The Analysis of Factors Affecting Foreign Investment in Indonesia

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Abstract: Foreign Direct Investment (FDI) has important role in Indonesian economic development and becomes the engine of growth for the economy. For all this reason, the government starts doing promotions attracting foreign investors to invest in Indonesia by issuing a number of policies. In fact, some foreign companies have left from Indonesia. This research aims at determining the effect of GDP, inflation, and infrastructure toward Foreign Direct Investment in Indonesia from 1981 until 2014. It uses time series data and Error Correction Model (ECM) as the method. Based on analysis findings, all variables used by stationary in first difference, dependent and independent variables in the equation of co-integrating regression has long-term relationship. In the short term, GDP and Infrastructure do not have a significant influence, while inflation has a negative influence and significant in α 5% toward Foreign Direct Investment. In the long term, GDP and Infrastructure have a positive effect and significant at α 5%, while inflation does not have a significant influence to Foreign Direct Investment in Indonesia.

Keywords: Foreign Direct Investment, GDP, Inflation, Infrastructure, ECM.

Introduction

Sets of government policies issued in Joko Widodo discuss the improvement of the investment climate in Indonesia. It demonstrates that the government is pro for investments done in Indonesia. In the economic policy package volume 1 and the latest, volume XI (red April, 2016), the policy regarding the investment that has been issued are the encouragement of property investment, facilities of investment permits in the industrial area and the length of licensing that are relatively short, the incentive of investment facilities in the area Special Economic Zone (SEZ) (Economic Policy Package Volumes I-XI, Ministry of National Development Planning 2016).

Attracting investment as much as possible is one of the important programs of each country, not only for less developed countries and developing countries, but also for developed countries. Various efforts made by a country to attract investors invest within as much as possible (Situmorang, 2011: 5).

Investment has an important role in economic development. Investment is one of the final components in macro-economic perspectives as indicators of internal balance in the situation of product market balance. On the other hand, investment also reflects the corporate world because that corporate world becomes sources of investment itself. Those important roles of investment become the engine of growth of economic development (Situmorang, 2011: 4).

Foreign Direct Investment (FDI) is an international capital flow where corporates of a country (home country) expand their operational as well as their network to other countries (host countries), monitor and control directly their embedded capitals. Thus, these subsidiaries are still the integral part of the main company. (Krugman, 2000: 214).
The investment climate as external environmental factors can determine the attractiveness of an investment. If the investment climate is conducive, the investment attractiveness is high, and vice versa. This is exactly what makes a developing countries work so hard to set a high economic growth strategy and strives to improve its investment climate constantly (Situmorang, 2011: 122-123).

This study aims at determining whether the change in GDP has an impact on FDI in Indonesia or not, in which UNCTAD (United Nations Conference on Trade and Development) claims that Indonesia is still classified as a developing country with a ranking of FDI was 19 in 2013 (World Investment Report, 2015) besides it also aims at developing of the previous study investigating the causal relationship between FDI and GDP. Another factor may have influenced FDI in Indonesia is the inflation rate. During the crisis in 1998/1999, inflation rate in Indonesia reached 58.4% of the previous year at 6.2% (World Bank, 2016), At that time, the value of FDI even became negative. FDI in 1998 reached US $ -240.8 million from the previous year reached US $ 4.677 billion. Good infrastructure will also affect the interest of foreign investors to invest in Indonesia. According to a report from The Global Competitiveness Report 2014-2015 released by the World Economic Forum (WEF), interest in doing business in Indonesia is influenced by several factors; one of those factors is infrastructure which occupies the fourth position.

Literature Review

Investment theory of John Maynard Keynes

In the calculation of total income in the economy (Y) is divided into four components of expenditure, i.e. consumption (C), investment (I), government spending (G) and net exports (NX). Under these conditions, the equation can be written as follows (Mankiw, 2003: 51):

\[ Y = C + I + G + NX \]

In Keynes's theory of the relationship between FDI and GDP is FDI affects GDP because GDP is Y. But there is another principle says that the amount of proportional investment to the change of output and net investment depends on economic growth or growth in Y, the principle is the principle of acceleration.

