



Foreign Investment Intervention on Economic Growth in Indonesia

Abdul Hamid Paddu(✉)

Hasanuddin University, Makassar, Indonesia

hamidpaddu@fe.unhas.ac.id

Abstract. This study aims to examine and analyze foreign investment interventions on the economic growth in Indonesia. Economic growth is a vital indicator of the prosperity of a country. Intervention on foreign investment is necessary from time to time in order to ensure benefits for all parties. As a developing country, Indonesia requires substantial funds to carry out national development. The analytical method used is path analysis using secondary data. The results of this study indicate that inflation does not directly affect economic growth or indirectly through the mediation of foreign investment. Moreover, interest rates have a direct and significant negative effect on economic growth, but interest rates have a positive and significant indirect effect on economic growth through foreign investment. This study also finds that the exchange rate has no direct effect on economic growth, however the exchange rate has a negative and significant indirect effect on economic growth through foreign investment.

Keywords: Foreign Investment · Economic Growth · Inflation · Interest Rates · Exchange Rates

1 Introduction

Economic growth is a long-term problem for a country's economy towards a better state during a certain period and can be associated also as a state of increasing production capacity of an economy which is manifested in the form of an increase in national income. The existence of economic growth is an indication of the success of a country's economic development in people's lives. The higher the level of economic growth, the faster the process of increasing output so that the prospects for regional development are better and can also improve infrastructure, especially opening new land for work (Fig. 1).

Based on existing data, it shows that the increase in foreign investment increased from 2012–2015 from 24564.70 million US\$ to 29275.70 million US\$ then in 2016 foreign investment decreased and in 2017–2019 it increased again. This fluctuation in foreign investment certainly has many factors. However, if foreign investment improves, it can certainly be one of the efforts to increase economic growth.

Based on the existing theory, the relationship between foreign investment and economic growth is positive. If foreign investment increases, then economic growth also

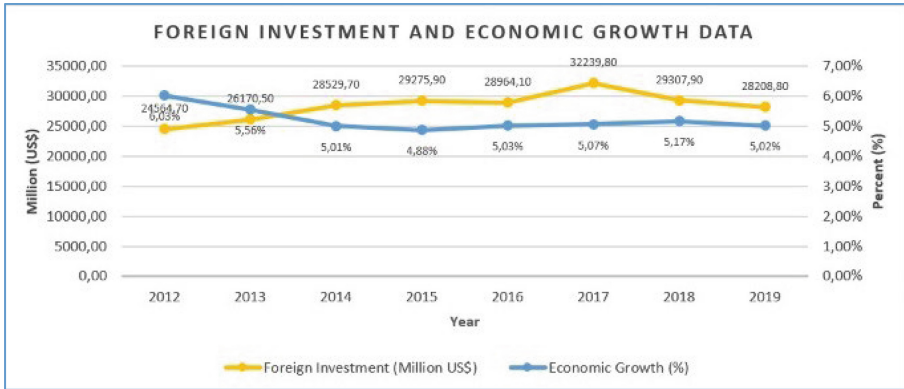


Fig. 1. Trends in FDI and Indonesia’s Economic Growth in 2012–2019

increases. But there is a gap between the two which shows a negative relationship between economic growth and FDI, so it can be said that there is a problem because the theory is different from the facts.

In the era of globalization, it is certain that every country must be in contact with countries bilaterally and multilaterally. One of the developing countries that adheres to an open economy in running its economy is Indonesia. The stability of economic growth certainly cannot be separated from the role of domestic (domestic) and foreign (foreign) parties. As a developing country, Indonesia requires substantial funds to carry out national development. Indonesia is highly dependent on foreign trade and investment. Limited funding is a problem to cover the limited burden of developing the economy in Indonesia is by investing [1].

Moreover, foreign investment is influenced by several factors. Some of the factors are inflation, interest rates, and exchange rates. These factors determine whether investors want to invest in Indonesia or not. If these three factors cannot be controlled, they will certainly affect foreign investment which in the end will also have an impact on Indonesia’s economic growth (Fig. 2).

