The Determinant Factors of Foreign Direct Investment (FDI) on Indonesian Economy

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Abstract---*Economic capacity has main role in developing countries including Indonesia, many factors can impact economic capacity in a country. This study analyses the impact of FDI on economy using cross-section regression in 2012 and 2016. The model is used Ordinary Least Square (OLS). Independent variables are Human Development Index (HDI), Labor Force in log lormal (Ln LF). Foreign Direct Investment (FDI) and Domestic Investment (DI). Dependent Variable is Economy Capacity is measured by Gross Domestic Regional Bruto in log normal (Ln GDRB). Our results suggest that foreign direct investment has positif impact on Indonesia's economy in 2012 and 2016.*

Keywords---*Foreign direct investment, Economy, Indonesia*

I. Introduction

Investment is one of the main sources of economic growth. Investment activities produce investments that will continue to increase the capital stock. Furthermore, an increase in capital stock will increase productivity and production capacity and quality, which in turn can encourage economic growth (*Sulistiawati, Rini, 2012*).

Sources of investment can come from within the country that is Domestic Invesment and from abroad that is Foreign Direct Investment (FDI). FDI has a large role in completing domestic investment needs, it can increase production ability and become a media for transferring technology from abroad into the host country. In terms of production, FDI can increase productivity of domestic companies by transferring technology that is carried out simultaneously with the entry of FDI (*Jufrida Firdaus et all, 2016*). Increasing FDI is expected to increase the superiority of domestic products will futher will increase the competitiveness and growth of economy in Indonesia.

In terms of capital formation, the role of investment both domestic and foreign through foreign direct investment (FDI) contributes to economy of the country. FDI, capital, and labor are important factors in the process of economic growth (*Jufrida Firdaus et all, 2016*). Besides that, FDI is also considered as an indicator of Indonesia's success in maintaining the stability of economic and non-economic variables that can make foreign investors willing to invest in Indonesia.

The development of FDI in Indonesia during the 2004-2019 period fluctuated, but it showed an increasing trend. During this period, the higest FDI occurred in 2019, amounting to 23,429 million US$, while the lowest FDI occurred in 2016, amounting to 3,921 million USS$. This fluctuating development occurred due to several factors, including the security turmoil occurred in Indonesia which made foreigner investors lethargic to invest their capital, besides that, 2016 as

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a political year made foreigner investors wait and see. In 2017, FDI increased again to 20,579 million US$ until 2019 reached the highest number.

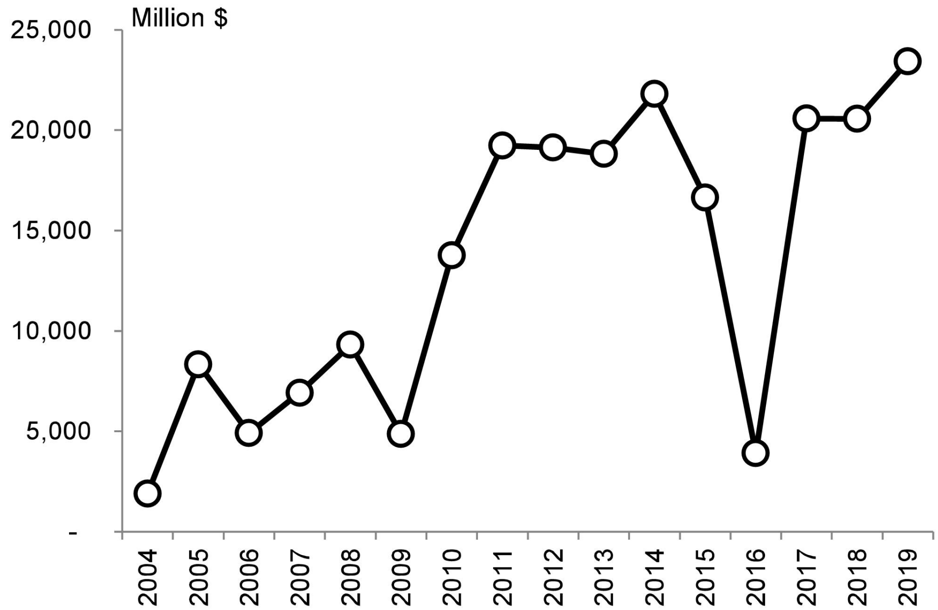

Figure 1. The Development of Foreign Direct Investment 2004-2019 in Indonesia

Data Source: Statistics of Indonesian Bank, 2019

Along with the increase in FDI in Indonesia, it is expected to increase Indonesia's economic growth. Bengoa (2011) states that FDi does not only affect the level of per capita income but will also affect economic growth.

