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Original Article

The Effect of Inflation on Gross Domestic Product with Interest Rates as a Moderating Variable

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Abstract: *Economic development in a nation primarily attempts to bring about the wealth of its citizens through rapid economic growth, and there is a strong relationship between national and regional development in order to create a robust, robust, and equitable economy. With interest rates acting as a moderate variable, this study seeks to examine how Indonesia's GDP is affected by inflation. The research sample is GDP, inflation and interest rates in Indonesia from 1968 to 2018 (32 years). Regression with moderation served as the study's analytical strategy. Inflation affects the Gross Domestic Product (GDP), however it has no impact on the GDP when interest rates are used as a moderating factor for inflation, according to the research's findings (GDP).*

Keywords: *GDP, Inflation, Interest Rates.*

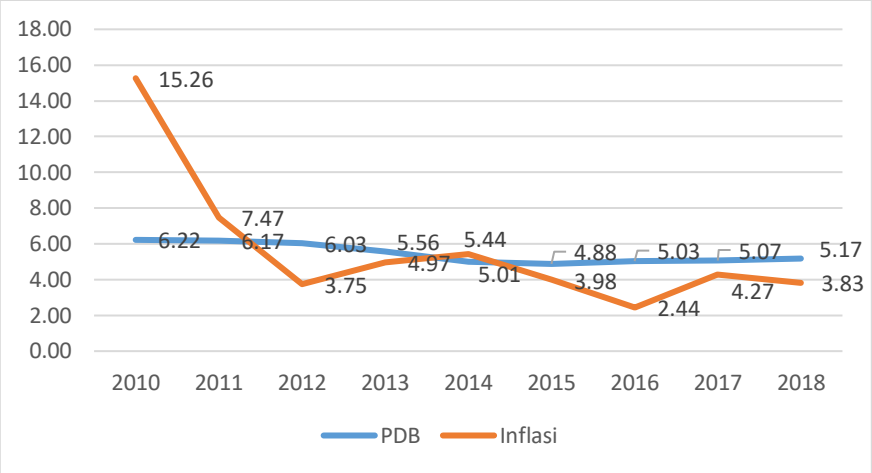
I. INTRODUCTION

Economic development in a nation primarily attempts to bring about the wealth of its citizens through rapid economic growth, and there is a strong relationship between national and regional development in order to create a robust, robust, and equitable economy. Their economic growth is a sign of the economic sector's success in terms of economic development over a specific time period. Economic activity is typically a process of employing inputs to create output, therefore economic growth demonstrates the extent to which economic activity may raise people's incomes in a given amount of time, so that in time it will provide a remuneration for the factors of production owned by the community as the owner of the factors of production (Utami, 2012:1-2).

Indicators of success in managing a country's economy are marked by the occurrence of economic growth towards economic improvement. This indicates that the higher the growth rate of a country's economy, the better the country's economic conditions. Increased national income, which is a measure of a country's welfare for its citizens, will result from economic growth in that nation. National income can be used as a proxy for a country's economic growth, which is the aim of a country's economy, to gauge how well people are doing. Gross Domestic Product (GDP), which is frequently used as one of the measurements of the level of national income of a country, is frequently interpreted as national income. GDP is calculated by determining the value of the goods and services (output) produced by the economic activities of a country in a specific time and period.

According to Todaro (1998) in Murwani (2007) said that growth is a central theme in economic life in almost all countries today. One of the main drivers of economic growth, according to a number of general economic growth factors, is investment that can raise the standard of capital, human capital, and physical resources, which in turn can raise the standard of resources through new inventions, innovations, and technological advancements. The opinion put forward by Rostow in his famous book The Stages of Economic Growth, in Murwani (2007) that one of the many basic development tactics for take-off is the deployment or mobilization of savings funds (in domestic and foreign currency) to create investment. in sufficient quantities to accelerate the pace of economic growth.

By using an inflation target as a point of reference while implementing Bank Indonesia's monetary policy, exchange rate stability, interest rates, and price levels are indications of monetary stability. The consequence of setting an inflation targeting policy is how monetary policy can be implemented to achieve this goal both in terms of operational targets, intermediate targets or information variables and also how the policy transmission mechanism can affect real output and prices.



Source: Trading Economics, 2020

Figure1: Gross Domestic Product (GDP) and Inflation in Indonesia in 2010-2018

Figure 1 demonstrates how Indonesia's Gross Domestic Product (GDP) and inflation rate changed from 2010 and 2018. However, economic growth tends to be stable in the range of 4 to 6. Meanwhile, inflation shows fluctuating movements. The inflation rate in Indonesia in 2010-2018 ranged from 15.26 to 2.44. This shows that stable economic conditions cannot guarantee inflation rates that lead to good numbers.