The available data shows that inflation, interest rates, and exchange rates in Indonesia fluctuate. Inflation in 2012–2013 increased but foreign investment increased and was followed by a decline in economic growth. Then in 2016–2017, inflation increased and foreign investment also increased. Interest rates in 2012–2013 decreased, while foreign investment increased. This also applies in 2017–2019 where interest rates decreased but foreign investment also fell. Then, the exchange rate in 2013–2015 experienced an increase which was not followed by an increase in economic growth or in the sense that economic growth declined, whereas according to existing theory, economic growth and the exchange rate should have a positive relationship. This also happened in 2016, where the exchange rate declined while economic growth increased.

The performance of foreign investment is important for the economic growth of a country, especially for developing countries. Foreign investment has an important role to play in accelerating national economic development and realizing Indonesia’s political and economic sovereignty because most developing countries have open economies that

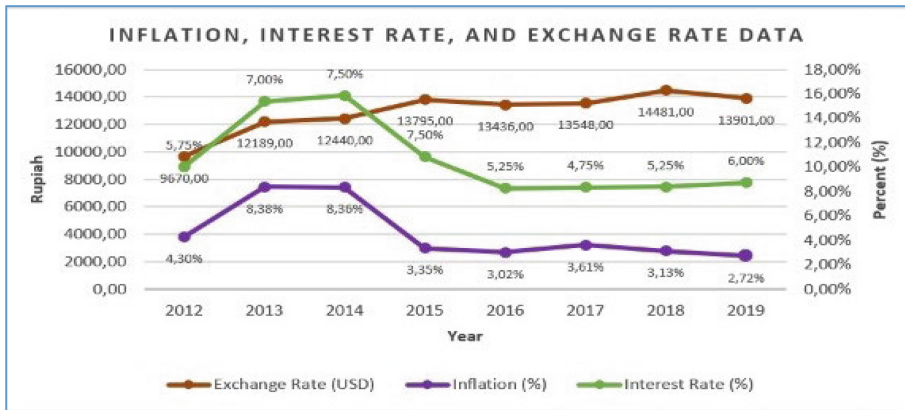


Fig. 2. Developments in Inflation, Interest Rates, and Exchange Rates in Indonesia in 2012–2019

depend on changes in international trade, aid, “hot” inflows of speculative capital, and the private sector. Increasing foreign investment can also process economic potential into the real economic strength of a country. In addition, in facing changes in the global economy and Indonesia’s participation in various international cooperation with other countries, it is necessary to create an investment climate that is conducive, promotive, providing legal certainty, justice, and efficiency while still taking into account the interests of the national economy.

In addition, the development of foreign investment entering Indonesia is still below that of Malaysia, Singapore, China, and Korea (Asian countries). In this case, Indonesia is unable to compete because neighboring countries are able to attract foreign investors to invest their capital. This is a reflection so that Indonesia can better improve and be able to balance the country.

Based on this introduction, the purpose of this study is to analyze the effect of inflation, interest rates, and exchange rates either directly or indirectly through foreign investment mediation.

2 Methodology

The scope of this research includes the effect of inflation, interest rates, and exchange rates on economic growth in Indonesia through the mediation of foreign investment in 2012–2019. The data used is secondary data, namely time series data from 2012–2019. Data such as economic growth, foreign investment, inflation, interest rates, and exchange rates are taken through websites or agencies such as Bank Indonesia, the Central Statistics Agency, and the Investment Coordinating Board.

Because the data used is secondary data that was previously available in the relevant agencies, the method used for data collection in this research is through literature study. Literature study is to collect various data and theories related to the problem to be studied.

The methodology used in this research is path decomposition test, classical assumption test, and hypothesis testing. Path analysis is an extension of the path of multiple linear

regression analysis or path analysis is the use of regression analysis to estimate causality relationships between variables (causal models) that have been previously determined based on theory.