Acceleration principle is the rate or amount of proportional investment to the change of output (GNP). According J.M. Clark in Nopirin, employers want a certain relationship (certain proportionally) of its desired production (output) (Nopirin, 2000: 141).

\[ Kt = a \ Yt \]  
(1)

Where:
- \( a \) = ratio between capital and the desired output
- \( K \) = number of desired capital

Employers invest if desired amount of capital at a time is greater than the amount of capital actually owned (actual) then minus by depreciation. The investments in this sense can be written as follows (Nopirin, 2000: 141):

\[ I = Kt - Kt \cdot 1 \cdot (1 - d) \]  
(2)

\( d \) = depreciation

Total capital at the end of a period equal to \( Kt \cdot 1 \cdot (1 - d) \) plus net investment (Nopirin, 2000: 141).

\[ Kt = Kt \cdot 1 \cdot (1 - d) + It \]  
(3)
J.M. Clark in Nopirin also uses the assumption where the adjustments to the desired amount of capital are done in one period (adjustment coefficient = 1). As the implication, amount of capital in period t is equal to the desired amount of capital in period t. Therefore, it can be obtained (Nopirin, 2000: 142)

\[ K_t = K_t \]  \hspace{1cm} (4)

So that the equation (4) becomes:

\[ K_t = a \cdot Y_t \]  \hspace{1cm} (5)

By entering the equation (5) and (2) into the equation (1), it can be obtained acceleration principles as follows (Nopirin, 2000: 142):

\[ I_t = K_t - K_t - 1 + d \cdot K_t - 1 \]  \hspace{1cm} (6)

\[ I_t = a \cdot (Y_t - Y_t - 1) + d \cdot K_t - 1 \]  \hspace{1cm} (7)

Equation (7) means that the gross investment depends on output growth and depreciation while net investment depends on output growth. As the consequence, if an economy is not growing, the investment will also be equal to zero (Nopirin, 2000: 142).

**Foreign Direct Investment or Foreign Direct Investment (FDI)**

FDI is an international capital flow where an enterprise of a country establishing or expanding operations or business networks in other countries. One of the prominent features of foreign direct investment is it involves not only the transfer of resources, but also imposes control of foreign (owners of capital) (Krugman, 2000: 214).

In addition, Thomas A. Pugel mentions “FDI is the flow of funding provided by an investor or lender (usually firm) to establish or acquire a foreign company or to expand or finance an existing foreign company that the investor owns and controls” (Pugel, 2007:345).

**Factors Affecting Foreign Direct Investment**

1. **Gross Domestic Product (GDP)**
   
   Gross Domestic Product (GDP) is one of the other components of the national products or national incomes providing information on the economy in a country. GDP can be defined as the value of goods and services produced within the country in a given year (Sukirno, 2004: 33).

2. **Inflation**
   
   Inflation is the rise in general prices continuously but it does not mean that the prices of various goods rise by the same percentage. Besides, the increase in these prices may not coincide. In inflation, the important thing is that prices are rising continuously in a period. If the increase is only once though by a large percentage, it is not the so-called inflation (Nopirin, 2000: 25).

3. **Infrastructure**
   
   Infrastructure is something that is important in the economy, as mentioned in The Global Competitiveness Report "Extensive and efficient infrastructure is critical for ensuring the effective functioning of the economy, as it is an important factor in Determining the location of economic activity and the kinds of activities or sectors that can develop within a country"(The Global Competitiveness Report 2014-2015).

   On the other side, Mankiw says that the equipment and infrastructure used to produce goods and services is called physical capital (physical capital) (Mankiw, 2003).
Hypothesis Development

The theory used in relation GDP and Foreign Direct Investment is a theory about affected investment. It has been mentioned earlier that "investment, when it occurs in response to increases in customers demand stimulated by rising income, is called induced investment." (Rosyidi, 2006: 189).