Studies about the role of FDI in economic growth showed mixed results Some of the studies include Hoque ME (2018), Pandya (2017), Haydaroğlu (2016), Ould (2015), Taiwo (2015), Louzi (2011), Zaman (2011), and Bengoa (2002) produce the same conclusions, that FDI has a positive impact on economic growth. Even Ould (2015) conducted a study related to the impact of Foreign Direct Investment (FDI) on Mauritania's economic growth for the period 1976 to 1995. It can be concluded that an increase in FDI not only had a positive impact on economic growth, but also the level of GDP. Therefore, the authors conducted a study of the effect of FDI on Indonesian economy.

However, it is not certain that the positive effect of FDI on economic growth occurs in Indonesia, because, in the reality Indonesia’s economic growth in the last decade tended to decline. This is reinforced by the results of a study conducted by Kholis (2012) in his article entitled The Impact of Foreign Direct Investment on Indonesia's Economic Growth. The study used panel data analysis in 2006-2010 in 15 provinces in Indonesia. The results of his study show that there is a negative impact of FDI on economic growth. The results which are contrary to several other studies encourage the authors to study the impact of FDI on Indonesian economy.

II. Literature Review

The Influence of FDI on Economic Growth

Foreign Direct Investment is movement of foreign money for investment abroad by direst to work in industrial, financial, construction, aricultural, or service units (*Arabyat, 2017*). FDI benefits the host country not only in the form of physical capital flows but also in managerial skill, transfer of sophisticated technologies, and innovative products. In addition, it is also possible tha transfer of sophisticated technologies can be adopted form multinational ompanies and the governments of developed countries can spread to local companies (*Erum, 2016*).

Economic growth is the most important element in development goal of a country, The impact of FDI on economic growth has been explained in the theories of modernization and dependency. The theories explain that economic growth needs capital investment, in another word, FDI will promote economic growth (*Zaman, 2011*). In line with the new theory of economic growth, FDI can affect not only Per capita income but also can effect the rate of economic growth (*Bengoa, 2011*).

Foreign Direct Investment (FDI) plays the important role in economic growth. From the foreigner investor's side, the benefit received is the efficient use of their assets and resources, while the recipient of FDI benefits from acquiring technology and engaging in international production trading networks (*Louzi, 2011*). Erum (2016) said that FDI present innovation, new technology, better managerial and administrative as well as better development.

In line with Alzaidy et all, 2017 state that The importance of FDI can be seen from several factors including the transfer of technology, new skills, knowledge and techniques in the company's production process, increasing competition between production for local and foreign producers, exports and imports and economic growth.

Several studies related to the impact of FDI on economic growth including, Bengoa (2003) using a panel of data produced the conclusion that increasing FDI will encourage the increase of economic growth, the same results are obtained both using fixed effects and random effects. Instead Louzi (2011) investigate the relationship between FDI and GDP using time series data from the Jordan economy, the results of his study showed that FDI inflows had no effect on economic growth. However, domestic investment has a significant influence on GDP growth rates.

Taiwo and Olayemi (2014) conduct research regarding the effect causality of FDI and economic growth in sub-Saharan Africa from the 1995-2011 using the panel unit root test, the cointegrated test. Causality test using panel data shows that there is a two-way causality between economic growth and FDI in sub-Saharan Africa.

Erum (2016) in his study inserted the FDI variable and domestic investment in the model, concluding that FDI has a positive effectt on the recipient's economy because FDI brings innovation, new technology, better managerial and administrative skills along with research and development opportunities. By using panel data analysis, it provides the main conclusion that FDI plays an important role in the process of economic growth. Based on the regression results, it shows that the effect of FDI on GDP is higher than the effect of domestic investment on GDP.

Haydaroğlu (2016) in his study related to the effect of FDI on economic growth in BRICS countries during the 1995-2013 period using panel data estimation techniques. Based on the RE model and the FE model, the results of this study reinforce the view that FDI is seen as a major determinant of economic growth. This study found that FDI has a positive and significant influence on economic growth.

Mihaylova Svilena (2015) in her study stated that FDI has a positive effect on growth and which in turn will benefit the entire economy. If growth triggered by FDI was initially limited to several sectors where workers receive higher wages, in the long run growth in these key sectors has the potential to contribute to reducing income inequality in the host country (Abdul Hadi et al., 2018).

Similarly, Assadzadeh Ahmad and Javad Pourqoly (2013) concluded that FDI can help achieving key economic goals including creating jobs, developing local skills and increasing technical progress. FDI may even be the main factor for sustainable growth in GDP per capita. In detail the effect of foreign direct investment on welfare through 2 ways namely direct and indirect ways, FDI directly impacts on the creation of new jobs, indirectly FDI affects on macroeconomic indicators, namely increasing total investment and economic growth.