This research design refers to a conceptual framework based on theoretical and empirical reviews where functional relationships between variables is shown in the following equation.

$$Z = f(X_1, X_2, X_3,) \quad (1)$$

$$Y = f(X_1, X_2, X_3, Z) \quad (2)$$

Furthermore, functional relationships mentioned above are described in a non-linear equation below

$$Z = X_3^{\alpha_3} e^{\alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \mu_1} \quad (3)$$

$$e^Y = X_3^{\beta_3} Z^{\beta_4} e^{\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \mu_2} \quad (4)$$

Then the non-linear equation is linearized using the natural logarithm to obtain the following linear equation, as a condition for estimation using the multiple regression method.

$$\ln Z = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \alpha_3 \ln X_3 + \mu_1 \quad (5)$$

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 \ln X_3 + \beta_4 \ln Z + \mu_2 \quad (6)$$

where:

$Z = \text{Foreign Investment}$

$Y = \text{Economic Growth}$

$X_1 = \text{Inflation Rate}$

$X_2 = \text{Interest Rate}$

$X_3 = \text{Exchange Rate}$

$\mu = \text{error term}$

3 Result and Discussion

Based on the results of the study in Table 1, it shows that the R-square is 0.904 for foreign investment. This indicates that inflation, interest rates, and exchange rates affect foreign investment by 90.4% and the rest is influenced by other factors. In Table 1 it is found that the F-count for foreign investment is 41,819 and the value of sig < 0.05, which means that with a significance level of 5% inflation rate, interest rates, and the exchange rate simultaneously affect foreign investment.

Furthermore, this study also shows that the R-square is 0.914 for economic growth. This indicates that inflation, interest rates, exchange rates, and foreign investment affect economic growth by 91.4% and the rest is influenced by other factors. Then, the F-count

Table 1. Estimation Results of the Effect of Inflation Rate (X_1), Interest Rate (X_2), and Exchange Rate (X_3) on Indonesian Economic Growth (Y) through intervention of Foreign Investment (Z)

Variable	Coefficient	t-hitung	Sig	R-Square	F-hitung
$X_1 \rightarrow \ln Z$	0,223	1,606	0,119	0,904	41,819
$X_2 \rightarrow \ln Z$	-0,359	-2,845	0,008		
$\ln X_3 \rightarrow \ln Z$	0,906	9,665	0,000		
$X_1 \rightarrow Y$	-0,196	-1,393	0,175	0,914	34,173
$X_2 \rightarrow Y$	-0,329	-2,371	0,025		
$\ln X_3 \rightarrow Y$	-0,161	-0,853	0,401		
$\ln Z \rightarrow Y$	-0,854	-4,666	0,000		

Table 2. Direct, Indirect, and Total Effect

Variable	Direct	Indirect	Total
X_1	-0,196 ^{ns}	-0,190 ^{ns}	-
X_2	-0,329 ^{***}	0,306 ^{***}	-0,023
$\ln X_3$	-0,161 ^{ns}	-0,773 ^{***}	-0,773

value on economic growth is 34.173 and the value of sig < 0.05 which means that with a significance level of 5% inflation, interest rates, exchange rates, and foreign investment simultaneously affect economic growth.

Path decomposition is a model that emphasizes causality between variables, both direct and indirect in the path analysis framework, while non-causality or correlational relationships that occur between exogenous variables are not included in this calculation. Causality between variables can be divided into three, namely:

1. Direct effect, namely the effect of one exogenous variable on endogenous variables that occurs without going through other endogenous variables.
2. Indirect effect, namely the effect of one exogenous variable on endogenous variables that occurs through other endogenous variables contained in one causality model being analyzed.
3. The total effect, namely the sum of the direct causal effect and the indirect causal effect (Table 2).

To find out whether a variable can be said to be a mediating variable, it is necessary to do the Sobel test. Sobel test is used to determine the effect of the mediating variable, namely foreign investment. A variable is called an intervening variable if the variable affects the relationship between the independent variable and the dependent variable. To test how big the role of variable Z in mediating the effect of X on Y, the Sobel test developed by Sobel (1982) and known as the Sobel test was used (Ghozali, 2018). If the

Z test is greater than 1.96 (standard absolute z value) then there is a mediation effect and significant results.

