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GROSS DOMESTIC PRODUCT ANALYSIS IN INDONESIA FOR 2008-2021

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ABSTRACT

Economic growth is an indicator that plays an important role in determining the prosperity of a country. This study aims to analyse the effect of growth of foreign debt, inflation, Exchange rate, growth of poverty, and regional minimum wage on gross domestic product (GDP) in Indonesia for 2008 - 2021. Data collected through library research from the Central Bureau of Statistics and Bank Indonesia Reports. Furthermore, the data was processed using descriptive statistical analysis and verification. Ordinary Least Square regression analysis using EViews software approach was adopted for analyse the effect of independent variables on dependent variable. The result shows that gross domestic product (GDP) is influenced by the growth of foreign debt, the growth of poverty, and the growth of the minimum wage. This result is supported by the value of t-statistics < t table and also simultaneously through the coefficient of determination shows that the three variables above have a significant effect on the gross domestic product variable.

Keywords: *GDP, Economic growth, Ordinary least square*

INTRODUCTION

Gross domestic product as one of the important factors to determine the economic condition of a country. In simple terms, GDP according to BPS is defined as the total value of the production of goods and services produced by all people or companies in a country, including added value within a certain period of time, usually one year. The author defines GDP as the value of goods and services produced through the economic activities of a country which is calculated in a certain period, usually one year. GDP is a tool to measure the economic performance of a country by looking at its growth. The value of GDP can be used as input for making future economic policies. Through GDP data, the government can make various policies to increase economic growth and reduce the number of poor people for the better, such as by increasing government spending, regulating taxes, interest rates and inflation, or through other policy instruments.

As Southeast Asia's largest economy, Indonesia – a diverse archipelago with hundreds of ethnic groups has recorded impressive economic growth since overcoming the monetary crisis in 1998. Currently, Indonesia is the fourth most populous country in the world and the 10th largest economy in terms of purchasing power parity. Furthermore, Indonesia has

made great progress in poverty reduction to below 10 percent in 2019 before the COVID-19 pandemic, But the Indonesian economy affected by the pandemic where it's went from upper-middle income to lower-middle income status as of July 2021. Based on these conditions, this research will analyse the condition of the Gross Domestic Product in Indonesia during 2008-2021

Literature Review

The growth of foreign Debt

Foreign debt or foreign loans are part of the total debt of a country obtained from creditors from abroad. The Recipients of foreign debt include the government, companies, or individuals. The form of debt can be in the form of money obtained from private banks, governments of other countries or international financial institutions such as the IMF and World Bank. Foreign debt come from the government or the private sector. Foreign debt will be useful if it can be used properly because it will be able to improve the economy of a country, on the other hand it will bring disaster if it not properly managed.

After the 1997 monetary crisis which continued into the economic crisis, Indonesia's foreign debt continued to grow. The parties that provide foreign debt are: China, Japan, IMF, World Bank, Germany, ADB, IDB, and others. According to a report by International Debt Statistics from the World Bank, Indonesia is included in the list of 10 small-medium income countries with the largest foreign debt in the world. Indonesia's external debt ratio in March 2020 was 36.5% of GDP. However, around 90% of foreign debt is dominated by long-term debt, so it is still free to look for strategies to pay off foreign debt even though one day the payment period will come. Foreign debt must be managed efficiently and effectively in order to improve the economy so that it affects the increase in GDP.

Inflation

In general, inflation can be interpreted as a condition in which the general price level tends to continue to increase in a certain period. Furthermore, according to BPS (2018) inflation is a tendency to increase the prices of goods and services in general which takes place continuously. Rising prices of goods and services are inversely proportional to the decreasing value of money. Low inflation can spur economic growth which has an impact on increasing GDP, on the other hand high inflation is like a ghost for a

country's economy. Sukirno (2016) said that inflation can have a negative effect on society in the form of: a decrease in real income for people with fixed incomes, reducing wealth in the form of money and labouring the distribution of wealth. In countries experiencing high inflation, it can result in public distrust of the value of their currency and tend to shift their savings in the form of a stable foreign currency

Indonesia experienced hyperinflation of 650% at the beginning of the New Order government. As a result, financial restructuring was carried out where the old money was declared invalid and every one old note worth Rp. 1,000 was exchanged for new money worth Rp. 1 and so on as multiples thereof. Sukirno (2016: 333) inflation can be distinguished in three forms, namely: demand-pull inflation, cost-push inflation, imported inflation. However, inflation that occurs as a result of printing and circulating too much money to finance forced and unsuccessful development will jeopardize economic growth.

