

CHAPTER IV

RESULT AND ANALYSIS

In this chapter there will be some tests on the influence of foreign direct investment, export and import on economic growth in Indonesia period 1985 to 2016. In which the dependent variable is gross domestic product (GDP), while the independent variables are foreign direct investment (FDI), export, and import. The variable data are taken from the period of 1985 to 2016 and will be tested by using Multiple Linear Regression approach that aims to test the model specification and suitability theory with the current phenomenon.

A. Research Variable Overview.

1. Indonesian Gross Domestic Product Overview.

Economic performance in a country can be seen through economic growth yearly. Economic growth is an indicator to perceive a country's performance whether in a good or bad performance. In narrow word, economic growth means that the increase in total production of both goods and services in a country. This is measured by the change in real gross domestic product (GDP) each year.

Table 4.1
Gross Domestic Product (Current US\$)

Year	GDP (Current US\$)	Year	GDP (Current US\$)
1985	228.786.571.622,49	2001	469.933.589.927,67
1986	242.227.885.896,29	2002	491.078.136.159,84
1987	254.159.855.613,23	2003	514.553.483.744,13
1988	268.851.562.224,36	2004	540.440.020.890,98
1989	288.898.712.661,29	2005	571.204.954.434,66
1990	309.821.137.734,34	2006	602.626.663.572,80
1991	331.235.921.596,57	2007	640.863.459.320,35
1992	352.757.997.188,37	2008	679.403.088.245,17
1993	375.674.596.363,27	2009	710.851.782.010,38
1994	404.000.352.342,00	2010	755.094.160.363,07
1995	437.209.211.196,91	2011	801.681.840.622,49
1996	471.391.045.244,88	2012	801.681.840.622,49
1997	493.545.853.299,55	2013	897.261.717.986,53
1998	428.759.443.957,88	2014	942.184.637.117,35
1999	432.151.471.748,06	2015	988.127.958.652,97
2000	453.413.616.927,80	2016	988.127.958.652,97

Source: World Bank 2018

Gross domestic product (GDP) in Indonesia fluctuated annually during the period from 1985 to 2016, based on the table above, gross domestic product in Indonesia fluctuates annually, and the lowest in 1998, Indonesia's growth declined to US\$ 493.545.853.299,55 from US \$ 428.759.443.957,88 as a result of the Asian Financial crisis of 1997-1998. After the crisis, Indonesia increased its economic growth in the next year by US\$ 432.151.471.748,06 and continues to increase every year.

2. Foreign Direct Investment Overview in Indonesia.

Foreign direct investment (FDI) is one of the funding source that can be used as financing for development and economic growth.

FDI substitute the external debt as a source of financing. FDI means that foreign investment activities directly undertaken by or under the provisions of this law and used to run a company in Indonesia, and the owners of the capital directly bear the risk of the investment.

Table 4.2
Foreign Direct Investment in Indonesia (Current US\$)

Year	Foreign Direct Investment in Indonesia (Current US\$)	Year	Foreign Direct Investment in Indonesia (Current US\$)
1985	310.000.000,00	2001	2.977.391.857,14
1986	258.000.000,00	2002	145.085.548,72
1987	385.000.000,00	2003	596.923.827,79
1988	576.000.000,00	2004	1.896.082.770,00
1989	682.000.000,00	2005	8.336.257.207,64
1990	1.093.000.000,00	2006	4.914.201.435,40
1991	1.482.000.000,00	2007	6.928.480.000,00
1992	1.777.000.000,00	2008	9.318.453.649,83
1993	2.004.000.000,00	2009	4.877.369.178,44
1994	2.109.000.000,00	2010	15.292.009.410,51
1995	4.346.000.000,00	2011	20.564.938.226,72
1996	6.194.000.000,00	2012	21.200.778.607,87
1997	4.677.000.000,00	2013	23.281.742.361,53
1998	240.800.000,00	2014	25.120.732.059,51
1999	1.865.620.963,49	2015	19.779.127.976,96
2000	4.550.355.285,71	2016	4.142.203.472,70

Source: World Bank 2018

Foreign Direct Investment in Indonesia fluctuated, from 1985 Foreign Direct Investment in Indonesia continued to increase from US \$ 310.000.000,00 to 1996 US\$ 6.194.000.000,00 and decreased in the following year and dropped in 1998, this was due to the global financial crisis which occurred, after which again fluctuated and began

to stabilize in 2010 increased dramatically. Foreign direct investment is highest in 2014 amounting to US\$ 25.120.732.059,51.

