the development goals by the end of 2015, with the exception of the late completion of the third and fifth objectives. This is a major achievement for Ethiopia and its Government and evidence of its strategic control. At the beginning of 2016, the Government of Ethiopia followed a five-year integrated plan^[5]. First: plans to guide industrial development led by the state. (GTP) covering the period 2016-2020, which set the target for an average growth rate of 11% in the next five years and the goal of ranking Ethiopia among the middle income countries by 2025. To achieve these goals, the government continues its economic policies Investment facilitation and profit, ease of employment of expatriate staff, exemptions for investments in selected sectors, duty-free imports of capital goods, components, raw materials and materials for the export of industries and manufacturers in the sector Priority areas.^[6]

2.3 Foreign Investment in Ethiopia

Despite the poverty and famine that Ethiopia has suffered in the past, it has a stimulating investment environment that makes it a polarizer attracting foreign investment in various sectors because of its abundant natural resources or climatic environment in addition to the incentives provided by the government. Ethiopia topped the list of the five largest countries receiving countries for foreign investment flows received in 2016.^[7]

2.3.1 The Concept of Foreign Direct Investment

Investment is an economic activity whose source is the national savings whether it is owned by individuals, institutions or public or private enterprises in the developing country. Investment leads to an increase in production capacity. Therefore, it represents the expenditure on the production of productive goods such as machinery, ma-

chinery, transport and new buildings, and plays a key role in economic development. Its importance lies in a number of issues, the most important of which are the following:

(1) Increase productivity and production, leading to an increase in national income and thus increase average per capita income, thereby improving the standard of living of the population

(2) Provide job opportunities and reduce the unemployment rate.

(3) Increased rates of capital formation of the country.^[8]

2.3.2 Definition of Foreign Direct Investment

There are several concepts of foreign direct investment: it means “investments that are made outside their home: whether direct or indirect, whether they are for one country, several countries, one company or several companies.” In other words, foreign investment is “the flow of capital, whatever its form, between two States for the purpose of establishing new companies, contributing to the capital of existing companies or developing them to produce goods or services, and achieving more than what the investor in his mother country, Human effort or not accompanied by”.^[9]

2.3.3 Indicators of FDI in Ethiopia

The factors attracting foreign investment to Ethiopia have intensified from natural resources and other catalysts resulting from government decisions. Among the determinants of foreign investment in Ethiopia are the following:

(1) Natural source:

Ethiopia sits on vast arable land. Historically, Ethiopia has cultivated many agricultural materials, producing large amounts of maize and wheat along with other Ethiopian food from teff and coffee. Aided by it, its diverse terrain and geographical location of the country is suitable for practically growing any kind of crops and vegetables. Ethiopia's most export-oriented agricultural crops remain coffee, a product that originated in Ethiopia's highlands. In addition, the production of fresh fruits and vegetables and oilseeds contributed not only to GDP growth but also to export. Opportunities for investment in agriculture include:

A. Agricultural crops (such as tea and tobacco) and oil.

B. Crop, cotton, fish farming and horticulture.

C. Cultivation of flowers (fruits, vegetables and flowers).

D. Livestock and poultry (Ethiopia's largest livestock supplier is the largest in Africa and the ten largest in the world.^[10]

FDI inflows to the agricultural sector accounted for

32% of total Ethiopian FDI flows. 42% of GDP and 75% of the total labor force. ^[11]

(2) Minerals, oil and gas:

The geological diversity of Ethiopia has given it a variety of metals including gold and platinum; other minerals such as copper, iron, lead, zinc, gemstones such as: emerald, sapphire, garnet, opal, etc; There is also significant potential in oil and gas (as well as geothermal energy on a commercial scale within the Rift Valley, as experimental drilling has proven a geothermal current). Ethiopia was not a mining center until very recently. However, the acceleration of the mining sector was the result of several factors, including the mining, oil and gas sector is strategically important for the growth of Ethiopia and is intended to provide the private sector in a large and diverse manner, which contributes to the development of industries based on mining products as well as generating foreign exchange and job creation. ^[12]

(3) Local and regional market:

