Analysis of Factors Affecting Economic Growth in Indonesia

Rahma W. A†, Setyari W. N. P**
† Faculty of Economics and Business, University of Udayana, Bali
** Faculty of Economics and Business, University of Udayana, Bali

Abstract- Economic growth is an indicator that is generally used to determine the success of the economic conditions in a country, one of which is by looking at the value of GDP (Gross Domestic Product). This study aims to analyze the impact of Foreign Direct Investment, the investment portfolio and the human development index on economic growth in Indonesia either simultaneously or partially. The method used in this research is multiple linear regression analysis. Types and sources of data using a quantitative approach with secondary data with the 1990-2019 data series team. The results show that 1) Simultaneously, foreign direct investment, portfolio investment and the human development index have a significant effect on Indonesia's economic growth in 1990-2019. 2) Partially, foreign direct investment and the human development index have a positive effect on Indonesia's economic growth in 1990-2019, while portfolio investment has a negative effect on Indonesia's economic growth in 1990-2019. This shows that foreign direct investment and the human development index have more influence on economic growth, especially GDP (Gross Domestic Product). Meanwhile, portfolio investment is responded negatively to Indonesia's economic growth, especially in GDP (Gross Domestic Product).

Index Terms- Gross Domestic Product, Foreign Direct Investment, Portfolio Investment, Human Development Index

I. INTRODUCTION
The ideal economy is an economy that is always growing. However, in reality the economy is usually faced with tidal waves. These tidal waves tend to be regular and occur repeatedly with varying periods of time. One of the indicators used in analyzing economic progress is Gross Domestic Product (GDP). Gross Domestic Product is basically the added value generated by all business units in a country. The value of Indonesia's real GDP above has for some time provided an illustration of the rate of economic growth. This can happen, of course, influenced by various factors. Wihastuti in his research said that one of the factors that influence it, namely the stock of capital, labor and technology is exogenous, while the endogenous growth theory explains that investment in physical capital and human capital also contributes to seeing how long-term economic growth is (Wihastuti, 2008).

According to the Harrod-Domar theory, there is a good influence between investment activities on the economic growth process of a country. Investment activity is considered to be an important aspect and has two effects on the economy. First, investment has a positive relationship with state income. Therefore, the easier the investment process will be, so that many investment activities are carried out and the income generated by the state continues to increase. Second, investment can increase the production capacity of the economy by increasing the capital stock. This capital formation is expected to be an expense that will increase the demand for the needs of all citizens (Aristanti, 2020). One of the ways to get capital is by attracting foreign investment which includes foreign direct investment (Foreign Direct Investment / FDI) and investment portfolio. With the presence of portfolio investment and FDI, it is hoped that they will be able to make a major contribution to increasing economic growth.

Another factor that determines economic growth is the Human Development Index (HDI). Humans are the wealth of the nation. Where in improving aspects of human life, it can be seen from a long life and healthy life, an adequate level of education and a decent standard of living (Hakim et al., 2013). Human development places humans as the ultimate goal of development itself not as a tool of development. The United Nations Development Program (UNDP) has published an indicator to measure the success of development and the country's welfare, namely the Human Development Index (HDI). HDI is a measure of the welfare of a region or country seen from three dimensions, namely: long life and healthy life, knowledge, and a decent standard of living.

II. IDENTIFY, RESEARCH AND COLLECT DATA
Definition of Economic Growth
According to Sukirno (2012: 29), economic growth is the growth of economic activity which applies from time to time and causes real national income to continue to grow. The level of economic development shows the percentage of increase in real national income in a certain year when compared to real national income in the previous year. Meanwhile, Subandi (2011: 15) defines economic development as an increase in GDP / GNP regardless of whether the increase is greater or less than population development, or whether there is a change in the economic structure or not.
Economic Growth Theory

Harrod-Domar Theory: Capital Accumulation
The Harrod-Domar theory states that investment is the key to economic growth. Investment affects aggregate demand through income creation and aggregate supply through increasing production capacity.

Neoclassical Economic Theory
In this theory, Solow-Swan adds technological advances where the Harrod-Domar theory only focuses on output growth, capital growth and labor force growth.

Adam Smith Theory: Growth Theory
In this theory, Adam Smith views workers as one of the inputs in the production process. The division of labor is the main thing in an effort to increase labor productivity.

Endogenous Growth Theory
This theory uses the following assumptions. (1) there are externalities in the economy, and (2) imperfect markets in the production of intermediate inputs.