3. Indonesian Export Overview.

Export is the activity of selling and sending goods from the origin country to other countries. Beside investments, Export also play an important role in the economic activities in Indonesia.

Table 4.3
Indonesian Export (Current US\$)

Year	Indonesian Export (Current US\$)	Year	Indonesian Export (Current US\$)
1985	19.513.318.137,84	2001	62.625.875.833,91
1986	15.601.530.599,62	2002	63.956.798.804,50
1987	18.173.373.752,89	2003	71.553.141.044,99
1988	20.564.513.854,26	2004	82.744.351.781,02
1989	24.013.309.488,36	2005	97.387.627.234,84
1990	28.192.324.953,80	2006	113.143.424.880,16
1991	31.924.916.522,67	2007	127.226.102.177,01
1992	37.629.266.177,98	2008	152.090.401.421,80
1993	42.274.397.859,50	2009	130.357.798.591,19
1994	46.896.633.113,50	2010	183.480.563.627,39
1995	53.185.312.942,04	2011	235.095.130.017,57
1996	58.717.201.041,71	2012	225.744.402.474,11
1997	60.106.038.403,58	2013	218.308.408.827,84
1998	50.555.726.234,55	2014	210.820.082.760,73
1999	49.720.260.589,8	2015	182.166.823.490,33
2000	67.621.169.165,83	2016	177.883.502.081,64

Source: World Bank 2018

From the table above it can be concluded that exports in Indonesia fluctuated from 1985 to 2016. Until the global financial crisis occurred in 1997 gave a bad impact to export in Indonesia so that in 1999. In 1997 exports of US\$ 60.106.038.403,58 decreased to US \$ 50.555.726.234,55 and decreased again in the following year to US \$

49.720.260589,8. Successfully rose the following year and fluctuated. The highest exports occurred in 2011 amounted to US\$ 235.095.130.017,57.

4. Indonesian Import Overview.

Import is defined as the import of goods or purchases of goods from abroad into the country. Imports can also be interpreted as international trade by entering goods from outside Indonesia by meeting the requirements and applicable provisions.

Table 4.4
Indonesian Import (Current US\$)

Year	Indonesian Import (Current US\$)	Year	Indonesian Import (Current US\$)
1985	17.862.288.880,55	2001	49.355.195.402,14
1986	16.401.727.045,1	2002	51.638.437.160,68
1987	17.006.296.447,48	2003	54.323.622.341,49
1988	18.491.665.719,23	2004	70.744.690.513,64
1989	21.807.734.609,11	2005	85.533.800.863,55
1990	27.645.659.823,93	2006	93.411.753.739,23
1991	31.469.555.327,82	2007	109.755.093.425,23
1992	34.649.936.943,33	2008	146.706.628.549,32
1993	37.555.937.063,10	2009	115.216.544.854,10
1994	44.869.883.142,43	2010	169.158.028.224,50
1995	55.882.279.823,79	2011	212.996.886.068,27
1996	60.116.979.037,70	2012	229.362.101.573,16
1997	60.700.151.259,04	2013	225.519.356.299,67
1998	41.249.712.041,61	2014	217.485.215.697,15
1999	38.402.067.922,34	2015	178.471.802.188,38
2000	50.264.686.469,79	2016	170.658.407.562,69

Source: World Bank 2018

Import in Indonesia can be inferred from the table above fluctuated and the cost of declining from 1997 to 1999, from US\$

60.700.151.259,04, to US\$ 38.402.067.922,34. The highest import occurred in 2012 US\$ 38.402.067.922,34.

B. Data Analysis.

1. Classical Assumption.

a. Multicollinearity test.

Multicollinearity test aims to test whether the regression model found a correlation between independent variables. A good regression model should not be correlated between independent variables. Variance inflation factors (VIF) values must be less than 10 in order to be said to be free of multicollinearity (Ghozali, 2011).