Exchange Rate

An exchange rate is the value of one nation's currency versus the currency of another nation or economic zone. exchange rate is the price of one country's currency against another used in conducting trade transactions between the two countries whose value has been determined by the supply and demand of each country. In accordance with the currency values prevailing in the currency market or what is called the foreign exchange market of a country, the currency can be exchanged or traded with currencies from other countries. The exchange rate of the rupiah against the US$ is one indicator important national income. This assumption very important for economic growth. Gross domestic product reflects the added value generated by all business units in a country or as the final amount of goods and services generated by all economic units. GDP value is directly proportional to economic competitiveness. The more the value of the rupiah weakens, then GDP will decrease. GDP that increases in line with Improved economic growth will support the value of the rupiah, on the other hand the balance deficit increased trade will make the rupiah depreciate.

The Growth of Poverty

Poverty and inequality may also interact to have a negative impact on growth. USStiglitz (2013) and others have argued, inequality and poverty can undermine the

institutions that spread well-being to all members of society. In Indonesia, the number of poverties is decreasing to below 10% but in 2020 and 2021 there will be a slight increase again due to the covid-19 pandemic, but the size of the poverty is still very low. The benchmark for the poverty in Indonesia refers to people living below the poverty line as of March 2021 with an income limit of IDR 472,525 per capita per month or approximately IDR 15,751 per person per day (BPS: 2021). This is different from the reference from the World Bank which says that a person is below the poverty line if he has an income per day for consumption of less than US $ 1.9 (hereinafter converted into the currency of each country) or equivalent to Rp. 28,500 if it is assumed one dollar. United States equivalent to Rp. 14,250, -.

Minimum Wage

Minimum wages have been defined as the minimum amount of remuneration that an employer is required to pay wage earners for the work performed during a given period, which cannot be reduced by collective agreement or an individual contract Minimum wage is one of the factors that can affect GDP, the maximum of minimum wage tends to provide opportunity for the community to meet their needs thus economic growth an area will tend to increase. Research conducted by Dewi (2016) stated that the Regional Minimum Wage (UMR) has a significant to the economy of a region. In the labour market it is very important to determine the amount of wages that the company has to pay its employees. For this reason, the minimum wage law stipulates the lowest price for labour that must be paid paid (Mankiw, 2006). According to Kaufman (2000), the main goal the determination of the minimum wage itself is to meet the standard of living such as for their health, efficiency, and well-being.

Gross Domestic Product

Gross Domestic Product (GDP) or Gross Domestic Product which can be interpreted as the sum of the value of goods and services produced through the economic activities of a country is calculated in a certain period, usually one year. Sukirno (2013: 34) defines GDP as the value of goods and services produced in a country in a given year. GDP is one way to calculate National Income.

Without knowing an increasing or decreasing of GDP growth will be difficult to encourage economic growth. It is even more difficult if there is low GDP growth accompanied by high population growth,

then per capita GDP may decline. This means that GDP growth is not successful in increasing economic growth. Therefore, GDP per capita describes a more realistic condition of economic growth, especially if economic growth is in line with an increase in the population's per capita income.

RESEARCH METHODS

Type of Data

The type of data used in this research is secondary data. According to Sugiyono (2018), secondary sources are sources that do not directly provide data to data collectors, for example through other people or documents. The types of data used in this study are secondary data and quantitative data types obtained from the Indonesian Central Statistics Agency. The Data is processed and analysed using statistical analysis through: developmental analysis, stationary test, classical assumption test, hypothesis testing which includes: simultaneous test, partial test, and coefficient of determination

Data Analysis Techniques and Hypothesis Testing

Descriptive Analysis

According to Sugiyono (2018), this descriptive research method was carried out to determine the existence of independent variables, either only on one or more variables (stand-alone variables or independent variables) without making comparisons of the variables themselves and looking for relationships with other variables.