Investment Theory
Economic theory defines investment as expenditures to buy some capital goods and production equipment that aims to convert and most importantly increase some capital goods in the economy that are to be used to produce goods and services in the future.

Human Development Index (HDI)
Human resource development (HR) is a tiered process in the long term and various socio-economic factors contribute to it.

Based on the theoretical and research foundations that have been described, the following hypotheses can be formulated:

1. Foreign direct investment, portfolio investment and human development index simultaneously have a significant effect on Indonesia's Gross Domestic Product in 1990-2019.
2. Foreign Direct Investment partially has a positive effect on Indonesia's Gross Domestic Product in 1990-2019.
3. Portfolio investment partially has a positive effect on Indonesia's Gross Domestic Product in 1990-2019.
4. The Human Development Index partially has a positive effect on Indonesia's Gross Domestic Product in 1990-2019.

III. RESEARCH METHODS
The research design used in this study is an associative quantitative method which aims to analyze the relationship between two or more variables. The location of this research was conducted in Indonesia. Indonesia as a developing country has become one of the countries in the world with a significant increase in foreign direct investment, portfolio investment and human development index. The variables analyzed can be grouped into:

1. Dependent variable is the variable that is influenced or becomes a result because of the independent variable. In this study the dependent variable is Indonesia's Gross Domestic Product (Y) (1990-2019).
2. Independent variables (Independent Variables), namely variables that affect or cause changes or the emergence of the dependent variable (dependent). In this study the independent variables consist of Indonesian foreign direct investment (X1), portfolio investment (X2) and the human development index (X3) (1990-2019).

The data used in this study is secondary data obtained from the World Bank and the United Nations Development Program (UNDP). The data obtained will be processed and analyzed quantitatively using multiple regression analysis models.

IV. RESULTS AND DISCUSSION

Descriptive Analysis

Table 1. Descriptive Statistical Test Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Min.</th>
<th>Max.</th>
<th>Mean.</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td>30</td>
<td>-2,757,440</td>
<td>2,916,115</td>
<td>1,233,524</td>
<td>1,393,697</td>
</tr>
<tr>
<td>Portfolio</td>
<td>30</td>
<td>-</td>
<td>2,632,000</td>
<td>-</td>
<td>7,829,506</td>
</tr>
<tr>
<td>Investment</td>
<td>30</td>
<td>26,067,000</td>
<td>6,380,867</td>
<td>1,233,524</td>
<td>1,393,697</td>
</tr>
<tr>
<td>HDI</td>
<td>30</td>
<td>0.525000</td>
<td>0.718000</td>
<td>0.627333</td>
<td>0.059086</td>
</tr>
<tr>
<td>GDP</td>
<td>30</td>
<td>95,446,000</td>
<td>4,62E+08</td>
<td>4,62E+08</td>
<td>3,45E+08</td>
</tr>
</tbody>
</table>

Source: Data processed with Eviews (attachments)

Based on the table above shows the number of observations, namely 30, that there are 30 observation data studied consisting of four variables that were sampled in this study during the 30-year research period, namely from 1990-2019. Where the FDI variable has a mean value of 1,233,524. This means that Indonesia's average FDI during the 1990-2019 period was US $ 1,233,524 million. The FDI variable has a minimum value of -2,757,440 and a maximum value of 2,916,115. The standard deviation value of FDI is 1,393,697 (above the average), meaning that FDI has a high level of data variation.

The portfolio investment variable has the smallest (minimum) value of -26,067,000 and the largest (maximum) value of 2,632,000. The average owned amounted to -6,380,867, meaning that in general the portfolio investment received was negative (suffered a loss). The standard deviation of portfolio investment is 7,829,506 (above the average), meaning that portfolio investment has a high level of data variation.

The human development index (HDI) variable has the smallest (minimum) value of 0.525000 and the largest (maximum) value of 0.718000. The average owned is 0.627333. The HDI standard deviation value is 0.059086 (below the average), meaning that portfolio investment has a low level of data variation.

Simple Linear Regression

Classical Assumptions of Regression

Normality test

Graph 1. Normality Test Results

Source: Data processed with Eviews

From the output above, it can be concluded that the residuals of the model are normally distributed. This can be seen from the results of the Jarque-Bera Test (p-value = 0.924223 > α = 0.05).
This is due to (FDI) statistically has a count nd P in nce with the efficient value for the Foreign Direct Investment (FDI) variable shows a positive sign, namely 45.71240. This means that if FDI increases by US $1 million, the GDP in Indonesia will increase by US $45.71 million. The FDI variable is in accordance with the research hypothesis that FDI has a positive and significant effect on GDP in Indonesia.