Table 4.5
Multicollinearity test results

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	3.41E+20	3.783059	NA
FDI	6.525467	6.940794	4.062326
EKSPOR	0.125048	18.09856	6.242957
IMPOR	0.169712	18.39109	6.000837

Source: World Bank 2018 (data processed)

Variance inflation factors (VIF) values of foreign direct investment is 4.062326, the value of export is 6.242967 and Variance inflation factors (VIF) of import is 6.000837. The whole value less than 10, so it can be concluded there no multicollienarity.

b. Heterokedasticity Test.

The heteroskedasticity test aims to test whether in the regression model there is a variance inequality of the residual one observation to another observation. If the variance of the residuals of one other observation remains, then it is called Homoscedasticity and if different is called Heteroskedasticity. (Ghozali, 2011)

H0: Homoscedasticity

H1: Heteroskedasticity

Table 4.6

The Breusch-Pagan-Godfrey Heteroskedasticity Test Result

Breusch-Pagan-Godfrey Heteroskedasticity Test:			
F-statistic	2.783026	Probability	0.0593
Obs*R-squared	7.350131	Probability	0.0615

Source: World Bank 2018 (data processed)

The probability value of Obs*R-squared can be seen from the probability of Chi-Square. From the test results using this Breusch-Pagan-Godfrey probability value is 0.0615 or greater than $\alpha = 5\%$ which means there is no heteroskedasticity in multiple linear regression model.

c. Auto Correlation.

Auto correlation is defined as the correlation between members of a series of observations sorted by space and time

(Gujarati, 2003). Autocorrelation indicates a correlation between members of a series of observations. If the model has a correlation, the estimated parameter becomes biased and the variation is no longer the minimum and the model becomes inefficient (Basuki, 2015).

Basuki (2015) explained that to know whether there is autocorrelation in the model used Lagrange Multiplier test (LM). LM testing procedure is if the value of Obs * R-Squared is smaller than the value of the table then the model can be said to contain no autocorrelation. It can also be seen from the probability of chisquares, if the probability value is greater than the value of α selected then there is no autocorrelation problem. While the way to overcome the autocorrelation is to add Auto Regressive (AR) variable.

Table 4.7
The Lagrange Multiplier Test (LM) Result

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	2.294548	Prob F	0.1209
Obs*R-squared	4.800765	Prob.Chi-Square(2)	0.0907

Source: World Bank 2018 (data processed)

Based on the above table it has been explained that the value of Obs * R-Squared is 4.800765 and the probability value is 0.0907 which is greater than 0.05 so it can be concluded that the data in this study is free and there is no problem auto correlation.

d. Normality Test.

The normality test is performed to check whether the error term approaches the normal distribution or not. If this assumption is not met then the test procedure using t-statistic becomes invalid. The error term normality test is a Jarque-Bera test which test is based on error and least squares estimator. The test procedure is:

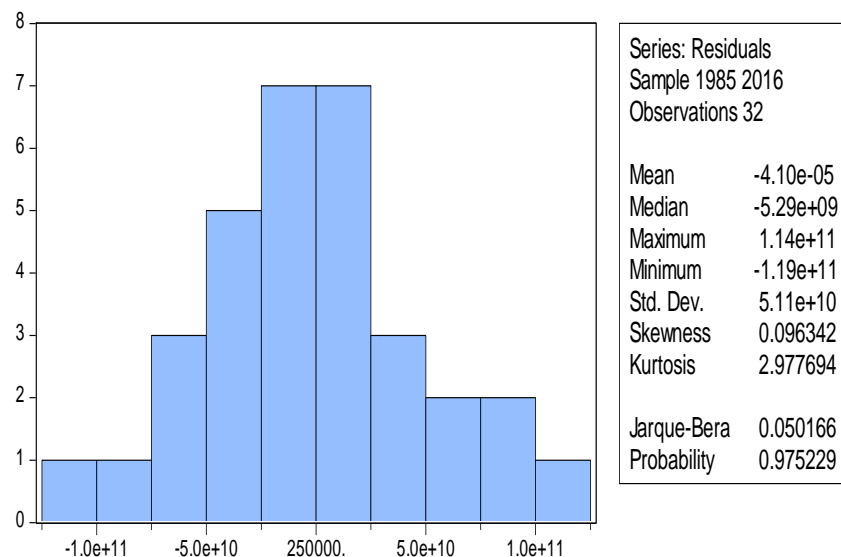
H_0 = Error term is normally distributed

H_1 = Error term not normally distributed

If the probability Obs*R-squared is greater than the real level then the error term is normally distributed.

