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Foreign Direct Invesment Effect on Asean Countries GDP

Agung Edi Rustanto
Polytechnic LP3I Jakarta
Jakarta, Indonesia
agungedirustanto75@gmail.com

Jaenudin Akhmad
Polytechnic LP3I Jakarta
Jakarta, Indonesia
zeinakhmad135@gmail.com

Edi Wahyu Wibowo
Polytechnic LP3I Jakarta
Jakarta, Indonesia
kaifahal.indonesia@gmail.com

***Abstract*—Foreign Direct Investment (FDI) occurs when a company from a country invests in a long period of time to a company in another country. This study uses quantitative methods with panel data secondary from 2012-2016 by combining 10 ASEAN countries (Indonesia, Malaysia, Singapore, Thailand, Philippines, Vietnam, Myanmar, Brunei, Laos, Cambodia). The result of the partial *t*-test is obtained that the *t*-statistical probability value is 0.0026. Then the statistical probability <α = 5% is 0.0000 <0.05. Therefore, it can be concluded that the FDI variable partially influences the positive significance of the GDP variable. From the calculation of the F value, it is known that *F*-counts> *F*-table (1480.07> 4.03) then H0 is rejected and H1 is accepted (*F*-count is in the H1 reception area). Then also the probability (prob.) Of the table above is equal to 0.000> 0.005, then H0 is rejected and H1 is accepted. So that simultaneously or together the independent variables have a significant effect on the dependent variable. Efforts to increase the interest of foreign investors to invest in ASEAN countries are needed. Some policy strategies that can be considered to improve economic growth are (1) Increasing FDI growth shows that the potential of foreign financing sources is relatively large and still open. This is in line with the capabilities and advantages that are proven to contribute to the acceleration of development in a country. Therefore, countries in ASEAN need to improve infrastructure, streamline bureaucracy to attract foreign investors. (2) Economic integration in the form of trade, investment and financial liberalization encourages increased activity of the Multi National Company.**

Keywords—investment, FDI, GDP, ASEAN.

I. INTRODUCTION

Economic theory defines investment as an expenditure to purchase capital goods and production equipment with the aim of replacing and especially adding capital goods in the economy that will be used to produce goods and services in the future. Investment is the purchase of goods that will later be used to produce more goods and services [1]. The definition of investment as an expenditure by the producer sector (private) for the purchase of goods and services to increase the stock used or for the expansion of the plant. Foreign direct investment (FDI) occurs when a company from a country invests in its capital long term to companies in other countries. The country of origin of the company that invests is called the host country while the country where the investment is addressed is called a home country. What is meant by direct foreign investment is international capital flows where companies from one country expand or establish a company. Therefore, not only the transfer of resources, but also the control of foreign companies. Direct investment means that companies from investment countries directly supervise assets planted in capital importing countries. Foreign direct investment can take several forms, namely: the establishment of a company in which the investor's state has a majority shareholding in the formation of a company in the country importing capital or placing fixed assets in another country by a national company from the investment country as stated in [1].

Based on research from Aisyah in [2] entitled Analysis of the influence of foreign direct investment (FDI) on the economic growth of the ASEAN countries in 1980-2009, it was stated that the era of globalization has encouraged all countries to increase their economic growth, including ASEAN countries. ASEAN countries must understand that the world economic situation will continue to be challenging so it must prepare specific strategies to deal with global economic uncertainty that can continue for years to come. The net outflow of capital deficits that occur can mean that there is a dearth of development capital. One of the strategies of ASEAN countries to deal with the uncertain and increasingly challenging world economic situation is to implement economic liberalization through Foreign Direct Investment (FDI) in order to fill the scarcity of development capital resources to increase economic growth in ASEAN countries. Looking at the positive impact and negative impact of FDI on economic growth, we can conclude that the influence of FDI on economic growth differs between countries.

Therefore, the problem that can be identified in this research is how the influence of FDI on the economic growth of ASEAN countries. This of course depends on the economic, technological and institutional conditions of the ASEAN countries.