With more than 104 million people, Ethiopia is the second largest population in Africa after Nigeria. The average age of the population is 71 years. With an annual population growth of more than 2%, Ethiopia's population will be more than 120 million people by 2030 according to EPA forecasts. The Ethiopian market is the fastest growing African market and wants to take the first engine advantage of future competition on the continent. Ethiopia is known for its lack of competition with investments in the automotive, glass and other industries, as competition is low and optimism is seen in Africa, Ethiopia is the remaining market for foreign investors to grab the largest market shares in East Africa. ^[13]

(4) Economic infrastructure:

Ethiopia aspires to develop the economy through its infrastructure development program, by significantly expanding the capacity of electricity and distribution, roads, water supply and sanitation, and telecommunications services throughout the country as well, has begun to develop infrastructure connections in neighboring countries, including Because of its importance as it has been the main obstacle to the development of FDI in the history of Ethiopia, but now the situation is quite different after the government has given great attention to the expansion of roads, electricity, telecommunications and other new facilities in Ethiopia. One of the incentives for FDI in Ethiopia is the provision of infrastructure, as companies move to wherever they think it is profitable. ^[14]

In addition to these determinants, there are tax incentives to attract foreign investments, including: ^[15]

(1) Customs exemptions and import duties on imported goods: 100% exemption from the payment of customs

duties on imports and other taxes imposed on imports and granted for the collection of investments and capital goods such as factories, machinery, equipment, spare parts and so on provided they are not produced locally and are not available for comparison in quantity and quality And the price also.

(2) Exemption from the payment of customs duties on exports: full exemption from customs duties on Ethiopian products and products and services for export and exempt from payment of any taxes on exports and others.

(3) Exemption from income tax: The revenue derived from the new manufacturing industries, agricultural industry and investment in agriculture are exempted from the payment of income tax and this depends on the choice of investment area, export volume and place of investment.

(4) Exemption from the payment of taxes on capital transfers: remittances transferred by any foreign investor from the proceeds of the sale or transfer of ownership of the shares of the assets upon liquidation or liquidation of the enterprise. No taxes are paid.

2.3.4 The Most Important Sectors Attracting Foreign Investment in Ethiopia

Ethiopia is one of the most stable countries in Africa. Economically, its economic policies, geared towards the search for economic growth and improved living, have attracted investment especially in sectors where it has a comparative advantage until it is among the fastest growing economies in the world. The most important sectors are: ^[16]

(1) Agricultural: Cultivation of coffee, Cultivation of tea, Cultivation of maize, Cultivation of wheat and barley, Growing of rice, Growing of vegetables and fruits, Cultivation of cotton, Cultivation of legumes, Cultivation of rubber and palm trees, Breeding of livestock.

(2) Manufacturing: textile and clothing manufacturing, food and beverage manufacturing, leather manufacturing, chemicals and chemical products, pharmaceutical production, paper and paper products, plastic products such as plastic pipes, building materials (gypsum, ceramics, marble).

(3) Tourism: establishment of hotels, resorts, therapeutic and tourist restaurants.

(4) Mining: exploration of oil and natural gas, gold, potash, nickel, copper.

(5) Social services: establishment of hospitals, establishment of universities and schools, information and communication technology, creation of roads and construction of houses and commercial and industrial buildings.

2.3.5 Impediments to FDI in Ethiopia

Although Ethiopia exports the list of African countries most attractive to foreign investment, these investments are interspersed with some obstacles that could affect its attractiveness. Among these obstacles are the following:

(1) The effects of the internal affairs of Ethiopia:

Ethiopia suffers from internal problems that may affect the development of its relations with different countries. Some of these problems are related to Ethiopia's development policy and the distribution of the proceeds of that development. In November 2015, unrest broke out in the Oromo region of Ethiopia. At least 400 people, against the backdrop of a project to expand the capital Addis Ababa on the territory of the Oromo. Ended with the resignation of Prime Minister Dasalin and the imposition of a state of emergency and the announcement of Ethiopian Defense Minister Siraj Vigisa that the state of emergency may be extended for months more after the six months previously announced, stressing that the army will not take power.

(2) Ethiopia's problems with its neighbors: For example, the situation between Eritrea and Ethiopia, which lasted between 1998 and 2000, because of the border dispute on the Badme triangle, and the conflict between them continues as violent clashes between the forces of both sides in June 2016 resulted in the fall of hundreds Between the dead and injured from both sides, and the displacement of thousands of border areas, and therefore the continuation of the conflict between the two countries may pose a threat to the continuation of their relations with other countries that deal with them.