Foreign Investment Mediates Inflation Rate

$$z = \frac{0.029 \times -1.437}{\sqrt{(0.029 * 0.308)^2 + (-1.437 * 0.018)^2}} = -1,5229$$

Foreign Investment Mediates Interest Rate

$$z = \frac{-0.071 \times -1.437}{\sqrt{(-0.071 * 0.308)^2 + (-1.437 * 0.025)^2}} = 2,4259$$

Foreign Investment Mediates Exchange Rate

$$z = \frac{1.176 \times -1.437}{\sqrt{(1.176 * 0.308)^2 + (-1.437 * 0.122)^2}} = -4.3537$$

From the results of the Sobel test above, it shows that interest rates and exchange rates have a Sobel value > 1.96 with a significance level of 5% so that foreign investment is able to mediate interest rates and exchange rates on economic growth. Meanwhile, inflation has a Sobel value < 1.96 with a significance of 5% so that foreign investment is not able to mediate inflation on economic growth.

Based on the results of research that has been done, apparently the increase in interest rates does not seem to reduce investors' interest in investing their capital. It is suspected that the rate of return on capital enjoyed by investors is still greater than or equal to the interest rate that must be paid at the bank, so that foreign investors will continue to invest and entrepreneurs will continue to open new businesses or expand their businesses. As a result of continued foreign investment, economic growth will also increase.

Due to the two effects, namely the direct and indirect effects, have significant results, the total effect of interest rates on economic growth is -0.023 . The results of this study are in line with the research conducted by [2] and Rahayu (2010) which found that interest rates have a positive effect on foreign investment.

Based on the results of the tests that have been carried out, it was found that the exchange rate directly has no significant effect on economic growth. This can be seen from the value of $t_count < t_table$ ($-0.853 < 2.042$) and the value of $sig > 0.05$ ($0.401 < 0.05$). However, indirectly the exchange rate has a negative and significant effect on economic growth. This can be seen from the Sobel test value > 1.96 ($4.3537 > 1.96$). So the total effect of the exchange rate on economic growth is -0.773 .

The results of this study indicate that an appreciating exchange rate will reduce economic growth and foreign investment. According to Froot and Stein (1991), if currency depreciation occurs in the host country, this will attract foreign investors to invest because physical assets in the host country are relatively cheaper. It is suspected that foreign investors are orienting their capital towards goods to be exported abroad, so that the appreciation of the Rupiah against the USD will reduce the inflow of foreign investment. The appreciation of the Rupiah currency will cause production costs (labor and other input factors) to be expensive so that it will have an impact on the price of goods to be sold will also be more expensive. According to the law of demand, when

the price of goods increases, demand will decrease. On the other hand, the depreciation of the Rupiah currency will increase foreign investment because production costs will decrease, so the price of goods to be sold is relatively cheaper. The depreciation of the rupiah currency will increase exports and in the end the balance of payments will also experience a surplus.

4 Conclusion

The conclusion of this paper can be written as follows:

1. Inflation has no significant direct or indirect effect on economic growth.
2. Interest rates have a direct and significant negative effect on economic growth. However, indirectly interest rates have a positive and significant effect on economic growth through the mediation of foreign investment.
3. The exchange rate directly has no significant effect on economic growth. However, indirectly the exchange rate has a negative and significant effect on economic growth through the mediation of foreign investment.

References

1. Sarwedi.: Investasi Asing Langsung Di Indonesia Dan Faktor Yang Memengaruhinya. *Jurnal Akuntansi & Keuangan*, Vol. 4, No, 1. Fakultas Ekonomi - Pusat Pengkajian Ekonomi dan Sosial (PPES). Universitas Negeri Jember (2002).
2. Abdune, Jonny.: Pengaruh Gross Domestic Product, Nilai Tukar, Suku Bunga, Dan Inflasi Terhadap Penanaman Modal Asing Di Indonesia Periode 2003.Q1 – 2012.Q2. *Fakultas Ekonomi dan Bisnis Universitas Airlangga* (2013).

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