Acceleration principles also mentions that the level or amount of proportional investment to the change of the output (GNP). J.M Clark in Nopirin argues that employers want a certain relationship (a certain proportion) of its desired production (output). Net investment depends on output growth. If economy is not growing, the investment will be equal to zero. (Nopirin, 2000: 141). Its assumption is supported by the results of research conducted by Sarwedi showing that GDP has a positive and significant relationship to FDI (Sarwedi, 2002: 28-32)

Ha1: GDP has a positive and significant impact on foreign direct investment in Indonesia

The Effect of Inflation on Foreign Direct Investment

The assumption used to establish the relationship between inflation and direct investment is that when inflation in the host country is caused by demand pull inflation, it will reduce the interest of foreign investors to establish a new company in the country. In addition, if inflation is caused by cost push inflation, then it will also reduce foreign investment due to high production costs, such as raw material costs. This is line with the MNC theory in which a reason of founding of MNC in the host country is because the cost of production inputs is low.

Furthermore, when there is inflation, the monetary authorities will raise interest rates. In accordance with MEC theory, when interest rates increase, the investment reduces. Based on these conditions, it is supposed that inflation has negative relationship to foreign direct investment in Indonesia.

Ha2: Inflation has a negative and significant impact on foreign direct investment in Indonesia.

Infrastructure Influence on Investment

Demand for investments to a country or region is also influenced by several things. A thing should be taken into consideration is the factor of the infrastructure where these factors can affect the smooth distribution of output to the consumer (Wijayanti, 2011: 25).

If the host country’s infrastructure is good, it will facilitate access of distribution. That easy access will improve the efficiency and effectiveness of production. Thus, it will attract foreign investors to invest in the country. Poor infrastructure can be difficult for foreign investments to conduct their business; even large-scale investment is willing to build infrastructure their own (Sitinjak, 2011: 44-54).

Ha3: Infrastructure has a positive and significant impact on foreign direct investment in Indonesia.
Methods

Method of collecting data

The data used in this research is secondary data. Secondary data is data that has been collected by the data collecting agency and published to data user community (Kuncoro, 2011: 30). Data on FDI, GDP, and inflation is also obtained from the World Bank, while data on infrastructure is obtained from the Central Statistics Agency.

Type of data

The data used in this research is quantitative data. Quantitative data is data in the form of numbers (numerical). Data with interval and ratio is included into the classification of quantitative data (Sugiarto et al, 2003: 21).

Samples

The sampling technique used in this study is judgment sampling that is essentially a form of convenience sampling when it is reviewed from the method of taking the sample units. Samples are taken based on the criteria that have been formulated in advance by researchers. In the formulation of those criteria, subjectivity and experience of researchers are significant (Sugiarto, 2001: 40).

Research Variables and Operational Definitions

Variables used in this research are divided into two variables-- dependent variables and independent variables. Those independent variables are the Gross Domestic Product (GDP), inflation, and infrastructure, while the dependent one is Foreign Direct Investment (Foreign Direct Investment / FDI) in Indonesia. The operational definitions for each variable used in this study include:

1. **Foreign Direct Investment (FDI)** is a direct foreign investment that refers to capital flows of direct investment in the reporting economy. It is the total of equity capital, reinvestment of incomes, and others.
2. **Gross Domestic Product (GDP)**, in this research, is the sum of added value of gross by all producers in the economy plus any product taxes and minus any subsidies not included in the value of the product. It is calculated without making deductions for depreciation of artificial assets or for depletion and degradation of natural resources.
3. **Inflation (INF)** is calculated by the consumer price index reflecting the change of annual price percentage.
4. **Infrastructure (PJ)**, the infrastructure used in this study is the physical infrastructure in the form of a length of road categorized as good or already paved roads--it is measured in kilometers (km).

