Journal of Economics, Finance and Management Studies

ISSN (print): 2644-0490, ISSN (online): 2644-0504

Volume 08 Issue 06 June 2025

Article DOI: 10.47191/jefms/v8-i6-48, Impact Factor: 8.317

Page No: 3844-3849

The Impact of Foreign Direct Investment on Economic Growth in Indonesia

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ABSTRACT: Indonesia is one of the developing countries that focuses on national economic development and economic growth. High economic growth can be an indicator that the country is successfully steering the wheel of development, which can ultimately be fully harnessed to improve the welfare of its people. Economic growth is one of the most important things in Indonesia, so it is important to understand the factors that affect Indonesia's economic growth. This study uses panel data from the Central Bureau of Statistics of the Republic of Indonesia and the Ministry of Development and National Planning of the Republic of Indonesia for regression analysis from 2017 to 2021. The research results show that: (1) Foreign direct investment has a positive impact on Indonesia's economic growth, but it is not significant during the sample period; (2) Indonesia's imports and exports will increase significantly from 2017 to 2021; (3) Imports will have a positive and significant impact on Indonesia's economic growth; (4) Exports will have a positive and significant impact on Indonesia's economic growth; (5) Labor force positive and significant impact on Indonesian economic growth. Finally, based on the above conclusions, the corresponding countermeasures and suggestions are put forward from two aspects of the government and enterprises.

KEYWORDS: Foreign Direct Investment; Economic Growth; Indonesia

I. INTRODUCTION

Indonesia is a developing country, that has an emphasis on domestic economic development and growth. Long term economic growth Economic growth is the measure of earning capacity or man's economic well-being and is an index reflecting the performance of a country. One of the major avenues where this transformation has been achieved is through investment, especially Foreign Direct Investment (FDI); capital stock is increased, productivity is raised, production capacity and quality are improved, and job opportunities are created. "FDI is particularly critical in promoting sectors for which domestic investment alone is inadequate, namely capital goods, raw materials and import substitution. Based on the data of 34 Provinces of Indonesia in 2017 -2021, this study tries to look at how the current condition is going, how big, how is the distribution, trend of the FDI and the impact of it on the economic growth in Indonesia. The research is intended for commitment-maker countries that have seen FDI and related policy-making as influential to determine policy recommendations that are practical and effective to ensure that FDI makes the strongest possible contribution it can to development. In theory, this study can provide academic reference and scientific basis for the government's decision-making. Pragmatically, it suggests some implications for policy makers and stakeholders in their efforts to build up Indonesia's economy by attracting and utilizing FDI.

The paper uses a mix of literature, data and econometric methods. It utilizes domestic and international literature as well as official Indonesian data to develop a working theory, Indonesian data to compute key variables of interest, and regression analysis to test empirically the relationship between FDI and growth. The study deliberately investigates the existing level of FDI with respect to economic growth, and concludes with policy recommendations from the observation of the research findings.

II. LITERATURE REVIEW

Economic growth is the development of economic activities that, in the long run, leads to an increase in goods and services produced by society and the prosperity of the people. There are several theoretical perspectives related to economic growth, including classical theory, Schumpeterian theory, Harrod-Domar theory, and neoclassical theory. The availability of goods and services in a country can also be utilized by foreign parties, one of which is through Foreign Direct Investment (FDI). In several countries such as Indonesia, foreign direct investment does not always have a significant impact on economic growth. Many analysts find that FDI has no significant effect on economic growth. If data testing results show that the significance value of the

FDI variable is greater than alpha (α), it can be concluded that FDI has no significant impact. Foreign investment itself is a combination of capital, knowledge, and technology, which can effectively reduce the scarcity of these economic factors within a country. Therefore, absorbing and utilizing foreign capital is a key factor for almost all developing countries in developing foreign investment.

