

The Effect of Foreign Investment Mediation on Economic Growth in Indonesia

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Abstract

This research aims to test and analyze the influence of foreign investment mediation towards economic growth in Indonesia. This research uses a quantitative approach. The data used is secondary data. Data collection in this study is through quarterly annual report from Badan Pusat Statistik, Bank Indonesia, dan Badan Koordinasi Penanaman Modal. The analysis method used is path analysis using the SPSS program version 25.0. The result of this study showed that, 1) inflation has no effect directly on economic growth, or indirectly through foreign investment mediation, 2) interest rate has negative and significant effect directly on economic growth, however interest rate has positive and significant effect indirectly on economic growth through foreign investment mediation, 3) exchange rate has no effect directly on economic growth, however exchange rate has negative and significant effect indirectly on economic growth through foreign investment mediation.

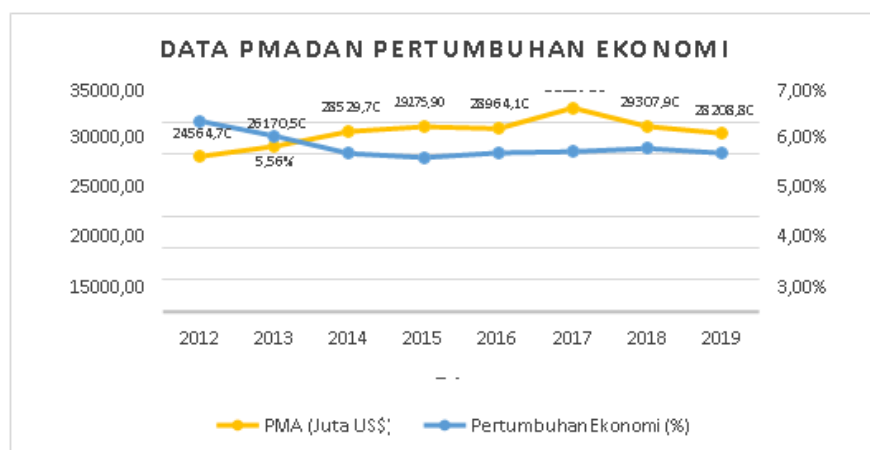
Keywords Foreign investment, Economic growth, Inflation, Interest rate, Exchange rate

INTRODUCTION

Economic growth is the long-term economic struggle of a country for better conditions for a period of time, sometimes accompanied by an increase in the productive capacity of the economy and an increase in national income. The presence of economic growth indicates that the country's economic development is successful in people's lives. The higher the economic growth, the faster the increase in production, the better the prospects for regional development, and the potential for improved infrastructure, especially the opening of new labor sectors.

Prof. Simon Kuznet, defines economic growth as a long-term increase in the ability of a country to provide more and more types of economic goods to its population, this ability grows according to technological progress and the necessary institutional and ideological adjustments (Jhingan, 2012). Declining/fluctuating economic growth certainly has an impact on society. If the economy declines, of course it can result in decreased income from the community or companies so that it can cause unemployment. Sluggish economic growth of course makes investors not want to invest and in the end infrastructure development will also be disrupted due to insufficient capital.

Declines or fluctuations in economic growth certainly affect society. Of course, when the economy declines, community and business revenues decline, and unemployment can occur. Of course, slowing economic growth will discourage investors from investing, and ultimately, capital shortages will hinder infrastructure development. Developing countries can use external sources of finance as a platform to accelerate economic growth. Second, increased economic growth must be accompanied by economic and trade structures. Third, foreign capital can play an important role in financial mobilization and structural change. Fourth, the need for foreign capital decreased after the actual structural changes took place.