The results of the analysis state that FDI has a positive effect on the economic growth of ASEAN countries. Other factors that also affect the economic growth of ASEAN countries include PMTB, labour force, net exports, and economic crisis. The governments of each ASEAN country need to increase FDI Inflow, PMTB, the quality of the workforce, and export growth to be higher than import growth with the aim of further increasing the economic growth of ASEAN countries. The governments of each ASEAN country also need to be considered the impact of dependence which can arise from increasing FDI flows into a country. To avoid the negative impact of FDI on the economic growth of ASEAN countries, the governments of each ASEAN country can declare a law that regulates the

maximum percentage of share ownership by foreign investors, the maximum percentage of production raw materials that may be imported, the maximum percentage of labour use domestic.

The rest of this paper is organized as follow: Section II describes the related works. Section III presents proposed research method. Section IV presents the obtained results and following by discussion. Finally, Section V concludes this work.

II. Related Works

Based on research from Pranoto in [3] entitled the influence of exports and foreign direct investment on Indonesia's gross domestic growth, it is stated that Indonesia as a developing country, in the past tried to stand on its own feet and did not care about the assistance of other countries. But apparently Indonesia cannot continue to survive in this condition. Finally, Indonesia was forced to follow the flow, opening itself to more intimate relations with other nations in order to fulfil the life of its national economy. The 2010 Indonesia Economic Report (Bank Indonesia, 2011) states that Indonesia's economy in 2010 showed improved conditions supported by solid domestic demand and conducive external conditions. The positive thing about economic growth in 2010 was supported by several factors, one of which was Foreign Direct Investment (FDI). Oscar in [3] also mentions that FDI is divided into two sectors, namely the real sector and the financial market sector. The real sector is the investment of productive assets, such as the purchase or construction of a factory, the purchase of land, equipment or buildings, construction of new equipment or buildings carried out by foreign companies. The financial market sector is FDI which is carried out in the form of bonds and shares. FDI is not the only factor in Indonesia's economic growth, exports are also a factor that influences economic growth. The export value in 2004 was 71,584,608,796 USD, while in 2013 it was 182,551,794,701 USD and the average export in 2004-2013 was 135,953,389,040 USD. The increase in export prices from 2004 to 2013 shows that Indonesia continues to strive to maximize the role of exports as one of the factors that support Indonesia's economic growth.

The results of his research are based on the results of the analysis of research that has been conducted on the effect of exports and FDI on Indonesia's GDP in 2004-2013, then concluded (1) Changes in export values have a positive and significant effect on Indonesia's GDP in 2004-2013. (2) Changes in the value of FDI have no significant effect on Indonesia's GDP in 2004-2013. (3) The results of this study indicate that there is a simultaneous significant influence between independent variables consisting of exports and FDI on the dependent variable, namely GDP.

Based on the results of research Kholis in [4] entitled The Impact of Foreign Direct Investment on Indonesia's Economic Growth, it was stated that each country needed capital to finance its development projects. If it turns out that domestic savings supply is not fulfilled, then one way to get capital injections is to attract foreign direct investment (FDI). National policy is the key to attracting foreign direct investment. In the last few decades many countries have begun to liberalize especially those related to foreign direct investment policies. In certain cases, foreign direct investment is only a complement to domestic investment. However, in its development foreign direct investment has an important role in overall investment.