III. Methodology

Data

The main independent variable is Foreign Direct Investment (FDI) and the other explanatory variable is the normal log of the amount of Domestic Investment (DI), quality of human resources, and number of labor force. Dependent variable is GRDP. The indicator used to measure the quality of human resources is the Human Development Index (HDI). The Total labor force is measured based on the normal log of the total labor force (Ln LF). While economic capacity is measured based on the GDP normal log.

All data comes from secondary sources at the provincial level in Indonesia obtained from various statistical reports for Indonesia in 2012 and 2016. FDI and Domestic Investment data are obtained from the publication of the Investment Coordinating Board (BKPM).

Model

This study analyzes the relationship between FDI and control variables on Indonesia's economic capacity based on cross-provincial data. Therefore, the authors in analyzing the relationship between independent variables to the dependent variable use multiple regression analysis. Some authors use this model in their writings including Alzaidy Ghaith et al (2017), Assadzadeh Ahmad and Javad Pourqoly (2013), Louzi Basem Mohammed & Abeer Abadi (2011), Bengoa Marta & Blanca Sanchez-Robles (2003). The formulation of this research model is as follows:

$$\text{Ln GDRB} = \beta_0 + \beta_1 \text{ FDI} + \beta_2 \text{ DI} + \beta_3 \text{ LF} + \beta 4 \text{ HDI} + e$$

The method used to estimate the parameters in the linear regression function in this study is the cross-section data model in 2012 and 2016 with the ordinary least squares method (OLS) which is solved with the help of the Eviews program.

IV. Result and Discussion

The results of data processing through cross-section regression analysis found that the variable of Foreign Direct Investment (FDI) has a positive effect on the economy (Ln GRDB). This effect has a consistently positive effect on both 2012 and 2016 data. Similarly, the Domestic Investment (DI) variable consistently has a positive effect on the economy (Ln GRDB), although a regression using 2012 data shows less significant results. The Human Development Index (HDI) and Labor Force (Ln LF) variables both have significant positive effects using both 2012 and 2016. Data on regression results to analyze the effect of FDI on the economy in Indonesia are presented in the following table:

Table 1: Regression Results of the FDI Effect on the Economy in Indonesia in 2012 and 2016

Independent Variables	Ln GRDB	
	2012	**2016**
FDI	**0.171**	**0.287**
t test	*(3,575)****	*(5.688)****
DI	**0.018**	**0.101**
t - test	*(0,351)*	*(2,238)****
HDI	**0.107**	**0.053**
t test	*(3.756)****	*(2,967)****
LNLF	**0.818**	**0.545**
t - test	*(8,148)****	*(5,714)****
Constant	**-10,289**	**4,693**
t - test	*(-4.132)****	*(2,887)****
Adj R2	0.897	0.885
F – test	*(70,526)****	*(64,452)****

The positive and significant effect of FDI on economic growth supports the theory that FDI not only produces physical capital but also increases management capability, technology transfer, and develops innovation from developed countries to host countries (Erum, 2016). In the economy, direct investment shows a positive tendency that will drive an increase in GDP / GRDP and a country's economic growth. This can also be proven from this study that the increasing trend of FDI also increases the country's GDP (Ould, 2015).

On the other hand, the Human Development Index (HDI) as a representation of capital. Humans have an important role in improving the economy. The increase in the Human Development Index (HDI) will encourage increased labor productivity through increased skills and creativity. Besides that, the increase in HDI means an increase in the level of education. Education as a source of further knowledge will encourage increased technological progress.

Increasing Foreign Direct Investment will increase economic growth. The achievement of economic growth will be sustainable if a country has a productive workforce and high-quality human resources.

V. Conclusion

The effect of FDI on the Indonesian economy using regression with cross-section data for 2012 and 2016 shows consistent results. FDI contributes significantly to increasing economic capacity in Indonesia. This condition shows that investment in Indonesia contributes to the economy in Indonesia. The increasing trend of FDI gives an indication that Indonesia is one of the countries that is in demand by foreign investors. In other words, Indonesia has shown good performance to improve competitiveness as an investment destination country.

FDI is an important aspect to achieve economic growth, the growth will be higher if accompanied by absorption created through increased exports, increased imports of capital goods, trade liberalization policies and accompanied by human resource development (Zaman, 2011). The positive impact of developing human capital on economic growth reflects the increased accessibility of the community in education and training in Indonesia. On the other hand, the number of the workforce will encourage economic growth. This gives an indication that there is an increase in the number of skilled labor force that has high productivity.

One of the important things to increase economic growth through increasing FDI is by removing barriers to entry for foreign investors, inefficient bureaucracy and less supportive infrastructure. These three things need to be the focus of government attention so that Indonesia becomes one of the investment destination countries.

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