Verification Analysis

This analysis is used to determine how strong the influence of the independent variable (X) namely the growth Foreign Debt (X1), Inflation (X2), Exchange Rate (X3), Poverty (X4), Minimum wage (X5) , on the dependent variable (Y) namely Gross Domestic Product by using multiple linear regression analysis. The research model is as follows:

$$GDP\ it = \beta 0 + \beta 1\ growth\ of\ foreign\ debt\ it + \beta 2 Inflationit + \beta 3 Exchangerate + \beta 4\ Povertyit + \beta 5\ Minimun\ wage + \varepsilon$$

Where :

GDP = Gross Domestic Product

$\beta 0$ = Constant

$\beta 1$- $\beta 5$ = Coefficients of Regression

Growth of Foreign debt = Percentage of foreign debt growth

Inflation =The Growth of Inflation

Exchange rate = The growth of Exchange rate

Poverty = The Growth of Poverty

Minimum Wage = The growth of minimum wage

E = Error

Econometric regression results using the OLS . method

Table 1
Multiple Linear Regression Test Results

Dependent Variable: GDP
Method: Least Squares
Date: 02/05/22 Time: 12:14
Sample: 2008 2021
Included observations: 14

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Debt	0.568064	0.281615	2.017163	0.0784
Inflation	0.035834	0.032258	1.110871	0.2989
Exchange	-0.055791	0.133877	-0.416737	0.6878
Poverty	-0.969933	0.238819	-4.061381	0.0036
Minwage	0.697315	0.164283	4.244601	0.0028
C	-8.051802	3.138130	-2.565796	0.0333

R-squared	0.912496	Mean dependent var	6.714286
Adjusted R-squared	0.857807	S.D. dependent var	6.426251
S.E. of regression	2.423246	Akaike info criterion	4.905620
Sum squared resid	46.97697	Schwarz criterion	5.179502
Log likelihood	-28.33934	Hannan-Quinn criter.	4.880267
F-statistic	16.68495	Durbin-Watson stat	2.022527
Prob(F-statistic)	0.000475		

Sumber data : EViews 10.

GDP it = β0 + β1 Growth of foreign debt it + β2 Inflation it + β3 exchangerate + β4 poverty it + β5 minwage + ε

Where:

GDP = -8.051802 + 0.568064 + 0.035834 – 0,055791 - 0.969933 + 0.697315

From the multiple linear regression equation above, it can be interpreted as follows:

1. The constant value of 8.051802 is negative, meaning that if all the variables, namely foreign debt, inflation, exchange rate, poverty and the minimum wage are constant, the Gross Domestic Product will decrease by 8.051802

2. The regression coefficient for the foreign debt growth variable is 0.568064 which means it has a positive value, this shows a unidirectional relationship between foreign debt growth and Gross National Product. It means that for every increase in foreign debt growth by one unit, the gross domestic product will increase by 0.568064

3. The regression coefficient for the inflation variable is 0.035834, which means it has a positive value, this shows a unidirectional relationship between inflation and gross national product. It means that for every one

unit increase in inflation, the gross domestic product will increase by 0.035834.

4. The regression coefficient for the exchange rate variable is -0.055791 which means it has a negative value, this shows a reverse relationship between the exchange rate and Gross domestic Product. It means that for every one unit increase in the exchange rate, the gross domestic product will decrease by -0.055791

5. The regression coefficient for the variable growth of the number of poverties are - 0.055791 which means it has a negative value, this shows a reverse relationship between the growth of the poverty and Gross National Product. This means that every increase in the growth of the poverty by one unit, then gross domestic product will decrease by -0.055791

6. The regression coefficient for the minimum wage growth variable is 0.697315 which means it has a positive value, this shows a unidirectional relationship between minimum wage growth and Gross Domestic Product. It means that for every minimum wage increase of one unit, the gross national product will increase by 0.697315

T –Tes

To determine whether or not the influence of the independent variable partially on the dependent variable is significant, the t test is used. The results of the t test are presented in the following table

Table 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Debt	0.568064	0.281615	2.017163	0.0784
Inflation	0.035834	0.032258	1.110871	0.2989
Exchange	-0.055791	0.133877	-0.416737	0.6878
Poverty	-0.969933	0.238819	-4.061381	0.0036
Minwage	0.697315	0.164283	4.244601	0.0028
C	-8.051802	3.138130	-2.565796	0.0333

With a t table of 1.833

1. The growth of foreign debt has a significant effect on GDP where the t-statistic 2,017 > t-table 1,833 with a positive relationship direction. This means that the higher the growth of foreign debt, the GDP will increase.
2. Based on the table above, the results show that partially inflation has no significant effect on GDP,

this can be seen from the t-statistical value of 1.1108, this value is smaller than the t-table value of 1.833.