Figure 4.1

Normality Test Result



Source: World Bank 2018 (data processed)

Based on the result in table above, the jarque-Berra probability value is

0,0975229. The result states that the Jarque-Berra probability value is more than $\alpha = 5\%$, it can be interpreted that the data in multiple linear regression of this model is normally distributed.

2. The Result of Regression Estimation

Variables	Coefficient	t-Statistic	Prob
C	2.07E+11	11.18947	0.0000
FDI	-4.421197	-1.730749	0.0945
Export	1.817684	5.140209	0.0000
Import	2.371753	5.757221	0.0000
R-squared	0.950991		
F-statistic	181.1090		
Prob(F-statistic)	0.000000		

Source: World Bank 2018 (data processed)

Based on the Regression the dependent variable in this study is Economic growth represented by GDP, and the independent variables are Foreign Direct Investment (FDI), Export and Import. The table shows that FDI is not significant affecting the GDP while export and import significantly affecting the GDP in n Indonesia periode 1985 to 2016.

Foreign Direct Investment has a negative and insignificant effect on Gross domestic product in Indonesia, the significance of variable is $0.0945 >$ with the regression coefficient generated equal to -4.421197.

Export has a significant positive effect on gross domestic product in Indonesia significance of 0.000 variables which stated that $0.000 < 0,05$ with regression coefficient generated equal to 1.817684. It is explained that every 1 dollar increase of export growth will increase gross domestic product level in Indonesia equal to 1.81 dollar with assumptions of other variables are fixed.

Import has a significant positive effect on gross domestic product in Indonesia significance variable of 0,0000 stated that $0,0000 < 0,05$ with regression coefficient yielded 2,371753, it is explained that every 1 dollar increase of import development in Indonesia will raise level of gross domestic product equal to 2.37 dollar. It can be asumed that the other variables are fixed.

a. Coefficient Determination (R²).

From the test that has been done states that the coefficient of determination R value of 0.950991, then it can be explained that the results of testing performed give good results. The value of positive value coefficient is indicated that 95% of GDP variables can be explained by other variables, namely Foreign direct investment (FDI), export and import. While the remaining 5% can be explained by other variables outside this research.

b. F-test.

F test is used to test the significant effect of independent variables on the dependent variable as a whole. From the

regression results that have been done, regression analysis in obtaining a significant probability value of F-statistic that is equal to 0.00000. Due to the significant probability of F-statistic <0.05 which means also $0.0000 < 0.05$, then H_0 is rejected and H_1 is accepted, it means Foreign Direct Investment export and import variables influence together has an effect on determining the significance of Grossdomestic product growth rate in Indonesia.

c. t-test.

t-test is used to test the significance of the effect of independent variables on the individual bound variable. To determine the influence of each variable to the dependent variable can be explained as follows.

- 1) The influence of foreign direct investment on gross domestic product.

Based on the results of regression data that has been obtained probability value 0.0945 because the probability of foreign direct investment variable is not significant to gross domestic product because $0.0945 > 0,05$ it means H_0 is rejected and H_1 is accepted, then Foreign direct investment has no effect on gross domestic product in Indonesia.

- 2) The Effect of export on gross domestic product.

Based on the results of the regression of data that has been obtained probablitas value 0,000 because the probability

of export variables significant to gross domestic product because $0.0000 < 0.005$ which means H_0 rejected and H_1 accepted, then exports affect gross domestic product.

3) The effect of Import on gross domestic product.

Based on the results of the regression of data that has been obtained probablitas value of 0,000 because the probability of export variables significant to gross domestic product because $0.0000 < 0.005$ which means H_0 rejected and H_1 accepted, then export affects gross domestic product.

3. Analysis Result.

The findings that already done in this research aim to know the influence of foreign direct investment, export and import and economic growth in Indonesia periode 1985 to 2016. So, here is the further discussion relates to the findings in this research and hopefully, it can fulfill the excitement to reveal the research. All variables that influence gross domestic product in Indonesia will be discussed one by one.