The calculation results show that the FDI variable has an important influence on economic growth in Indonesia. This is not in accordance with the hypothesis that FDI will have a positive influence on economic growth. This condition is based on the fact that investment in Indonesia is very volatile. Indonesia has not become a priority as a place to invest in foreign investors. The study conducted by UNCTAD in 2006 placed Indonesia as a less desirable area because the value of location intensity was less than 5. In addition, the performance and potential inflow of foreign investors also fall into the low category. The number of barriers to entry for foreign investors, less efficient bureaucracy and infrastructure that is less supportive are some of the reasons why Indonesia is less attractive to foreign investors. Therefore the decline in FDI in Indonesia needs to be observed as a warning for the government to pay more attention to the policy of this sector to encourage a better economic improvement. However, investment policies will be directly related to industrial policies, trade, and also other non-economic policies. The relationship between economic and non-economic variables will be better if there is a good commitment of all components of the nation to jointly catch up with other countries. Tight competition among countries in the world to attract FDI encourages every country including Indonesia to further improve the investment climate through a more comprehensive policy framework and in accordance with the demands of investors. This must be supported by a more conducive economic determinant and non-economic determinant. The integration of the world economy will encourage each country to create economic activities based on the market (market oriented), investors no longer make a country's comparative advantage as a foundation in investing in other countries as happened in the 1980s. They focus more on competitive advantage in the global market. It must be understood that in fact foreign investors (fund managers) already understand the conditions and characteristics of a country, so that any policy rolled out by one country will be monitored by investors.

At present what is happening is the higher investor refusal caused by many factors, both economic and non-economic. The results of calculations for export variables show that imports have a positive influence on economic growth. This is in accordance with the hypothesis that has been stated that export growth will spur economic growth. Several studies support the argument that FDI has a large influence on the pattern of international trade and that most of the FDI entering developing countries is able to provide increased exports.

The conclusion of this study is that in the period 2006-2010 the existence of FDI has not contributed significantly to economic growth in Indonesia. This condition shows that investment in Indonesia is still not a priority for foreign investors. The study conducted by UNCTAD in 2006 placed Indonesia as an area that was less desirable and the performance and potential inflows of foreign investors were

also in the low category. The number of barriers to entry for foreign investors, less efficient bureaucracy and less supportive infrastructure are the reasons why Indonesia is less attractive to foreign investors. Therefore a decline in FDI in Indonesia needs to be observed as a warning for the government to pay more attention to the policy of this sector in order to encourage a better economic improvement.

Based on research from Jufrida, *et al.* [5] entitled Analysis of the influence of foreign direct investment (FDI) and domestic investment on Indonesia's economic growth, it states that a country's economic performance can be seen from macroeconomic indicators such as economic growth, price levels and unemployment. Indonesia's economic performance can also be seen from the level of economic growth between times. Indonesia as one of the developing countries continues to experience economic growth at a moderate average level (around 5 to 7 percent). With the level of economic growth is expected to achieve steady state economic growth in a faster time and a very drastic increase occurred in 2000.

For Indonesia, besides domestic investment, FDI has a large role in complementing domestic investment needs. FDI increases production capability and becomes a medium for transfer of technology from abroad to the country. In terms of production, FDI can increase the productivity of domestic companies with the transfer of technology brought along with the entry of FDI. The presence of foreign investment in the form of FDI can also increase the competitiveness and superiority of domestic products. The amount of FDI entering Indonesia continues to increase from year to year. In 1980, the amount of FDI that entered Indonesia was US $ 905.8 million, although until now the amount experienced has tended to increase, but the overall amount of FDI in Indonesia must continue to be maintained its stability and growth.

Safeguarding Foreign Capital (FDI) Foreign investment has a positive but not significant effect on GDP of 356,477.9 million US $. This means that every additional foreign investment of US $ 1 million will result in an increase in GDP of 356,477.9 billion rupiah assuming the variable DI is fixed (*cateris paribus*).

Domestic Investment (PMDN) Domestic investment (DI) has a value of 1,233,021.0 and a positive and significant influence on GDP, meaning that every increase in domestic investment of 1 billion rupiahs will result in the addition of GDP of 1,233,021.0 billion rupiah with the assumption that the variable FDI is considered fixed (*cateris paribus*).

Determination Coefficient (R2) Determinant coefficient analysis is done to see the percentage of the effect of independent variables simultaneously on the dependent variable. This coefficient explains how much the percentage of the variation of the independent variables in the model is able to explain the dependent variable. The results of data processing show that the coefficient of determination (Adj. R2) is 0.521. This illustrates that the independent variables together are able to explain the dependent variable at 52.10 percent. The 47.90 percent is explained by other variables not included in the model or explained in terms of error.