(3) The impact of some hydroelectric projects on other du: This is related to hydropower projects through the financing or implementation of dam projects on the coasts of Ethiopia, but some of these projects are the cause of sharp differences between Ethiopia and its neighbors involved in those rivers. Egypt and Ethiopia.

In addition to these constraints, there are other obstacles to FDI: ^[15]

- (1) Trade regulation and efficiency of customs clearance:
- (2) perceived foreign exchange risk discourages investment.
- (3) Incompatibility in tax administration and inefficiency.
- (4) Inadequate local access to finance.
- (5) Opening work.

2.4 Economic Analysis of the Relationship of Foreign Direct Investment to Economic Growth in Ethiopia

In the recent era, Ethiopia has witnessed a significant

polarization of foreign direct investment. The following table shows this:

Table 1. Evolution of GDP, per capita and level of foreign investment in Ethiopia for the period 1998-2017 Unit: million dollars

Year	FDI	MFDI	GDP	MGDP	NGDP	MNGDP
1998	260.67	-9.64	11721.24	-3.45	199.1113	-6.25
1999	69.98	-73.15	12326.31	5.16	186.6614	2.15
2000	134.64	92.39	13074.92	6.07	190.6915	3.04
2001	349.4	159.50	14160.3	8.30	196.505	5.21
2002	255	-27.01	14374.79	1.51	206.7431	-1.37
2003	465	82.352	14064.1	-2.16	203.9059	-4.92
2004	545.1	17.22	15972.97	13.57	193.8669	10.40
2005	265.1117	-51.36	17860.78	11.81	214.0448	8.75
2006	545.2571	105.67	19795.94	10.83	232.7832	7.84
2007	222.0006	-59.28	22063.8	11.45	251.056	8.49
2008	108.5375	-51.10	24444.16	10.78	272.3912	7.87
2009	221.4596	104.03	26595.87	8.80	293.8533	5.96
2010	288.2716	30.16	29933.79	12.55	311.3677	9.61
2011	626.5096	117.33	33279.88	11.17	341.3099	8.28
2012	278.5628	-55.53	36157.86	8.64	369.5844	5.83
2013	1343.876	382.43	39984.18	10.58	391.1318	7.73
2014	1855.05	38.03	44085.56	10.25	421.3841	7.45
2015	2626.52	41.58	48667.13	10.39	452.7782	7.62
2016	3988.953	51.87	52347.23	7.56	487.29	4.90
2017	3586.4	-10.09	57710.62	10.24	511.1874	7.56

Source: Based on data from the World Bank (FDI- MFDI), the size and proportion of FDI growth respectively (GDP-MGDP): size and percentage of GDP growth respectively, (NGDP- MNGDP): size and growth rate Per capita GDP, respectively.

The above table shows that economic growth through the two indices GDP and per capita output increased over the period (1998-2017) except for the years 1998 and 2003, Ethiopia experienced negative growth of -3.45% and -2.16%, respectively This growth is attributed to the economic growth and change of the Ethiopian government following the coup of 1991 and the economic and development programs that were achieved by achieving an increase in GDP and economic growth during this period. The size of GDP increased by 4.92 times from 1998 to 2017, Ethiopia has developed a five-year development program (2011-2015) and a further five-year program (2016-2020). The economic growth during this period shows the success of economic policies as well as the development programs implemented and still under implementation. In 2004, the economic growth rate was 13.57%, followed by 2010 with a growth rate of 12.55%. The Ethiopian economy is not only achieving economic

growth, but maintaining and continuing economic growth for several consecutive years, making it classified by the International Monetary Fund as the fastest growing economy in Africa, and with this economic growth achieved, but this growth was not reflected in the standard of living of individuals in the form where still ETHI This is why the government makes its first goal in 2025 to reach middle-income countries. The reason for the low reflection of economic growth on the well-being of the individual is that most of the economic addition stems from the low-income countries, of foreign investments whose returns to the mother country are not reflected on the Ethiopian citizen. [14].