A. Economic Growth

Economic growth refers to the development of economic activities which, in the long run, lead to an increase in the production of goods and services in society, thereby improving people's prosperity (Yovita et al., 2010). According to Bonaraja (2020), economic growth is the development of economic activities resulting in increased production of goods and services. Economic growth is generally measured by the increase in real GDP or GNP. Economists have long analyzed the key factors influencing economic growth. Based on the general patterns of economic growth across countries, the main determinants are the abundance of natural resources and land, the quantity and quality of labor, the availability of capital goods, the level of technology used, and social systems and attitudes. During the era of classical economists, Adam Smith, in his book An Inquiry Into the Nature and Causes of the Wealth of Nations, analyzed the causes and determinants of economic growth. The main points of these theories are summarized as follows:

- Classical Theory:

Pioneered by Adam Smith, David Ricardo, Malthus, and John Stuart Mill, this theory holds that economic growth is influenced by four factors: population, capital goods, land and natural resources, and technology. The theory mainly focuses on the impact of population growth on economic growth, assuming that land, natural resources, and technology remain unchanged. The relationship between per capita income and population is known as the optimal population theory. Initially, population growth increases per capita income, but as population continues to rise, the law of diminishing returns leads to declining marginal productivity, causing per capita income to equal marginal output.

- Schumpeterian Theory:

Schumpeter's theory emphasizes the role of entrepreneurs and innovation, arguing that technological progress largely depends on entrepreneurial spirit in a society that can recognize opportunities and is willing to take risks to start new businesses or expand existing ones. Innovation is seen as the driving force behind economic growth, with entrepreneurs introducing new products, processes, and business models, leading to "creative destruction" and dynamic changes in the economy.

- Harrod-Domar Theory:

This macroeconomic growth theory, developed from Keynesian economics, posits that every economy must save or reserve a portion of national income to increase or replace capital goods. Economic growth requires new investment, i.e., a net increase in capital stock, to stimulate further growth.

- Neoclassical Theory:

Emerging in the 1950s, neoclassical theory builds on classical analysis, with leading economists such as Robert Solow, Edmund Phelps, Harry Johnson, and J.E. Meade. Neoclassical analysis holds that economic growth depends on increases in production factors (labor, capital) and the level of technological progress, with the economy assumed to operate at full employment and capital resources fully utilized.

B. Foreign Direct Investment

Foreign Direct Investment (FDI) refers to business activities conducted by foreign parties in a country with the aim of generating profit through the creation of products or services (Risma, 2016). FDI has emerged and developed alongside global economic integration and the deepening international division of labor, representing the highest form of international capita l mobility (Lu Fei, 2012). According to Indonesia's Law No. 25 of 2007 on Investment, FDI is defined as "investment activities conducted within the territory of the Republic of Indonesia by foreign investors, either wholly using foreign capital or in joint ventures with domestic investors." The law specifies that FDI under this framework includes only investments where the capital owner directly assumes investment risks (Laurensius, 2018).

Monica et al. (2004) describe FDI as international capital flows where a company from one country establishes or expands its operations in another country. A defining characteristic of FDI is that it involves not only resource transfers but also control over the invested entity. FDI can take the form of: opening new factories or branches in another country, merging with foreign companies, or acquiring existing foreign or domestic companies in another country. Eka et al. (2022) emphasize that FDI includes tangible asset investments such as building factories, purchasing capital goods, acquiring production land, and procuring inventory equipment. Foreign acquisitions are typically accompanied by managerial control, where investors retain authority over their invested capital

III. METHODOLOGY AND DATA

A. Research Variables

This paper selects Gross Domestic Product (GDP) as the dependent variable, measured in hundreds of millions of US dollars. Considering that GDP flow data fluctuates significantly and may contain negative values, using flow data as the dependent variable would affect the accuracy of results, while stock data is more stable. Therefore, this paper selects the GDP of Indonesia's 34 provinces as the dependent variable.

The independent variables in this paper include Foreign Direct Investment (FDI), Imports (IM), Exports (EX), and Labor Force (L). FDI is utilized to help finance various sectors that lack sufficient funds and to create new employment opportunities, thereby reducing the unemployment rate. Imports are used to obtain raw materials, goods, and services that are either limited in quantity domestically or cannot be produced within the country. Exports serve to open new opportunities abroad, which in turn promote the expansion of the domestic market, investment, and foreign exchange earnings. Lastly, the labor force represents the supply of labor, influences a country's potential output, and is essential for calculating economic indicators such as the labor force participation rate and unemployment rate.