Data Behavior Test

Stationarity test

The test of unit root is used to test whether the time series data used in the study is non-stationary or not. The model that will be tested its stationarity is as follows (Ariefianto, 2012: 133):

\[ y_t = \rho y_{t-1} + e_t; e_t \]

Stationary requires autoregressive coefficient having a value of less than 1 absolutely. This condition can be obtained from the solution of order one difference equation. Requirement to attain stability (convergence) is \(|\rho| < 1\) and must be met (Ariefianto, 2012: 133).
Method of Augmented Dickey-Fuller (ADF)

Dickey Fuller in Ariefianto says that Dickey-Fuller unit root test is done by calculating statistics $t$ of the coefficient $\gamma$ and compared with a critical value. Here, the critical value is obtained from the relevant tables of Dickey Fuller instead of $t$ distribution table that is used with degrees of freedom—the number of observations ($T$) and the level of significance ($\alpha$) (Arieffanto, 2012: 135).

Equation with ADF method is as follows:

$$\Delta y_t = (\rho - 1)y_{t-1} + e_t = \delta y_{t-1} + e_t$$

Cointegration Test

Cointegration occurs if the independent variables and the dependent variables are in a trend (time series), so that each is not stationary. However, when the linear combination of both variables is regressed into a stationary, it also can cause spurious regression. Cointegration is easy to occur in the time series data involving long periods of time (Winarno, 2011: 11.1).

Test of Cointegration Engle Granger (EG) or Augmented Engle Granger (AEG)

First thing to do to perform this testing is to find residual. Since $u_t$ is estimated based on the $\beta_2$ cointegration parameter estimation, the significance of the critical value of DF or ADF is not quite right. Therefore, testing of DF or ADF in this context is known as Engle Granger (EG) and Augmented Engle Granger (AEG) (Gujarati, 2012: 457).

When each used variable is not stationary, the result of regression is likely spurious. However, when testing of unit root in the residuals is done, it can be obtained the following equation (Gujarati, 2012: 458).

$$\hat{\Delta u_t} = \beta \hat{u_t}$$

Johansen Cointegration Test

Johansen test is used to determine how much co-integration happen. Johansen cointegration test can be shown by the following equation (Virgantari, 2010: 81):

$$\Delta Y_t = \beta_0 + \pi Y_{t-1} + \sum_{i=1}^{p} \tau_i \Delta Y_{t-1} + \varepsilon_t$$

The components of the vector $Y_t$ can be said to be cointegrated if there is a vector $\beta = (\beta_1, \beta_2, ..., \beta_n)$ so $\beta Y_t$ linear combination is stationary. Vector $\beta$ is called vector of cointegration. Rank of cointegration in vector $Y_t$ is the number of independent cointegration vector, it can be seen through the test of Johansen (Virgantari, 2010: 81).

Error Correction Model (ECM)

This research analyzes the factors affecting investment in Indonesia by using method of Error Correction Model (ECM). The reason why researcher uses this ECM analysis model is to avoid spurious regression. This spurious regression is indicated by the high value of $R^2$ whereas the value of Durbin-Watson statistic (DW) is relatively low. This means that dependent and independent variables actually have no connection at all. ECM is also used to balance the short-term economic relationship variables that have had a balance in the long term.

In the short term, there may be no possibility of an imbalance (disequilibrium) that requires correction by using error correction model (ECM) (Winarno, 2015: 10.9).

ECM estimation model used in this research is:
$\text{FDI}_t = b_1 + b_2PDB_t + b_3\text{INF}_t + b_4\text{PJ}_t + e_t$

Where:
- $\text{FDI}_t$ = Foreign Direct Investment in Indonesia
- $b_1$ = Intercept
- $PDB_t$ = Gross Domestic Product
- $\text{INF}_t$ = Inflation
- $\text{PJ}_t$ = Length of Road
- $b_2$-$b_4$ = coefficient of each independent variable on FDI
- $e_t$ = error term

In this research, the data processing is not done manually, but by using data processing software i.e. Eviews 8.0. This software has been selected because it has advantages for processing time series data, in accordance with the use of this type of data in this research.