Table 4.8
The Correlation Result Accumulation of Independent Variables on
Dependent Variable

Variables	Coefficient	Probability
Constanta	2.07E+11	0,0000
FDI	-4.421197	0,0945
Ekspor	1.817684	0,0000
Impor	2.371753	0,0000

Source: World Bank 2018 (data processed)

a. The Influence of Foreign Direct Investment on Gross Domestic Product

The result of regression test that has been done shows the value of foreign direct investment significance 0,09415 which means $> 0,05$, and has a coefficient -4.421197. It can be concluded that the change of foreign direct investment value has an insignificant and negative effect on the gross domestic product. Investment is one part on gross domestic product, but the results do not fit the hypothesis that there is a significant and positive relationship between foreign direct investment and gross domestic product Indonesia in 1985 to 2016. This condition is due to the circumstances and reality in Indonesia that foreign direct investment in Indonesia is very fluctuated.

Kholis (2012) said this condition is based on the fact that investment in Indonesia is very fluctuated. Indonesia has not been a priority as a place to invest capital of foreign investors. A study conducted by United Nations Conference on Trade and Development (UNCTAD) in 2006 placed Indonesia as a less desirable area because the location intensity score is less than 5. In addition, the performance and potential of foreign investor inflows are also categorized as low. Many barriers to entry for foreign investors, less efficient bureaucracy and less supportive infrastructure are among the reasons why Indonesia is less attractive to foreign investors. The government should pay serious attention to this sector's policy to help improve economic growth in

Indonesia. Because, however the investment itself will be directly related to trade and industrial policy. With optimally allocated investments will help the country in allocating resources and human resources that will eventually increase the economic growth of the country.

A huge opportunity and a big hope for Indonesia to the development of globalization today, making the place of business moves that invested foreign parties, this could be a driver for the opening of employment opportunities in the country which will ultimately improve the welfare of Indonesia ingross domestic product and also increase revenue population. With that opinion, the existence of foreign direct investment should be will boost the gross domestic product in Indonesia through the entry of new technology so that the number of goods production will increase. With the increasing technology used, it is necessary human resources who are experts in their field, this is assisted by increasing the level of education in the country. As the demand for labor gets higher, it will create jobs for skilled workers in their fields.

Furthermore, with the existence of foreign direct investment will have an impact on the improvement of infrastructure. This is because to make it easier for companies invested by foreign capital in the distribution process. It aims to minimize price differences

experienced by some regions in Indonesia. If it can be resolved then the level of consumption in the community will be good and will help in the process of economic growth. In addition, the entry of foreign direct investment will affect the export of a country.

Where this is related to the transfer of technology that will improve the quality and quantity of the resulting product. If the domestic needs are met then the goods from the production will be exported to several countries in the world. But the reality found in this research is Foreign direct investment is not a good solution for Indonesia to improve its economy. This is due to the many barriers to entry for foreign investors such as less efficient bureaucracy and less supportive infrastructure is the reason why Indonesia is less desirable by foreign investors. Therefore, the government should pay more attention to the policy on foreign direct investment in order to encourage better economic improvement (Pranoto, 2016).

b. The Influence of Export on Gross Domestic Product in Indonesia.

Regression results showed a positive influence and significant 0.000. The value of significance found in less than 0.05. And has a coefficient 1.817684. It means can be concluded that exports have a significant and positive relationship to gross domestic product in Indonesia from 1985 to 2016. Export is one part of gross domestic product, exports will increase demand for goods and services in the country, increasing domestic demand will

also affect the level of productivity in land, so that natural and human resources can be allocated properly.

This will result in the addition of employment. The more Indonesian workers who produce good will also increase the amount of output that will be produced. Increasing the amount of output in the form of goods and services that will increase state revenues, this is what causes a country's economic growth will increase. With the results found, this study is in accordance with the hypothesis that exports can encourage economic growth in Indonesia and are supported by previous research studies.