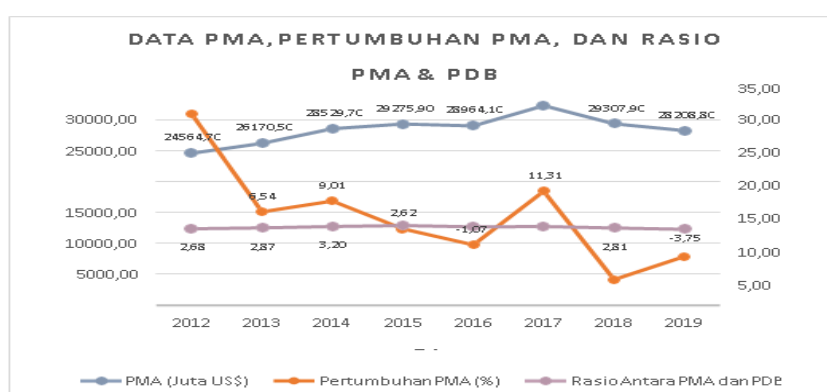


Source: Central Bureau of Statistics and BKPM, processed

Figure 1. Development of FDI and Economic Growth in Indonesia in 2012 – 2019

According to Krugman (1999:204) Foreign investment is an international capital flow in which a company from one country establishes or expands operations in another country. Foreign Investment (PMA) is a source of funding and development services to developing countries, especially in the form of capital packages, selective management skills, country technology and development. Foreign investment plays an important role in the country's economic growth and development. This investment will depend on the political, social and economic conditions of the host country.

Using the data in Figure 1.1, the increase in foreign investment increased from US\$2,4564.7 million to US\$2,975.7 million from 2012 to 2015, then declined in 2016, and picked up again from the end of 2017 to the end of 2019. You can see that it has increased. There are certainly many factors in the volatility of foreign investment. But if foreign investment improves, it will certainly be one of the efforts to boost economic growth. Based on existing theories, the relationship between foreign investment and economic growth is positive. Increased foreign investment will increase economic growth.



Source: Central Bureau of Statistics and World Bank, processed

Figure 2. FDI Development, FDI Growth, and Ratio Between FDI & GDP in Indonesia 2012 – 2019

However, there is a gap between the two, indicating a negative relationship between economic growth and foreign direct investment. Therefore, it can be said that there is a problem because the theory differs from the facts. For example, in 2012 and 2013, while economic growth accelerated, foreign investment in Indonesia declined. After that, foreign investment in Indonesia increased in 2014 and 2015, but economic growth slowed. This example is a problem that arises because the relationship between foreign investment and economic growth is not clear. The effects of foreign investment intermediation are naturally reflected in the growth of foreign investment and the ratio of foreign investment to gross domestic product.

Of course, if you want to know the performance of foreign investment intermediation, you need to compare foreign investment growth with gross domestic product. See Figure 1.2. A relative increase in foreign investment was followed by a volatile increase in foreign investment. The ratio of foreign investment to gross domestic product tends to increase from 2013 to 2015 and then decreases from 2016 to 2019. Even though gross domestic product increased from 2016 to 2019, the development of foreign investment from 2016 to 2019 had no real impact on gross domestic product. This means that gross domestic product growth is more influenced by other factors. However, this does not mean that foreign investment does not have a positive impact on Indonesia's GDP.

The increase in realizations in Q1 2018 was due to a combination of realizations from domestic investments (PMDN) and foreign investments (PMA). Domestic investment of Rp 76.4 trillion was made in Indonesia alone. Meanwhile, the realization of foreign investment in Indonesia totaled Rp 108.9 trillion, an increase of 12.4% compared to Indonesia's foreign investment of only Rp 97 trillion last year. More than absorbed by realization of investments (PMA and PMDN). Employ 200,000 Indonesian workers and contribute to the revitalization of the economy. Economic growth reached 5.03% in 2016, 5.07% in 2017, 5.17% in 2018, but declined in 2019, reaching only 5.02%. Of course, the government still has a lot to fix. One of his ways to promote economic growth in Indonesia is to encourage investment contributions by both foreign and domestic capital (BKPM press release, 2020).