The results of this study also support the findings of previous research, namely research conducted by Prawira Bagaskara (2017) in his journal entitled Influence. Foreign Direct Investment (FDI), Exports and Imports of Indonesia's GDP 1998-2017, which states that the Foreign Direct Investment variable has a positive and significant effect on GDP.

Source: Data processed with Eviews

The multicollinearity test results are in the Centered VIF column table. The value of VIF on the FDI variable is 1.328916, FPI is 2.912612, and HDI is 2.438060. Because the VIF value of the three variables is not greater than 10, it can be said that there is no multicollinearity in the three independent variables.

### Heteroscedasticity Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>F-statistic</th>
<th>Obs * R-squared</th>
<th>Scaled explained SS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.992000</td>
<td>14.18055</td>
<td>8.880593</td>
</tr>
<tr>
<td></td>
<td>Prob. F</td>
<td>Prob. Chi-Square</td>
<td>Prob. Chi-Square</td>
</tr>
<tr>
<td></td>
<td>0.0956</td>
<td>(9.20)</td>
<td>(9)</td>
</tr>
<tr>
<td></td>
<td>(3, 30-3)</td>
<td>(3.27)</td>
<td>(9)</td>
</tr>
</tbody>
</table>

The results obtained are F_{count} = 78.36701 > F_{table} = 2.96. So the results of the F-test state that the variables of foreign direct investment, portfolio investment, and the human development index together have an effect on GDP in Indonesia.

### Result of Determination Coefficient Test (R2)

The coefficient of determination shows the level / degree of accuracy of the relationship between the independent variable and the dependent variable. From the regression results obtained the value of \( R^2 = 0.900422 \) which means that economic growth in Indonesia can be explained by variations in the model of FDI, Portfolio Investment and HDI by 90.0422% and the remaining 9.9578% is explained by other variables outside the model.

### T Test Results

Where the t-table value is obtained from \( \alpha / 2; nk-1 \). The value of t-table = (0.05 / 2; 30-3-1) = (0.025; 26) = 2.05553

### Foreign Direct Investment (FDI)

Based on the regression results, the t-count = 2.585102, so the t-count (2.585102) > t-table (2.05553) is obtained, so the decision is that the null hypothesis (Ho) is rejected and the alternative hypothesis (Ha) is accepted. The results of the t test state that Foreign Direct Investment (FDI) has a positive effect on GDP in Indonesia and the correlation is in accordance with the hypothesis and is statistically significant, so it can be stated that FDI has a significant effect on GDP in Indonesia.

Foreign Direct Investment (FDI) statistically has a positive and significant effect on GDP in Indonesia. The regression coefficient value for the Foreign Direct Investment (FDI) variable shows a positive sign, namely 45.71240. This means that if FDI increases by US $1 million, the GDP in Indonesia will increase by US $45.71 million. The FDI variable is in accordance with the research hypothesis that FDI has a positive and significant effect on GDP in Indonesia.

The results of this study also support the findings of previous research, namely research conducted by Prawira Bagaskara (2017) in his journal entitled Influence. Foreign Direct Investment (FDI), Exports and Imports of Indonesia's GDP 1998-2017, which states that the Foreign Direct Investment variable has a positive and significant effect on GDP.

### Portfolio Investment

Based on the regression results, the t-value_{count} = -2.361727, so the result of t-count (-2.361727) < t-table (2.05553), then the decision is that the null hypothesis (Ho) is accepted and the alternative hypothesis (Ha) is rejected. The results of the t test indicate that the Portfolio Investment variable has a negative effect on GDP in Indonesia and is statistically significant.

The coefficient value of the Portfolio Investment variable is negative and significant with a value of -11.00558 and a probability of <0.05. This means that portfolio investment and GDP have an inverse relationship. Portfolio investment has been responded negatively by Gross Domestic Product/This is due to the free and short-term nature of investments that are prone to capital reversals. This research is supported by the research of Yulia Indrawati (2012) which examines the impact of portfolio investment on macroeconomic stability in Indonesia that shows that portfolio investment has a negative effect.