B. Methodology and Data Collection

This paper uses panel data from the Central Statistics Bureau of the Republic of Indonesia and the Ministry of Development and National Planning of the Republic of Indonesia, utilizing foreign direct investment, gross domestic product, imports, exp orts, and labor force data from 34 provinces in Indonesia.

C. Method of Analysis

The data analysis technique used in this study is path analysis technique. StataSE program was use for this analysis test.

1) Descriptive Statistics Analysis: Descriptive statistics are used to summarize, organize, and present the main features of a dataset in a clear and concise way. The primary function is to provide a quick overview and understanding of the data by calculating key metrics such as mean, median, mode (measures of central tendency), and range, variance, or standard deviation (measures of variability).
2) Correlation Analysis: Correlation analyses evaluate the strength and direction of a relationship between two variables by examining how closely they also move together (positive correlation), inversely (negative correlation), or not at all (no correlation); this statistical technique recognises patterns, trends, or associations in the data, as well as provides a correlation coefficient (r) that varies from -1 (perfect negative) to +1 (perfect positive) with 0 representing no linear relationship, and acts as an initial analysis prior to deeper and more complicated statistical procedures like regression models by identifying what variables are related and may deserve closer attention.
3) Multiple Regression Analysis: Multiple regression is used to determine the effect of the independent variables together on the dependent variable. The equation formula used in multiple linear regression analysis is as follows:

$Y = a + b_1x_1 + b_2x_2 + b_nx_n + ... + e$

Information:

Y = Dependent variable or gross domestic product (GDP)

X = Independent variable or foreign direct investment (FDI), imports (IM), exports (EX), and labor force (L)

a = Y value if X = 0 (cost constant)

b = Multiple linear coefficients

IV. RESULTS

A. Descriptive Statistics Analysis

From observing the results of the descriptive statistical analysis in Table 1, it is found that the mean value of the GDP variable is 9.578, with the maximum and minimum total GDP being 12.12 and 7.656 respectively. The above results also indicate that the GDP value varies greatly, as can be seen from the standard deviation value of 112.3. The mean value of the variable FDI is 5.798, with the maximum and minimum total FDI being 09.27 and 1.932 respectively.

Table 1 Descriptive Statistics of Variables

Variables	Mean	Maximum	Minimum	Standard Error	Observations
GDP	9.578	12.12	7.656	112.3	170
FDI	5.798	09.27	1.932	1.598	170

IM	5.732	11.47	0.000	254.3	170
EX	7.368	11.81	1.224	19.11	170
L	1.185	14.81	9.154	128.3	170

B. Correlation Analysis

Table 2 Correlation Analysis Matrix Between GDP and Various Independent Variables

	GDP	FDI	IM	EX	L
GDP	1.0000				
FDI	0.6623	1.0000			
IM	0.7378	0.8029	1.0000		
EX	0.7087	0.6885	0.7062	1.0000	
L	0.6184	0.4542	0.4871	0.4230	1.0000

As can be seen from the table, the correlation coefficients between GDP and EX and L are 0.7087 and 0.6184 respectively, which are notably high. This indicates that Indonesia's GDP growth has a significant positive correlation with Indonesia's exports and Indonesia's labor force. Additionally, the high correlation coefficient between EX and L suggests that multicollinearity may exist.

C. Multiple Regression Analysis

Table 3 Regression Results

Variables	Model (1)	Model (2)	Model (3)	Model (4)
FDI	0.076	0.027	0.011	0.031
	(0.047)	(0.050)	(0.051)	(0.051)
IM		0.122***	0.092***	0.094**
		(0.033)	(0.356)	(0.037)
EX			0.123***	0.128***
			(0.045)	(0.046)
L				0.090
				(0.059)
cons	9.135***	8.719***	8.081***	6.843***
	(0.305)	(0.298)	(0.344)	(0.679)
R-sq	0.438	0.554	0.615	0.671
Wald chi2	2.64	19.39	32.59	53.44
N	170	170	170	170

Note: * indicates significance level at 10%; ** indicates significance level at 5%; *** indicates significance level at 1%