LITERATURE REVIEW AND HYPOTHESIS

Investing or investing is the activity of investing capital in the form of money, skills or other valuable assets in an object, institution or party with the expectation that the investor or the investor will make a profit after a certain period of time. There are several types of investments. First, government investment is an investment made by a central or local government. Generally, government investments are not intended to generate profits. Second, private investment is a national private sector investment, i.e. investment by foreign private companies known as domestic investment (PMDN) or foreign investment (PMA). Private sector investments are profit-generating and income-generating, driven by higher incomes.

One of the theories about the phenomenon of foreign investment flowing into the country from multinational corporations (PMNs) is Vernon's (1966) Product Life His Cycle Theory (PLC) theory. According to PLC theory, there are five different stages in the product



life cycle from the perspective of innovators and imitators. The first stage is the new product stage, the manufactured products are still specialty and consumed only in innovative countries. Products are manufactured by skilled craftsmen.

The second stage is the product growth stage. During this phase, production in innovative countries is refined and modernized rapidly to meet growing domestic and international market demands. At the moment, there are no foreign companies producing similar products, so the innovating country has a monopoly position in both domestic and foreign/export markets.

In the third stage, the product matures, the product becomes standardized, and innovative companies find it more profitable to license domestic companies and other foreign companies to co-produce these products. increase. The imitator country thus begins to manufacture products for domestic consumption. A product's comparative advantage shifts from the innovative country where the product was first introduced to developing countries with lower production costs. Therefore, the current stage may involve the implementation of foreign investment from innovative countries into countries with low labor prices. In the fourth stage, copycat countries have lower labor and other production costs. The resulting product has become the standard, eliminating the need to develop and build skills. Innovative country products are sold at lower prices in the third market, and the production of innovative country products is reduced or diminished. Price competition occurs due to brand competition. Finally, in Stage 5, copycats begin to outpace innovators' sales, and innovators' product production rapidly declines and collapses.

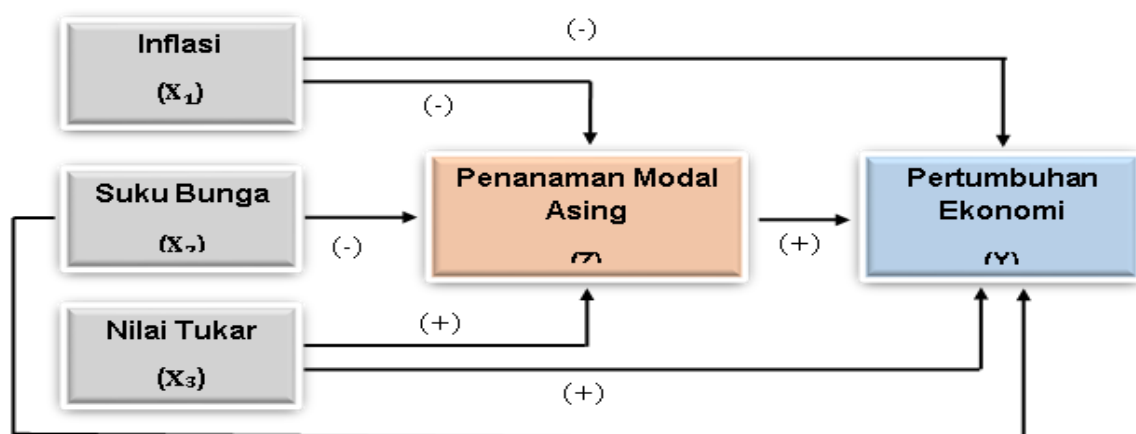


Figure 3. Research Framework

Based on the research framework that has been described and described previously, the research hypothesis can be formulated as follows:

- H1: It is suspected that inflation has a negative effect on economic growth, directly or indirectly through the mediation of foreign investment.
- H2: It is suspected that interest rates have a negative effect on economic growth, directly or indirectly through the mediation of foreign investment.
- H3: It is suspected that the exchange rate has a positive effect on economic growth, directly or indirectly through the mediation of foreign investment.