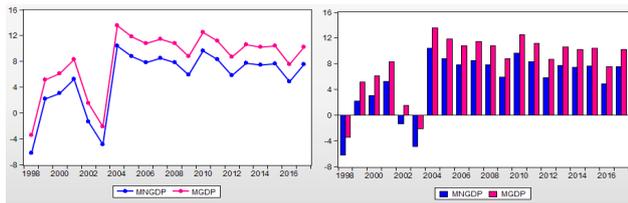


Figure 1. Evolution of GDP and per capita GDP

Source: Based on Table 01 and EViews 9

On the other hand, foreign investments began to enter Ethiopian territory in 1992, following the coup against the military regime. Meles Zenawi assumed the premiership and started to launch development projects and try to open the country to the outside world and create a favorable legislative environment to attract foreign investments. The figure below shows FDI inflating from 1998 to 2017 at 13.79 times, which is impressive for foreign direct investment in the not-too-large period, which shows that the investment climate and environment accompanying investments since 1992 has been improving steadily. The relative advantage of Ethiopia in terms of the validity of the soil for agriculture and the availability of labor and its location, etc., and this has affected the popular protests that began from 2011 to 2015 on the volume of foreign investors polarized and emerged clearly in 2012, where the growth rate of foreign direct investment (- 55.53%). However, as investors realized that these protests would not be a threat to the government's investments and interventions, foreign investments returned to the next year to see an impressive growth of 382.43%.

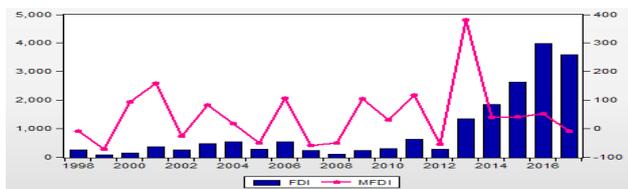


Figure 2. Evolution of FDI in Ethiopia during the period 1998-2017

Source: Based on Table 01 and EViews 9.

The track of economic growth and foreign direct investment in Ethiopia through Table (01) and the figure below shows that economic growth is at a pace commensurate with the pace and impact of foreign direct investment. In 1998, the growth rate of foreign direct investment decreased by (-9.64%), (-3.45%), which means that the economic growth in Ethiopia in 1998 was affected by the decline in foreign direct investment.

In 2002, In 2002, the decline in foreign direct investment by (-27.01%) had an effect on the economic growth for the following year, where the economic growth rate was estimated at (-2.16%). Thus, the negative growth values of investment also affect the level of growth of output While the positive growth values of FDI were a positive reflection on economic growth in Ethiopia, where the growth of foreign investment in 2011 (117.30%) had a positive effect on the economic growth rate for the same year: (11.17%) and so for most years The study period.

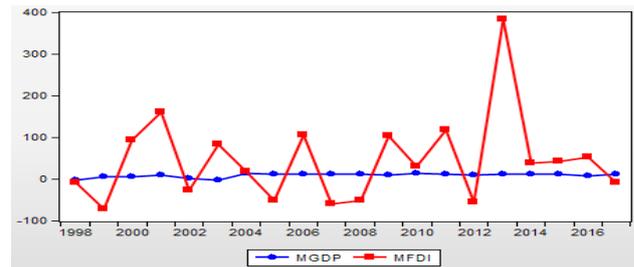


Figure 3. The relationship of FDI to economic growth in Ethiopia during the period 1998-2017

Source: Based on Table 01 and EViews 9.

2.5 The Standard Analysis of the Reflection of the Attractiveness of Foreign Direct Investment on Economic Growth in Ethiopia

Definition and characterization of the variables of the study model

It is expected from this part of the study to assess the impact of FDI and inflation rates(INF) as independent variables on per capita (NGDP) as an indicator of economic growth and as a dependent variable affected by them. In order to reach the best mathematical models to represent the phenomenon, we tested and selected several combinations and then choose the best two models are as follows:

Form (01): Linear Form $NGDP = f(FDI, INF)$

Form (02): The double-logogram model $Ln(NGDP) = f(Ln(FDI), Ln(INF))$

The following table shows the statistical and standard comparison results for the best model to be estimated from the two models.

Table 2. The results of the trade-off between models for estimating the impact of foreign direct investment on per capita output

	R ²	Moral parameters	F-Statistic	DW◆◆◆	SSR	Sc◆◆	AIC◆
The first model	0.8075	At 5%	35.66	0.98	42817.90	10.83	10.80
The second model	0.7068	At 5%	20.49	1.211	00.676	0.09-	0.24-

Source: Prepared by the two researchers depending on the economic measurement program version EViews 09. Note: ◆ AKike inf criterion◆◆ Schwarz criterion◆◆◆ Variable Darban Watson. See Annex (01).