Based on Oktaviana in [6] Research (2016) entitled The Impact of Foreign Direct Investment (FDI) on Indonesia's Economic Growth 1980-2014. Mention that Foreign Direct Investment (FDI) is a long-term investment for developing countries. The arrival of foreign direct investment (FDI) can help economic development, in terms of capital development and creating jobs. The presence of foreign direct investment (FDI) will bring new sources.

In this study shows that the stationarity test is stationary at the level that is the degree of economic openness, while the GDP per capita, FDI, PMDN variables are stationary in first difference, there is no long-term relationship seen from the cointegration test that is only a short-term relationship. 0.994731 or 99.47 percent. This indicates that variations in Independent variables can explain the variation of the dependent variable by 99.47 percent and the remaining 0.53 percent is explained by other variables outside the model. Based on the model feasibility test, the F value of statistics is 647.2371 and the probability is 0.0000. By using $\alpha = 5$ percent it is concluded that together the independent variables influence the dependent variable, namely economic growth in Indonesia as measured by GDP per capita because the probability $<\alpha = 5$ percent.

Based on statistical tests (*t*-test) obtained results of GDP per capita on lag 1 is significant and has a positive effect on economic growth, FDI at 0 lag is not significant and has no effect on economic growth, PMDN in lags 0 and 1 is not significant and has no effect on economic growth , DK on lag 0 has a negative effect, significant and lag 2 has a positive effect, significant on lag 1 is not significant and has no effect on economic growth.

The results showed that the unit root-test results were not stationary at the same level, the variable degree of economic openness was significant at the level while the other variables were significant at first difference, so they could not use the ECM method. The method used in this study is Autoregressive Distributed Lag (ARDL) regression, and there is no short-term long-term relationship. Short-term results obtained changes in GDP per capita lag 1 are significant and have a positive effect on changes in economic growth, changes in FDI at lag 0 have no effect on changes in economic growth, due to obstacles such as licensing in difficult, large licensing costs. The changes in PMDN for lag 0 and lag 1 have no effect on changes in economic growth, due to bureaucratic licensing in areas that are complicated, inadequate quality of infrastructure. Whereas changes in the degree of openness that affect lag 0 have a negative effect because imports are greater than exports, for lag 2 have a positive and significant effect on changes in economic growth, for lag 1 does not affect changes in economic growth because the degree of openness is not the biggest factor in economic growth.

Based on the results of the studies and analyzes that have been carried out, it can be concluded that this study is as follows (1) From the research there was no long-term relationship between foreign direct investment, domestic investment, degree of economic openness, measured economic growth in Indonesia with GDP per capita. The absence of a long-term relationship is caused by instability of the economic conditions in Indonesia. So that when the Indonesian economy is unstable domestic economic activity decreases, exports decline, the interest of entrepreneurs to

invest is declining and prefer to invest in other countries. (2) The results of short-term analysis of the relationship of changes in GDP per capita on lag 1 with changes in economic growth shows a positive and significant relationship and it can be concluded that a positive coefficient is intended when changes in GDP per capita increases then it will increase the measured economic growth of GDP per capita. (3) The results of short-term analysis of the relationship of changes in foreign direct investment with changes in economic growth as measured by GDP per capita at lag 0 indicates an insignificant relationship. The reason is the many barriers to entry for foreign investors, one of which is a complicated and less efficient bureaucracy so that foreign investors are less interested in investing in Indonesia. Such as the length of investment licensing so that licensing costs are still high compared to competing countries. According to F. Sibarani, Head of BKPM, the US government, which in this case also monitors investment guides in Indonesia. The proposal submitted by the US Ambassador to the eleven business sectors that interested US investors could be more open. Interested sectors include e-commerce, insurance, renewable energy, film making and cinema, telecommunications, pharmaceutical manufacturing, distributorship, cold storage and electronic retail and footwear. (4) The results of a short-term analysis of the relationship of changes in domestic investment with changes in economic growth as measured by GDP per capita at lag 0 and lag 1 indicate an insignificant relationship. The cause is not different from foreign direct investment, namely bureaucratic licensing in areas that are complicated. The harmonization between the central and regional governments is not optimal, the quality of infrastructure is inadequate, there are still many regional regulations that hinder the investment climate. (5) The results of the short-term analysis of the relationship between the degree of economic openness and changes in economic growth as measured by GDP per capita at lag 0 and lag 2 indicate a significant relationship. In lag 0 shows a negative relationship, this happens because in the trade balance of imports is greater than exports and overall economic growth in Indonesia in 2015 has decreased. Whereas for lag 2 shows a positive relationship. The degree of economic openness at lag 1 is not significant and does not affect economic growth as measured by GDP per capita. This is because the degree of openness is not the biggest factor in economic growth. So that if there is a decrease in the degree of openness of the economy, but the biggest factor increases, economic growth does not decline.