METHODS

1. Research Scope

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.

2. Types and Sources of Data

The data we use is secondary data, i.e. time series data from 2012 to 2019. Data such as economic growth, foreign investment, inflation, interest rates and exchange rates are collected through websites and institutions such as the Bank of Indonesia, the Central Bureau of Statistics and the Investment Coordinating Board.

3. Data Collection Methods

A literature review was used for data collection in this study, as the data used were secondary data previously available from competent authorities. Literature research, i.e. collecting various data and theories related to the problem under study.

RESULTS AND DISCUSSION

Based on the findings we find that the R-squared for foreign investment is 0.904. This indicates that inflation, interest rates and exchange rates affect foreign investment by 90.4%, with the rest affected by other factors. In Table 4.1 we can see that the F-count value of foreign investment is 41.819 and the Sig value is <0.05. This means that at the 5% inflation significance level, interest rates and exchange rates affect foreign investment simultaneously.

Table 1. Research Results

Variabel	Koefisien	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	34,178
$X_2 \rightarrow Y$	-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		

Source: Processed Results of Statistical SPSS Data, 2021

Furthermore, the study also shows that the R-squared of economic growth is 0.914. This means that inflation, interest rates, exchange rates and foreign investment account for 91.4% of economic growth, with the rest affected by other factors. In this case, economic



growth has an F-Count value of 34.178 and a Sig value of <0.005. This means that, at the 5% significance level, inflation is influenced by interest rates, foreign exchange rates, and foreign investment, all of which affect economic growth at the same time.

Table 2. Results of Direct, Indirect, and Significance Test Effects

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

Source: Processed Results of Statistical SPSS Data, 2021

To find out if a variable can be called a parametric variable, we need to perform the Sobel test. The Sobel test is used to determine the effect of foreign investment as a parameter. When a variable influences the relationship between the independent and dependent variables, it is called an intervening variable. To test the magnitude of the role of the variable Z in mediating the effect of X on Y, the Sobel test developed by Sobel (1982) and known as the Sobel test (Ghozali, 2018) was used. If the Z-test is greater than 1.96 (the standard absolute Z-score), there is a mediation effect, and the result is significant.

• **Foreign Investment Mediates Inflation Variables**

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

• **Investment Mediates Interest Rate Variables**

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

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• Foreign Investment Mediates Exchange Rate Variables

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

The first typical result of an acceptance test is a linearity test. According to Sugiyono and Susant (2015:323) The linearity test can be used to determine whether the dependent and independent variables are linearly related. A linearity test can be performed by a linearity test. The applicable criteria are: A significance value of linearity ≤ 0.05 means that there is a linear relationship between the independent and dependent variables.

Table 3. Results of Variable Linearity Test on Economic Growth

Variabel	F-hitung	Sig
$\ln Z \rightarrow Y$	7,502	0,665
$X_1 \rightarrow Y$	11,968	0,225
$X_2 \rightarrow Y$	6,365	0,001
$\ln X_3 \rightarrow Y$	1,472	0,281

Source: Processed Results of Statistical SPSS Data, 2021

Based on the results of the linearity test, it shows that the significance value of the foreign investment, inflation, and exchange rate variables on economic growth has a significance value of $> \alpha$ (0.05). So it can be concluded that with a significance level of 5% there is a linear relationship between the variables of foreign investment, inflation, and the exchange rate on economic growth. Meanwhile, the interest rate variable on economic growth has a significance value $< \alpha$ (0.05). So it can be concluded that there is no linear relationship between interest rate variables and economic growth.