3. Exchange rate growth has no significant effect on GDP where t-statistic -0.4167 > t-table 1.833.
4. The growth of the poor has a significant effect on GDP where the t statistic is -4.0613 > 1.833 with a negative relationship. This means that the higher the growth of the poor, the lower the GDP will be.
5. The minimum wage has a significant effect on GDP where the t statistic is 4.244 > 1.833 with a positive relationship. This means that the higher the growth in minimum wage, the GDP will increase.

F-Tes

The F test or simultaneous test is used to see whether or not the influence of the independent variable is significant on the dependent variable.

Table 3

R-squared	0.912496	Mean dependent var	6.714286
AdjustedR-squared	0.857807	S.D. dependent var	6.426251
S.E. of regression	2.423246	Akaike info criterion	4.905620
Sum squared resid	46.97697	Schwarz criterion	5.179502
Log likelihood	-28.33934	Hannan-Quinn criter.	4.880267
F-statistic	16.68495	Durbin-Watson stat	2.022527
Prob(F-statistic)	0.000475		

From the table above, the Prob F-stat is obtained. F count 0.0004. Because Prob. F count (0.0004) < 0.05. Thus, it can be concluded that simultaneously there is a significant effect of debt growth, inflation, exchange rate, growth of the poverty and the minimum wage to Gross Domestic Product.

Classical assumption test in regression model for OLS. method

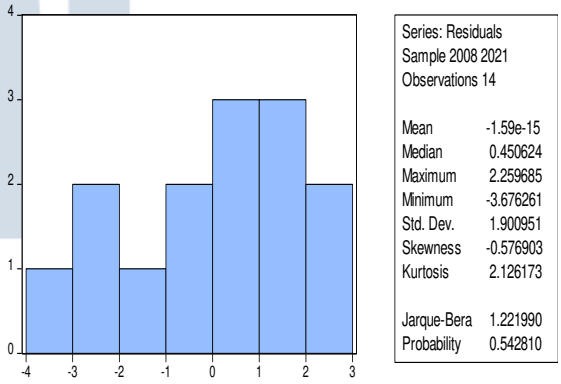

Figure 1 Normality test

The results of the residual normality test above are: the Jarque fallow value of 1.222 with a p value of 0.5428 where > 0.05 so that the residuals are normally distributed.

Table 4 *Multikolinearity Test*

Variance Inflation Factors
Date: 02/05/22 Time: 12:30

Sample: 2008 2021
Included observations: 14

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
Debt	0.079307	18.75317	1.596211
Inflation	0.001041	1.237134	1.234811
exchange	0.017923	1.748915	1.382432
Poverty	0.057034	2.491875	2.134384
Minwage	0.026989	9.480702	1.053290
C	9.847860	23.47874	NA

The table above shows that the value of Centred VIF both Debt, Inflation, Poverty, Exchange Rate, and Minimum wage are 1,596, 1,234, 1,382,2.134 where the value is less than 10, it can be stated that there is no multicollinearity problem in the prediction model.

***Table 5** Heteroskedastisity Test*

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.449306	Prob. F(5,8)	0.3047
Obs*R-squared	6.654066	Prob. Chi-Square(5)	0.2477
Scaled explained SS	1.223450	Prob. Chi-Square(5)	0.9426

p value indicated by the value of Prob. chi square (2) in Obs*R-Squared is 0.2477. Because the p value is 0.2477 > 0.05, then accept H0 or it means that the regression model is homoscedastic or in other words, there is no problem with the assumption of non-heteroscedasticity.

Table 6 *Linearity Test*

Ramsey RESET Test
Equation: EQ02
Specification: GDP DEBT INFLATION EXCHANGERATE POVERTY MINWAGE C
Omitted Variables: Squares of fitted values

	Value	Df	Probability
t-statistic	0.450524	7	0.6660
F-statistic	0.202972	(1, 7)	0.6660
Likelihood ratio	0.400169	1	0.5270

Prob value. F count 0.6660 is greater than the alpha level of 0.05 (5%) then the regression model meets the assumption of linearity.

ONCLUSIONS AND RECOMMENDATIONS

Conclusion:

Based on the analysis that has been stated above, the conclusions generated are that in 2008-2021:

foreign debt growth shows a positive relationship and has a significant effect on gross domestic product

The number of poverty shows a negative relationship and has a significant effect on gross domestic product

Regional minimum wages show a positive relationship to GDP and have a significant effect on gross domestic product

suggestion

The sharp increase in foreign debt should be directed to economic activities that are truly productive and efficient so that they are able to increase gross domestic product and are able to repay debt and interest expenses when they due.

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