**Analysis of Results**

**Stationarity Test (Root Unit)**

Test roots unit is stationary test data intended to observe whether certain coefficient of autoregressive models estimated to have a value of 1 or not (Anastasia, 2010: 77). To do so, it uses Augmented Dickey Fuller (ADF). The result of stationary test at this level is expected that all the variables are not stationary and its probability value must be greater than the specified alpha at the level of $\alpha$ 5%

<table>
<thead>
<tr>
<th>Variable</th>
<th>Statistical absolute value t</th>
<th>Critical Value 1%</th>
<th>Critical Value 5%</th>
<th>Critical Value 10%</th>
<th>Critical Value Probabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNFDI</td>
<td>-1.879818</td>
<td>-3.646342</td>
<td>-2.954021</td>
<td>-2.615817</td>
<td>0.3373</td>
</tr>
<tr>
<td>LPNDB</td>
<td>0.19880</td>
<td>-3.646342</td>
<td>-2.954021</td>
<td>-2.615817</td>
<td>0.9684</td>
</tr>
<tr>
<td>INF</td>
<td>-4.792234</td>
<td>-3.646342</td>
<td>-2.954021</td>
<td>-2.615817</td>
<td>0.0005</td>
</tr>
<tr>
<td>LPNJ</td>
<td>-3.169615</td>
<td>-3.646342</td>
<td>-2.954021</td>
<td>-2.615817</td>
<td>0.0310</td>
</tr>
</tbody>
</table>

From the result of ADF stationarity test in Table 1, it shows that all variables except at the level of inflation are not stationary. It can be seen from the statistical absolute values t that are smaller than the critical values, and also the probabilities that are greater than 0.05. The stationary test shows that the average value, variance and covariance in the variables that are used are not constant.

Based on these test results, because all the variables except inflation are not stationary, at the next level, stationary test at first difference level will be done. The method that is used is still same with the previous—ADF method.

**Table 2: Stationarity Test Results at First Difference**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Statistical absolute value t</th>
<th>Critical Value 1%</th>
<th>Critical Value 5%</th>
<th>Critical Value 10%</th>
<th>Critical Value Probabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNFDI</td>
<td>-6.514775</td>
<td>-3.670170</td>
<td>-2.963972</td>
<td>-2.621007</td>
<td>0.0000</td>
</tr>
<tr>
<td>LPNPDB</td>
<td>-5.598209</td>
<td>-3.653730</td>
<td>-2.957110</td>
<td>-2.617434</td>
<td>0.0001</td>
</tr>
<tr>
<td>INF</td>
<td>-6.970533</td>
<td>-3.661661</td>
<td>-2.960411</td>
<td>-2.619160</td>
<td>0.0000</td>
</tr>
<tr>
<td>LPNJ</td>
<td>-4.741483</td>
<td>-3.653730</td>
<td>-2.957110</td>
<td>-2.617434</td>
<td>0.0006</td>
</tr>
</tbody>
</table>
From the results of stationary test at the first difference level in Table 2, it shows that all of the statistical absolute values \( t \) are greater than the critical values, and the probabilities are already smaller than \( \alpha \) 5%. Therefore, it can be said that all variables are stationary at this level.

### Cointegration test

Cointegration test is a test used to see whether there is any long-term relationship between the observed variables or not. Requirements that have to be met in this test is \( e_t \) that has to be stationary (Juanda, 2012: 126). To get the value of \( e \), firstly it needs to conduct a regression on the variables that are used. The results of that regression model can be seen in Table 3.