The second classic assumption test result is the normality test. According to Ghazali (2013) the normality test aims to determine whether the dependent (bound) and independent (free) variables have a contribution in the regression model or not. To detect whether the residuals are normally distributed or not, namely by statistical tests. The normality test can be done with the Kolmogorov-Smirnov Test. The results of statistical normality test calculations seen based on the Kolmogorov-Smirnov test are as follows:

Table 4. Results of the Kolmogorov-Smirnov Test for Normality

Way	Statistic	Sig
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I	0,108	0,200
II	0,114	0,200

Source: Processed Results of Statistical SPSS Data, 2021

From the results of the Kolmogorov-Smirnov normality test, the significance values for both paths are $> \alpha(0.05)$. From this, we can conclude that at the 5% significance level, both residual paths are normally distributed (assuming normality is met).

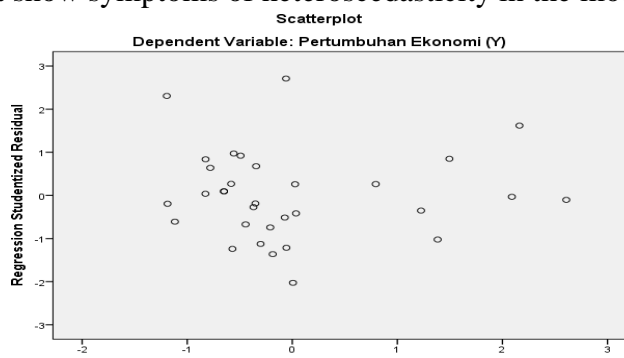
The third classic acceptance test result is the heteroscedasticity test. The heteroscedasticity test aims to test whether there is inequality of variance from one residual observation to another in a regression model. If the residual variance remains from one observation to another, it is called homoscedasticity; if it is different, it is called heteroscedasticity. A good regression model is one that does not exhibit heteroscedasticity (Ghozali, 2013). A heteroscedasticity test can be demonstrated by running the Glejser test. The Glejser test suggests regressing on the absolute values of the residuals of the independent variables. If the significance value is greater than or equal to 0.05, you can conclude that there is no heteroscedasticity problem. However, if the significance value is less than 0.05, you can conclude that you have a heteroscedasticity problem.

Table 1.5 Heteroscedasticity Test Results (Glejser Test)

Variable	Statistic	Sig
Z	-0,360	0,722
X1	-0,293	0,722
X2	1,025	0,314
X3	0,428	0,672

Source: Processed Results of Statistical SPSS Data, 2021

The results of the heteroscedasticity test show that the variables foreign investment, inflation, interest rates and exchange rates have a significance value $> \alpha(0.05)$ so that these four variables do not show symptoms of heteroscedasticity in the model.



Also, when looking at the results graphically, it is subjective that the model does not exhibit any symptoms of heteroscedasticity, as the scatterplot does not show any particular pattern or is unevenly spread above and below the zero value on the y-axis. can be concluded. The fourth classic acceptance test result is the multicollinearity test. According to Ghozali

(2013), the multicollinearity test aims to test whether a regression model finds correlations between independent variables. A good regression model should be uncorrelated (non-multicollinear) among the independent variables. Tolerances and Variance Inflation Factors (VIF) were determined to perform multicollinearity tests in this study. The allowed value limit is 0.10 and the VIF limit is 10. Multicollinearity is inferred for tolerance <0.10 and VIF >10 .

Table 1.6 Multicollinearity Test Results

Variabel	VIF
Z	5,481
X ₁	3,235
X ₂	3,142
X ₃	5,853

Source: Processed Results of Statistical SPSS Data, 2021

The results of the multicollinearity test show that all exogenous variables have a VIF value of <10 , so it can be concluded that there are no symptoms of multicollinearity in the exogenous variables.

Table 1.7 Autocorrelation Test Results (Durbin-Watson Test)

Model	DW-test (d)	4-d	dU	dL
1	1,624	2,376	1,17688	1,73226

Source: Processed Results of Statistical SPSS Data, 2021

The results of the autocorrelation test show that the value of d (1.624) $>$ dU and 4-d (2.376) $>$ dU. Based on these values, it can be concluded that at a significance level of 5% there are no signs of autocorrelation in the model.