Pranoto (2016) stated the greater the export value of a country will cause the higher economic activity to be achieved by the country. The existence of export activities in Indonesia makes it possible to produce various goods and services that exceed the amount of production needed for the country itself. In addition, the existence of export activities will also increase the level of economic activity in Indonesia and the level of state income will increase so as to encourage economic growth

Saputra (2016) states that the important role of exports to Indonesia's economic growth, this is because exports can bring foreign exchange for the country of Indonesia. The role that governments can take to increase exports for the purpose of funding foreign exchange is by working with exporters. The government has a role to boost revenue by creating an export

sector that can compete with export products from other countries, while exporters have a role in finding and increasing markets for export products. A very big role is in the hands of the government in making policies and rules in support of export activities, namely reducing the tariff rate for core raw materials and other components that will be used to produce export products.

In line with this study also, that exports have a positive and significant impact on gross domestic product, so to encourage the gross domestic product requires the role and increase in exports. Related to the increase in exports there are several steps that can be done by the Government to encourage the increase of Indonesian exports. The first step, simplification of export administration system through Indonesia National Single Window (INSW); Second, increasing research and development of Indonesian products. Third, improvement of infrastructure and infrastructure, road and electricity. fourth, exchange rate stability; and the last is an increase in labor problem solving (Hutabarat, 2007).

Salvator (1990) also confirmed that exports are one of the engines driving economic growth. A review by Salvator shows that exports are one of the main factors for developing countries to promote economic growth.

c. The Influence of Import on Gross Domestic Product in Indonesia.

Regression results showed a positive influence and significant 0.000. The value of significance found in less than 0.05, it means can be concluded that imports have a significant and positive relationship to gross domestic product in Indonesia from 1985 to 2016. The State does international trade in the form of goods and services due to natural resources between the country. This opinion suggests that international trade is actually influenced by the interaction between state-owned resources (relatively abundant factor of production factor) and production technology (which affects the relative intensity in which various factors of production are used during the production cycle).

One country that has relatively such resources is abundant compared to other countries and tends to produce more products that use those resources. Countries are more efficient in producing goods that have abundant resources. And a State must import to meet the needs of the country, because the country has not been able to produce or cost for own production more expensive.

Many researchs have been done to determine the growth of gross domestic product. Intermediate goods such as machinery and transportation equipment are very important inputs for the production of other commodities. To totally production of other natural resources, such imports of goods needed from developed

countries, to bring new technology to developing countries like Indonesia. That will ultimately increase factor productivity and increase output growth.

Maina (2008) said, the contribution of imports to industrialization and growth in less developed countries requires reallocation of resources and increased investment. In this effort, imports play an additional role, that is, increasing the efficiency of capital accumulation by importing relatively cheaper capital goods from high-income countries in R & D.

Several studies have been carried out in determining the growth of Gross Domestic Product. Intermediate goods such as machinery and transport equipment are an important input for the production of other commodities. Imports of these goods from developed countries bring new technology to developing countries, which in turn enhance the productivity of factors and leads to the growth of output (Coe, et al, 1997).

According to Baark (1988), the second approach is an innovation-oriented approach, which considers the importance of capital goods as a supply of new technologies for the manufacturing sector. Imports of capital goods supply efficient machinery that occupy new technologies, which are obtained from research and development in developed countries. Thus, the diffusion of technology embodied in domestic industries from developed

countries is important to increase productivity growth throughout the economy and this increases domestic output, which in turn, leads to GDP growth. A good example of the technology embodied in this import category is the import of computer hardware and software. This increases labor efficiency by reducing the time spent on production and thereby increasing production, which in turn leads to GDP growth.

Through capital accumulation, this new technology is incorporated into the production process and becomes a growth engine for the economy. The shape of the new technology is usually in the form of semi-finished goods and capital goods. Therefore, for developing countries, imports of intermediate goods and capital goods from more technologically advanced countries are a direct means of improving the efficiency of domestic production processes and their own innovation and growth processes.

The role of capital goods in the manufacturing sector can be seen from two perspectives. Oriented innovation and growth orientation. An efficient transport system is essential to facilitate the movement of goods at low cost, as it is said that the modal goods help to achieve new manufactured goods and affect the three main sectors of the economy namely agriculture, industry and transportation. The development of these three uni factors will lead to the growth of gross domestic product (GDP). Increased

industrial growth in turn requires considerable imports of additional capital goods (Maina, 2008).