According to Jufrida, *et al*. in [5] foreign investment has a positive impact on the economy of the host country because through foreign investment can increase the availability of funds for the host country (recipient country). But the results of research conducted did not find a significant relationship between FDI and economic growth, especially for developing countries. Jufrida, *et al*. in [5] also conducted research on the impact of FDI and human capital on economic growth in China by using panel data of cities in China from 1991 to 2010. They tested the determinants of economic growth with a focus on the role of FDI and human capital with the human capital-augmented Solow model. The results show that the GDP growth rate per capita is negatively related to the rate of population growth and is positively related to the level of investment in physical capital and human capital. They also found that FDI had a positive effect on GDP per capita growth and this effect was intensified by ownership of urban human capital. The total foreign investment and domestic investment both government and private is one of the variables in the calculation of national income which is a benchmark of economic growth, therefore investment should be maintained in its development stability and continued efforts to increase. Based on the background of these problems, researchers are interested in conducting research on the influence of FDI on economic growth in countries in ASEAN. This research is more focused on national time series data on economic growth and FDI.

III. Research Method

A. *Identification Of Variables*

The method used in this research is quantitative descriptive research method. According to Sugiyono in [7] what is meant by research methods are as follows: "Research methods are basically a scientific way to get data with specific purposes and uses." In this study, the author uses a quantitative method with a descriptive research approach and associative analysis, because of the variables that will be examined and its purpose to present an overview of the relationships between the variables studied. The research method used in this study is a quantitative research method with a descriptive approach. Quantitative research is: "Research methods based on the philosophy of positivism, used to examine certain populations or samples, data collection using research instruments, quantitative or statistical data analysis, with the aim of testing predetermined hypotheses."

The descriptive approach according to Sugiyono in [7] stated that is: "This descriptive research method is conducted to determine the existence of an independent variable, either only on one or more variables (stand-alone variables or independent variables) without making a comparison of the variables themselves and looking for relationships with other variables" . This descriptive method is a method that aims to find out the nature and deeper relationship between two variables by observing certain aspects more specifically to obtain data in accordance with existing problems with research objectives, where the data is processed, analyzed, and processed further with the basis of the theories that have been studied so that the conclusions can be drawn.

Research variables are independent and dependent. for the independent variables in this study is FDI (X) while the dependent variable GDP (Y).

B. *Data Analysis*

The analytical method used in this study is a quantitative technique that uses mathematical and statistical models that are classified in certain categories to facilitate analysis using the EViews program. While the analysis technique used is multiple linear regression analysis techniques to see the relationship between the independent variable and the dependent variable. The data used is the panel data there are three kinds of data panel estimation techniques, namely pooled least square, fixed effect model, and random effect

model. Test the suitability of the model to determine the most appropriate model is to use the Chow test and Hausman test. After that, the classic assumption test is normality test, autocorrelation test and also hypothesis testing, namely partial *t*-test, simultaneous F test, test of the coefficient of determination.

C. Econometry Models

The analysis technique in this study is panel data regression analysis, while the regression model in the form of logs can be written as follows:

$$\ln Yit = \beta 0 + \beta 1 \ln X1it\ eit \quad (1)$$

Where Y = GDP; X1 = FDI, i = Country; and t = time.