The results of the data shown in the above table show the preference of the second model compared to the first model to distinguish it as:

(1) The lowest value for AIC and Sc is estimated at (-0.24), (-0.09), respectively.

(2) The lowest value for the sum of the remaining boxes is SSR = 0.6760.

(3) The largest value for the statistic is Darban Watson = DW = 1.211.

The second model (the double-logarithm model) will be estimated and adopted to study the problem of the phenomenon.

2.6 The Results of the Estimation of the Reflection of the Attractiveness of Foreign Direct Investment on Economic Growth in the Ethiopian Economy (According to the Selected Model)

Using the multiple linear regression method and relying on the method of the normal minimum squares in estimating the problem model of the study, it was possible to exit by monitoring the following results:

$$\ln(NGDP)_t = 4.051263 + 0.226265 \ln(FDI)_t + 0.095844 \ln(INF)_t$$

t-statistic : (15.90) (5.61) (2.39)
 R² = 0.7068 , F-statistic = 20.49 , n = 20 , DW = 1.21

Reading the previous results allows us to evaluate the model statistically and economically as follows:

(1) Statistical evaluation:

A. The coefficient of selection was R² = 0.7068, ie, the explanatory variables explain the change in per capita GDP of 70.68% which is good, while the remaining 29.32% is explained by other factors not included in the model.

B. According to the t- statistic test, we observe that all the parameters of the model are significant at a significant level of 5%.

C. Fisher's test (F- statistic = 20.49) showed that the model as a whole has a statistical significance at a significant level of 1%.

D. In addition, the value of R²(0.7068) > DW (1.21), which requires rejecting the possibility that the regression is false.

(2) Economic Assessment:

A. The elasticity of the FDI variable was 0.226265 units. This value indicates that the 10% increase in the FDI index will lead to a per capita GDP increase of 1.02%. The positive sign points to the positive correlation between the FDI index and the per capita output. This relationship is consistent with the logic of the economic theory. By increasing the attractiveness of foreign direct investment and creating the appropriate and appropriate policies and climate to attract it, the per capita GDP and economic growth in general will increase.

B. Variable inflation rate (INF) reached 0.095844 units. This means that a change in economic inflation rate of 10% will lead to a per capita GDP change of 1.029%. The positive indication of this variable parameter is the positive correlation between per capita output and inflation rate in the economy The Ethiopian.

2.7 Test the Quality and Diagnosis of the Model

In order to detect and diagnose the quality of the model, some tests have to be conducted, namely: self-correlation test for errors, homogeneity test of error variance of the model and test of natural distribution of the model. The results of these tests can be reviewed in the following table:

Table 3. Diagnostic tests to test the quality and validity of the model

The ARCH test for inconsistent error variance				Self-correlation test for errors			
F-statistics	0.065526	Prob	0.8010	F-statistics	2.591058	Prob	0.0941
Obs*R-squared	0.072954	Prob	0.7871	Obs*R-squared	7.140139	Prob	0.0676
Test the normal distribution of condoms							
Jarque Bera				1.965886			
Probability				0.374208			

Source: Prepared by researchers based on program shortcuts. EViews9.

By reading the test results listed in the table above: [17]

(1) The Breusch-Godfrey Serial Correlation test shows that there is no self-correlation in the regression equation of the study model (acceptance of the null hypothesis). This is demonstrated by the probability of the F-statistics of 0.0941 and the equation Obs * R-squared (0.0675) .

(2) It is clear from the ARCH test that the probability values of the model are greater than the significance level of 10%, so the model is acceptable in terms of the problem of variance instability.

(3) The probability value of Jarque Bera for the study model was greater than 10%, so the gradient regression has a natural distribution trajectory.