#### Table 3: Output Long Term Model

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient of regression</th>
<th>Std. Error</th>
<th>Probabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-20.46023</td>
<td>4.537826</td>
<td>0.0001</td>
</tr>
<tr>
<td>LNPDB</td>
<td>0.978523</td>
<td>0.367681</td>
<td>0.0124</td>
</tr>
<tr>
<td>INF</td>
<td>-0.030592</td>
<td>0.016429</td>
<td>0.0724</td>
</tr>
<tr>
<td>LNPJ</td>
<td>1.383764</td>
<td>0.623783</td>
<td>0.0342</td>
</tr>
<tr>
<td>( R^2 )</td>
<td></td>
<td>0.805689</td>
<td></td>
</tr>
<tr>
<td>Adjusted ( R^2 )</td>
<td></td>
<td>0.786258</td>
<td></td>
</tr>
</tbody>
</table>

Based on the output above, the result of long-term equation is as follows:

\[
\text{LNFDI}_t = -20.46023 + 0.978523 \text{LNPDB}_t - 0.030592 \text{INF}_t + 1.383764 \text{LNPJ}_t + e_t
\]

In the long term, constant value of the equation is -20.46023 which means that there is a reduction in FDI variable as many 20.46023 if the value of all explained variables is 0.

Variable LNPDB influences positively and significantly to LNFDI with coefficient of 0.978523 and probability of 0.0124. That means that every 1% increase in GDP will increase foreign direct investment of about 0.978523%. Variable LNPJ also have a positive influence and significant to LNFDI, the value of the coefficient is set at 1.383764 LNPJ with a probability value of 0.0342, which means that each increase of 1%, LNPJ will increase LNFDI approximately 1.383764 %. On the other side, INF variable does not have a significant effect on the variable LNFDI.

In cointegration test, if \( e_t \) of the regression results in table 4 are stationary, dependent and independent variables are cointegrated, to determine whether the residual \( e_t \) is stationary or not, its residual has to be tested by root unit at first. The results can be seen in the table 4.

#### Table 4: Residual Stationarity Test

| Variable | Statistical absolute value \( t \) | \( 1\% \) | \( 5\% \) | \( 10\% \) | Probabilities |
|----------|-----------------------------------|---------|--------|--------|-------------|-------------|
| Residual (e) | -3.546280               | -3.646342 | -2.954021 | -2.615817 | 0.0128      |

Based on the results of stationarity test on residuals (e), it shows that the statistical absolute value \( t \) is greater than 5% and the probability \( \alpha \) is also greater than 0.05. It means that there is cointegration; there is a long-term relationship between the independent and dependent variables.
Error Correction Model (ECM)

Table 5: Output of Error Correction Model Estimation

<table>
<thead>
<tr>
<th>Variable</th>
<th>Notes</th>
<th>Coefficient of regression</th>
<th>Std. Error</th>
<th>Probabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-</td>
<td>-0.075028</td>
<td>0.199686</td>
<td>0.7100</td>
</tr>
<tr>
<td>D(LNPDB)</td>
<td>PDB</td>
<td>0.589070</td>
<td>1.056474</td>
<td>0.5816</td>
</tr>
<tr>
<td>D(INF)</td>
<td>Inflation</td>
<td>-0.040111</td>
<td>0.016753</td>
<td>0.0236</td>
</tr>
<tr>
<td>D(LNPJ)</td>
<td>Infrastructure</td>
<td>4.003733</td>
<td>3.145064</td>
<td>0.2135</td>
</tr>
<tr>
<td>E(-1)</td>
<td>Error term</td>
<td>-0.604059</td>
<td>0.175502</td>
<td>0.0018</td>
</tr>
</tbody>
</table>

R-squared 0.600307
Adjusted R-squared 0.543208

From the output above, it obtains the equation:

\[ D(\text{LNFDI}_t) = -0.075028 + 0.589070 \ D(\text{LNPDB}_t) - 0.040111D(\text{INF}_t) + 4.003733D(\text{LNPJ}_t) - 0.604059E(-1) \]

The calculation of ECM output uses the data that has been transformed into a first difference form; it is marked by adding "D" on each used variable. Constant value -0.075028 with a probability of 0.7100, means that when all the independent variables are 0 then those will not give any influence on the variable D (LNFDI). In the short term variable D (LNPDB) and D (LNPJ) statistically have no effect on variable D (LNFDI). It means that in the short term, GDP and infrastructure of road length have no effect on Foreign Direct Investment in Indonesia because its probability value is more than α of 5% i.e. 0.5816 and 0.2135. On the other side, variable D (INF) has a negative effect on D (LNFDI) with coefficient -0.040111 and probability 0.0236 is below α 5%. This means that inflation has a negative effect on foreign direct investment in Indonesia, every increase 1% of inflation then it will decrease the value of foreign direct investment of 0.040111%.