IV. Result and Discussion

This section presents the results obtained and following by discussion.

A. Results

From the output that has been tested (see Figure 1), it states that the histogram form is distributed symmetrically so that the residuals are distributed normally. Based on the JB statistical test, the value is 3.3593 with a probability of 0.1864 while the chi-square value with significance (α = 5%) is 0.05, so JB <Chi Square, then H0 is rejected and H1 is accepted meaning that the residual is normally distributed.

a. Normality Test

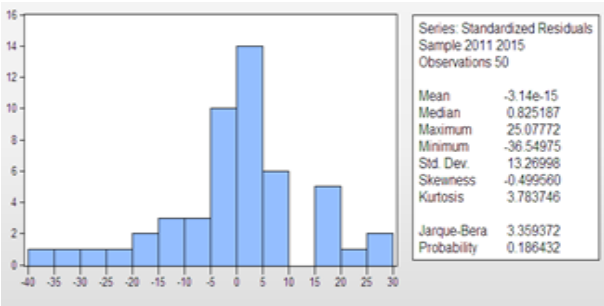

Fig. 1. Normality Test

b. T. Test

The t-test results are given in Table I as follow:

TABLE I. *T*-TEST TABLE

Variable	Coefficient	Std. Error	T Statistic	Prob.
FDI	1.94	6.03	3.216922	0.0026
C	220.4385	7.753376	28.43129	0.0000
Effect Specification				
Cross-section fixed (dummy variable)				
R-square	0.997372	Mean dependent var		244.4450
Adjusted R-square	0.996698	S D Dependent var		258.8520
S.E of regression	14.87428	Akaike info criterion		8.428683
Sum square residual	8628.523	Schwarz criterion		8.849328
Log likelihood	-199.7171	Hannan-Quinn critter		8.588867
F-statistic	1480.077	Durbin-Watson stat		1.047322
Prob. (F-statistic)	0.000000			

c. Influence of FDI on GDP

From Table I above, *t*-statistical probability value obtained is 0.0026. Then the statistical probability <α = 5% is 0.0000 <0.05. So it can be concluded that the FDI variable partially influences the positive significance of the GDP variable.

Based on the Table I above, the Adjusted *R*-Square value is 0.9973. This shows that the model is able to explain 99.73% of the dependent variable, while the remaining 0.27 is influenced by other factors outside the regression model

B. Discussion

The influence of FDI on GDP growth of ASEAN countries is good, in accordance with Jufrida, *et al.* [5] stated that using cointegration econometric models and time series data from 1959 to 2012 to analyze the relationship between FDI and GDP in Sri Lanka. The results show that FDI has a positive effect on GDP and that there is a causal relationship between FDI and GDP in Sri Lanka.

Kholis in [4] Efforts to increase the interest of foreign investors to invest in ASEAN countries are needed. Some policy strategies that can be considered to improve economic growth are:

- Increasing FDI growth shows that the potential for foreign financing is relatively large and still open. This is in line with the capabilities and advantages that are proven to contribute to the acceleration of development in a country. Therefore countries in ASEAN need to improve infrastructure, streamline bureaucracy to attract foreign investors.
- Economic integration in the form of trade, investment and financial liberalization encourages the increase of Multi National Company activities.

V. Conclusion

This study has presented an analyzing the relationship of FDI to GDP growth of ASEAN countries in the period 2011-2005 using panel data regression analysis techniques. Based on the results of statistical tests, the following conclusions can be drawn: (1) The result of the partial *t*-test is obtained that the t-statistical probability value is 0.0026. Then the statistical probability <α = 5% is 0.0000 <0.05. So it can be concluded that the FDI variable partially influences the positive significance of the GDP variable; (2) From the calculation of the T value, the Adjusted R-Square value is 0.9973. This shows that the model is able to explain 99.73% of the dependent variable, while the remaining 0.27 is influenced by other factors outside the regression model

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