Observing the regression results, in the first model, the R-squared value is 0.438, which means that model (1) explains 43.8% of the variance in the dependent variable. The coefficient of this explanatory variable is positive, so this explanatory variable has a positive correlation with the dependent variable. However, this explanatory variable did not pass the significance test at least at the 10% level. This indicates that foreign direct investment has a positive but insignificant impact on Indonesia's economic growth. This suggests that there is a positive trend of foreign direct investment on Indonesia's economic growth, but this relationship is not significant. The reasons for this phenomenon may be: first, due to the limitations of the sample selected in this paper, this positive trend is not very obvious; second, the impact of foreign direct investment on Indonesia's economic growth may have a time lag, therefore, this impact is not significant at the current stage. In the second model, the R-squared value is 0.554, which means that model (2) explains 55.4% of the variance in the dependent variable. The coefficients of these explanatory variables are all positive, so these explanatory variables all have positive correlations with the dependent variable. The FDI variable did not pass the significance test at least at the 10% level, while the IM variable passed the test at the 1% significance level. This indicates that the promoting effect of foreign direct investment on Indonesia's economic growth is not significant, while imports have a significant promoting effect on Indonesia's economic growth. It can be said that imports can make it easier for business owners to obtain more types of products, process them into finished products, or directly sell and distribute them to the domestic market. Therefore, as the variety of products in the market increases, consumers will also increase, thereby promoting the development of Indonesia's economy.

In the third model, the R-squared value is 0.615, which means that model (3) explains 61.5% of the variance in the dependent variable. The coefficients of these explanatory variables are all positive, so these explanatory variables all have positive correlations with the dependent variable. The FDI variable did not pass the significance test at least at the 10% level, while the IM and EX variables passed the test at the 1% significance level. This indicates that the promoting effect of foreign direct investment on Indonesia's economic growth is not significant, while imports and exports have significant promoting effects on Indonesia's economic growth. It can be said that exports will increase the demand for domestic goods and services, and high demand for domestic goods and services will lead to increased domestic productivity, which will of course lead to an increase in available jobs. The more human resources in production, the greater the output produced. It is the increase in output in the form of goods and services that leads to an increase in a country's economic growth.

In the fourth model, the R-squared value is 0.671, which means that model (4) explains 67.1% of the variation in the dependent variable. The coefficients of the explanatory variables are all positive, indicating a positive correlation between these explanatory variables and the dependent variable. The FDI variable did not pass the significance test at the 10% level, while the IM variable passed the test at the 5% significance level, and the EX and L variables passed the test at the 1% significance level. This indicates that foreign direct investment does not have a significant promoting effect on Indonesia's economic growth, while imports, exports, and labor have significant promoting effects on Indonesia's economic growth. It can be said that with the increase of Indonesia's labor force, labor productivity will improve, thereby stimulating Indonesia's economic growth.

CONCLUSION

Economic growth is one of the most important issues for Indonesia. Therefore, this paper focuses on the 34 provinces of Indonesia as the research object, with the impact of foreign direct investment on Indonesia's economic growth as the research topic. By collecting relevant data on foreign direct investment in Indonesia, this paper analyzes the current status of foreign direct investment. In the empirical analysis, regression analysis is used to study the impact of foreign direct investment on Indonesia's economic growth.

The research finds that foreign direct investment has a positive trend on Indonesia's economic growth, but the impact is not significant. From 2017 to 2021, Indonesia's imports and exports increased substantially. Imports have a positive and significant impact on Indonesia's economic growth. Exports have a positive and significant impact on Indonesia's economic growth. Labor force has a positive and significant impact on Indonesia's economic growth.

SUGGESTION

Based on the above research results and conclusions, several recommendations are proposed. In order to increase the scale of foreign direct investment in Indonesia, the government must be able to work hard to create a favorable environment for foreign investment, create economic stability, improve national security and appropriate regulations, so that foreign investors can feel safe and have interest in investing their capital to promote economic growth.

For future researchers examining the impact of foreign direct investment on economic growth, it is recommended to conduct research over a longer research cycle, as economic growth is a long-term macroeconomic issue. Many independent variables are related to economic growth. Future researchers can add other variables that may affect economic growth beyond this study, such as: savings, infrastructure and technology, in order to obtain better research results.

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