Error term in that output is -0.604059 which means that the balance of short-term fluctuations will be corrected toward long-term balance where at about 0.0604059% of its adjustment process occurs in the first year and the residual ones occur in the following years.

Discussion of Results Analysis and Their Implications

From the analysis that has been done, it can be known that the dependent variables are LNPDB, INF, and LNPJ; together they obviously and significantly influence on the dependent variable LNFDI. It can be proven by the results of F test that show the results of significance F with probability 0.000000 in the long term and 0.000025 in the short term. Those independent variables can explain that variation of variable LNFDI is 80.56% in the long term and 60.03% in the short term, while the residual is explained by other variables outside the model. Another variable which has possibility is country risk, a policy of pro-foreign direct investment, the basic electricity cost, the government bureaucracy, tax rates or tax regulations, customs, and labor regulation. While in the testing done individually, not all dependent variables influence the independent variables in the long and short term. In the long term, variable LNPDB and LNPJ have positive and significant effect on the variable LNFDI while variable INF does not have any influence. In the short term, it is changed and turned where the variable LNPJ and variable LNPDB have no effect on the variable LNFDI whereas variable INF has a negative and significant effect on the LNFDI.
Effect of GDP on Foreign Direct Investment in Indonesia

The result of Error Correction Model (ECM) estimation shows that GDP in the short term has no influence on foreign direct investment in Indonesia. This result rejects the introduced hypothesis where GDP has a positive and significant impact on foreign direct investment in Indonesia. However, in the long term, the hypothesis is accepted that GDP has a positive relationship with the probability by a significant level of 0.0124 at α 5%.

The cause of GDP only affects foreign direct investment in the long term is that the growth and change of GDP indirectly increase foreign direct investment in the short term. Besides the increases of goods and services productions are faster than foreign direct investment in Indonesia. In the long term, if the GDP or the Indonesian economy continued to grow well, it will attract foreign investors to invest in Indonesia, so it will increase employment opportunities. This is because the investors open their business in Indonesia and in need human resources. Besides, GDP also reflects the increase of people’s income, and then the purchasing power will rise in line with GDP’s growth. If purchasing power goes up, it means that there is an increased demand for goods or services that will attract the foreign investors. Ultimately it will increase foreign direct investment.

Effect of Inflation on Foreign Direct Investment in Indonesia

In contrast to GDP, inflation in the short term has a negative and significant relationship to foreign direct investment. However, in the long term, it actually does not have a significant impact on foreign direct investment in Indonesia.

Inflation is a short-term economic problem; therefore it also gives short term influence on foreign direct investment.

Infrastructure influence on Foreign Direct Investment in Indonesia

Result of research on infrastructure of road length indicates a positive and significant impact on foreign direct investment in Indonesia. It is because the longer the road, the easier distribution of goods and services. Longer road with good quality will facilitate the running economic activities.

Conclusion:
Based on the study of foreign direct investment in Indonesia that has been done, it can be concluded:
1. The first hypothesis clarifies that GDP has a positive and significant relationship to foreign direct investment in Indonesia. In the empirical findings in this research, it shows that GDP has positive and significant relationship to foreign direct investment in Indonesia in the long term, but not in short term.
2. The second hypothesis states that inflation has a negative and significant relationship to foreign investment in Indonesia. However, as the result of analysis, inflation only has a negative and significant impact on foreign direct investment in the short term, not for long term.
3. The last hypothesis states that the infrastructure has positive and significant impact on foreign direct investment in Indonesia. In the long term, it has a positive and significant relationship to foreign direct investment. However, in the short term, it does not have any.
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