### Human Development Index

Based on the regression results, the t-value_{count} = 6.847399, so the result of t-count (6.847399) > t-table (2.05553), then the decision is that the null hypothesis (Ho) is rejected and the alternative hypothesis (Ha) is accepted. The results of the t test indicate that the Human Development Index (HDI) has a positive effect on GDP in Indonesia and the correlation is in accordance with the hypothesis and is statistically significant, so it can be stated that the Human Development Index (HDI) has a significant effect on GDP in Indonesia.

Based on the regression results, the Human Development Index variable has a positive and significant effect on GDP in Indonesia. The value of the regression coefficient for the HDI variable shows a positive sign of 3.87E + 09. This means that if the HDI increases by 1 percent, the GDP in Indonesia will also increase by 3.87 million US $. The HDI variable is in accordance with the research hypothesis that HDI has a positive and significant effect on GDP in Indonesia. This positive and significant relationship is in accordance with the hypothesis at the beginning of the study which states that the HDI variable has a positive and significant relationship to GDP in Indonesia.

The results of the research by Sitepu and Sinaga (2005) entitled "The impact of human resource investment on GDP and poverty in Indonesia", the results show that resource investment...
humans are able to increase GDP. HDI and GDP have a close relationship because an increase in HDI will encourage most industries to produce more efficiently so that they can produce cheaper goods, which in turn will lower prices, so that people's consumption will increase so that in the end people's income will increase.

Research Implications
1. **Foreign Direct Investment** has a positive and significant effect on GDP then it is actually good for a country. This indication indicates that to increase a country's GDP, an increase in FDI is needed. The need for an increase in FDI is expected to spur GDP, community welfare, increase the active role of the community and expand business and employment opportunities. This investment will increase the stock of capital goods, which allows an increase in output.

2. Portfolio investment has a negative and significant effect on GDP in Indonesia. This indication indicates that if the portfolio investment is high, the impact on Indonesia's GDP will decrease. With a high investment portfolio value does not always reflect good GDP. Because high portfolio investment will be meaningless if it is not able to increase GDP. The high GDP figure in Indonesia is still dominated by other variables outside the portfolio investment variable.

3. The Human Development Index shows a positive and significant effect on GDP in Indonesia. This indication indicates that in order to increase the GDP of a country it is necessary to increase the human development index. The importance of increasing the HDI is expected to be able to spur an increase in three main indicators of HDI, namely, health indicators, education levels and economic indicators. The high HDI allows the community to continuously increase economic activity, which has an impact on increasing national income and the level of community prosperity due to additional output.

V. CONCLUSIONS AND SUGGESTIONS

Conclusion
1. The simultaneous test results show that Foreign Direct Investment, portfolio investment and the human development index have a significant effect on GDP in Indonesia. The coefficient of determination (R2) of 0.90422 or 90.0422 percent indicates that the rise and turn of Indonesia's economic growth is simultaneously influenced by foreign direct investment, portfolio investment and the human development index and the remaining 9.9578 percent is influenced by other variables not described in this study.

2. **Foreign Direct Investment** (X1) partially has a positive and significant effect on GDP in Indonesia. This shows that when there is an increase in the value of FDI, GDP will also increase. So that GDP will increase accompanied by an increase in the value of foreign direct investment.

3. Portfolio investment (X2) partially has a negative and significant effect on GDP in Indonesia. This shows that when there is an increase in the level of portfolio investment, GDP will have a decrease, but it is significant.

4. The Human Development Index (X3) partially has a positive and significant effect on GDP in Indonesia. This shows that when there is an increase in the HDI value, GDP will also increase. So that GDP will increase accompanied by an increase in the value of the human development index.

Suggestion
1. **Foreign direct investment** affect foreign investment in the next period. This means that the government must maintain the stability of foreign investment because it will have an impact on further foreign investment. Therefore, strong economic fundamentals and appropriate policy responses are needed to maintain the resilience of the national economy. And it is expected to open a more conducive environment for foreign capital to enter Indonesia, which is accompanied by regulations and policies that can increase Indonesia's economic growth.

2. The more massive the flow of foreign capital, especially portfolio investment, requires good management so that it has a positive impact on domestic financing and minimizes short-term fluctuations, especially if there is a reversal of foreign capital flows.

3. The development of the quality of human capital represented by the Human Development Index with its three components including the health index, the education index and the purchasing power index of the people must really become the Government's attention. Policies that can be carried out by the Government are the most important in terms of equitable human development in every region without exception so that inequality between regions does not occur and that economic development can equally be achieved maximally.

REFERENCES