1. Analysis and consideration of the effects of inflation on economic growth

Based on the results of tests conducted, inflation has been proven not to have a significant impact on economic growth, directly or indirectly. For direct effects, this is evident from tcount 0.05 (0.171 $>$ 0.05) at the 5% significance level. Indirect effects can be checked using the Sobel test score <1.96 (-1.5229 $<$ 1.96). This means that foreign investment cannot mediate inflation and is not significant at the 5% significance level.

Inflation does not appear to have had a significant impact on foreign investment inflows to Indonesia. Whether inflation rises or falls, foreign investment inflows will continue. Foreign investors should not be affected too much by rising or falling inflation, which is considered normal.

The findings follow work by Johnny Abdun (2013) and Muhammad Sanusi (2017), who find that inflation is not important for economic growth, nor is it important for economic growth through the intermediation of foreign investment.



2. *Analysis and consideration of the impact of interest rates on economic growth*

Based on the results of tests conducted, interest rates have been proven to have a direct and significant negative impact on economic growth. This can be seen from $t_{count} > t_{table}$ ($-2.371 > 2.042$) and sig values. $< 0 > 1.96$ ($2.4259 > 1.96$) at the 5% significance level, suggesting that foreign investment can affect interest rates on economic growth. Inflation encourages foreign investment and has a positive effect on economic growth. This differs from the existing hypothesis that the indirect effects of inflation have a negative impact. Rising interest rates do not appear to have dampened investor interest. Foreign investment will increase as the return on investment for investors is assumed to be greater than or equal to the interest they have to pay in banks.

Economic growth will also increase. The total effect of interest rates on economic growth is -0.023 , as both direct and indirect effects are large. This finding is consistent with the work of Johny Abdune (2013) and Tri Rahayu (2010), who found that interest rates have a positive impact on foreign investment.

3. *Analysis and Consideration of the Impact of Exchange Rates on Economic Growth*

Based on the results of the tests conducted, it was found that the exchange rate does not have a significant direct impact on economic growth. This can be seen from $t_{count} 0.05$ ($0.401 < 1.96$ ($4.3537 > 1.96$)).

The findings of this study suggest that a higher exchange rate reduces economic growth and foreign investment. According to Froot and Stein (1991), depreciation of the host country's currency will attract foreign investors to invest because physical assets are relatively cheap in the host country. A rise in the rupiah against the US dollar would reduce foreign investment inflows as foreign investors are believed to be directing their capital towards overseas exported/export-oriented goods. The appreciation of the rupiah currency will affect the price of the goods sold as the cost of production (labor and other inputs) will become more expensive. Conversely, the devaluation of the rupiah currency will lead to an increase in foreign investment as the prices of the commodities produced are relatively low compared to the destination country's currency. If we do so, exports will certainly increase, and the international balance of payments will be in surplus.

Studies with similar results were also investigated by Putu Krisna (2019) and Silvia Nur (2020). His research shows that the lower the exchange rate, the more investment, i.e. from abroad, and vice versa. We need a stable currency because a stable currency can attract foreign investment. In the event of currency instability, foreign investors may be discouraged from investing due to expected exchange rate losses due to currency devaluation.

CONCLUSION

The purpose of this study is to determine the effects of inflation, interest rates and exchange rates on foreign investment-mediated economic growth. Based on the data collected and the tests performed on the problem using the path analysis model, we can draw the following conclusions:

1. Inflation has no significant impact on economic growth, directly or indirectly. This indicates that foreign investors are immune to rising or falling inflation when investing their capital.
2. Interest rates have a direct and significant negative impact on economic growth. However, indirectly through the intermediation of foreign investment, interest rates have a significant positive impact on economic growth. This suggests that foreign investors will continue to invest when interest rates rise and vice versa. The overall effect of direct and indirect effects is the same.
3. Exchange rates have no direct impact on economic growth. However, indirectly through the intermediation of foreign investment, interest rates have a significant negative impact on economic growth. exchange rate increase It reduces investor interest in investing capital in the country and vice versa.

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