3. Conclusion

Ethiopia, Africa's second most populous nation after Nigeria, drew attention to it thanks to its developing industries and its developing economy. With a population of about 100 million, and a "cradle of humanity" due to its rich history and rich cultural heritage. Ethiopia is classified as the only country in the continent that has not been subjected to Western colonialism in its history. Following several reforms and policies, the Ethiopian economy has become one of the fastest growing economies in the world and is the fastest growing continent on the African continent, according to the International Monetary Fund. The paper we can conclude the following:

(1) The Ethiopian economy is the fastest growing economy in Africa. The GDP in 2017 was 57710.62 million US dollars, a real growth of 10.24%, which is a large proportion of the African country and non-oil and was suffering from poverty.

(2) Ethiopia has adopted several economic policies and reforms aimed at lifting the country out of poverty, improving individual living and achieving economic growth.

(3) The Ethiopian Government has supported investment and attracted foreign direct investment through several incentives, including tax incentives and customs duties.

(4) The success of the policy of attracting foreign investments in Ethiopia, where foreign direct investment in 2016 amounted to: 3988.95 million dollars, thus achieving a real growth of 51.87%.

(5) Ethiopia has achieved all of its Millennium Development Goals with a delay in the goals of promoting gender equality and empowering women, improving maternal health and reducing maternal mortality.

(6) Despite the economic growth achieved and foreign investments active in Ethiopia, but this did not reflect clearly on the Ethiopian living, which led to the emergence of protests and the emergence of insurgent movements led to Prime Minister Dicellin to resign in February 2016 and Abu Ahmed took the government and made the first goals of his government to work to be Ethiopia In 2025 from middle-income countries. ^[18]

(7) Food products, oil and its derivatives, chemicals, machinery, food and beverages, food and beverages, food and beverages, textiles, leather, chemicals, metals, Vehicles and textile products are at the forefront of imported goods in Ethiopia.

(8) GDP growth is consistent with the growth of fo-

reign investment, which means that the latter affects the economic growth of the country, although this effect is not much compared to the size of investments.

(9) The standard study showed the positive and steady impact of the FDI index on the size and per capita share of GDP on the one hand and on economic growth as a whole on the other.

In short, Ethiopia has made itself a model for the rest of the African countries in renaissance, growth and opening up to the world. Not long ago, poverty, malnutrition and disease outbreaks have been the fastest growing economy in Africa and one of the fastest growing economies in the world. Attracting foreign investment. It is an experience of African Renaissance. In its evolutionary process, Hout has some negatives, but it has achieved remarkable results that make the rest of African countries follow suit and benefit from what is negative and adapt to their development according to their potential and environment.

4. List of Supplements

Annex 1. Estimation of the impact of foreign direct investment on per capita GDP in the Ethiopian economy

Annex (1-01): Linear Model					Annex (1-02): The double logarithmic model					
Dependent Variable: NGDP Method: Least Squares Date: 12/10/18 Time: 16:01 Sample: 1998 2017 Included observations: 20					Dependent Variable: LNCDP Method: Least Squares Date: 12/10/18 Time: 16:15 Sample: 1998 2017 Included observations: 20					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	Variable	Coefficient	Std. Error	t-Statistic	Prob.	
C	190.4463	19.90006	9.570139	0.0000	C	4.051263	0.254733	15.90398	0.0000	
FDI	0.082215	0.009858	8.340083	0.0000	LNFDI	0.320255	0.040209	5.918858	0.0000	
R ²	2.684435		1.097111	2.524980	0.9218	LNFDI	0.095844	0.040029	2.394398	0.0284
R-squared	0.807521	Mean dependent var	295.3824		R-squared	0.709874	Mean dependent var	5.532142		
Adjusted R-squared	0.784876	S.D. dependent var	108.2042		Adjusted R-squared	0.672388	S.D. dependent var	3.348973		
S.E. of regression	50.18605	Akaike info criterion	10.30985		S.E. of regression	0.199537	Akaike info criterion	-0.248153		
Sum squared resid	42817.90	Schwarz criterion	10.95622		Sum squared resid	0.676855	Schwarz criterion	-0.089793		
Log likelihood	-105.0686	Hannan-Quinn criter.	10.33651		Log likelihood	5.481527	Hannan-Quinn criter.	-0.218956		
F-statistic	35.56062	Durbin-Watson stat	0.987709		F-statistic	20.49774	Durbin-Watson stat	1.211625		
Prob(>F-statistic)	0.000051				Prob(>F-statistic)	0.000030				

Source: Prepared by researchers based on program shortcuts. EViews9

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