Inflation, Considered an enormous economic challenge by several experts. Fischer (1993), Barro (1996), and Bruno and Easterly (1998) came to the conclusion that when inflation is high, the economy will suffer significantly, whereas when inflation is low, the economy will rebound. However, Mallik and Chowdhury (2001) discovered that over the long run, inflation has a beneficial impact on GDP in four South Asian nations (India, Pakistan, Bangladesh, and Sri Lanka). If the level of inflation is still seen to be low, it will have a positive effect on the economy. The economy will suffer if a nation has inflation that is higher than what is considered to be low inflation. Research on the impact of inflation on the Gross Domestic Product (GDP) from Pratiwi (2015) and Ratnasari (2016) revealed that inflation has a considerable adverse impact on economic growth.

This study will once more discuss the impact of inflation on economic growth with interest rates based on several prior studies that showed erratic research findings regarding the impact of inflation on Gross Domestic Product (GDP) and also looked at the phenomena that exist in Indonesia as described above. as a bariael who moderates.

II. LITERATURE

A. Gross Domestic Product (GDP)

One metric to measure a nation's economic development is economic growth. The development of potential GNP, which indicates the rise in output per capita and the improvement in people's living standards, is conditioned on economic growth, according to Murni (2006: 173). Sukirno (2008: 423) defines economic growth as the physical expansion of a nation's ability to produce the commodities and services that its citizens need. Economic growth, on the other hand, is defined by Samuelson and Nordhaus (2004: 249) as the potential growth of GDP or the nation's output. Therefore, it may be said that economic growth is a process of raising a nation's national income over a specific time or duration.

Schumpeter's theory, according to Sukirno (2008: 432-437), highlights the significance of entrepreneurs in achieving economic progress. According to Schumpeter, the opportunities for innovation are constrained by the economy's level of progress. As a result, economic development will slow. In the end, the "stationary state" or "undeveloped state" level will be attained.

Economic growth is the expansion of economic activity that lead to an increase in the commodities and services produced in society and the prosperity of the local area Sukirno (2006:204). Thus, real national income at fixed prices—specifically, at the prices in the chosen base year—must be calculated in order to determine the required degree of economic growth. Economic growth therefore gauges how well an economy has developed. Economic growth reflects the state of the economy in an area. This economic situation affects the growth and condition of companies operating in the area. The likelihood that a company will grow and offer employment chances to locals is higher the more prosperous the area in question is. Economic growth is a key indicator of regional economic progress. Prasetyo concludes that "The rate of economic growth will show a process of increasing per capita output in the long term and is interpreted as an increase in output or an increase in

aggregate national income in a certain period of time" when measuring regional economic growth by calculating the growth of Gross Regional Domestic Product (GRDP) according to constant prices (2009:237).

B. Inflation

According to Suseno and Astiyah (2009), inflation is the propensity for prices to consistently and broadly rise. Inflation is a continual process of raising the overall prices of products, according to Budiono (2008: 155) Inflation is defined by Sukirno (2008: 14) as the process of raising market prices in an economy. According to the definition of inflation provided above, it is clear that inflation is the ongoing trend for prices of things to rise.

Murni (2013) states Inflation is an ongoing phenomenon that manifests as an increase in the general level of prices. According to Sukirno (2013) the rate of inflation (the percentage increase in price increases) differs from one period to another, and also differs from one country to another. Inflation rates are low reaching under 2 or 3 percent, moderate inflation reaching 4-10 percent, and very serious inflation reaching several tens or several hundred percent in a year.

Generally speaking, inflation is the process of continuously (constantly) increasing prices linked to market mechanisms. It can be brought on by a number of factors, including increased public consumption, an abundance of liquidity in the market that spurs consumption, or even speculation, including lack of efficient distribution of goods (Suparmoko, 2000).

According to Sukirno (2006: 333) demand-pull inflation, or this inflation, specifically, takes place when the economy is growing quickly. High employment rates generate high incomes, which in turn lead to spending that is greater than the economy's capacity to produce products and services. Cost-push inflation, on the other hand, refers to inflation that occurs when the economy is expanding quickly and the unemployment rate is very low. If demand continues to rise, businesses will attempt to boost output by paying their employees larger salaries and wages. This action raised the cost of production, which in turn raised the price of numerous commodities.

A persistent rise in an economy's average price level as a result of rising aggregate demand is referred to as inflation. Demand-pull inflation, which results from an increase in overall demand, is frequently distinguished from cost-push inflation, which results from a decline in overall supply McEachern (2000: 133).

According to Rahardja and Manurung (2008: 165) a condition can be said to be inflation if it has fulfilled three components, namely price increases, are general in nature, and are ongoing. A commodity's price is considered to have increased if it surpasses the price from the prior time frame. A week, month, quarter, or year might be used as a longer time frame for comparison of pricing levels, as can a seasonal benchmark. Rahardja and Manurung (2008: 165) maintain that an increase in a commodity's price does not constitute inflation if it does not result in an increase in prices generally. General price increases are also not called inflation if they occur only for a moment. Inflation calculations are carried out within a minimum monthly period, because within a month it will be seen if price increases are general and continuous.

C. Interest Rate

The cost of borrowing, or the price paid for the borrowed cash, is determined by the interest rate, claims Mishkin (2008). According to Natsir (2014), interest rates have a relationship with inflation rates. Interest rates have several functions:

1. As an attraction for individual savers, institutions, or institutions that have more funds to invest.
2. The interest rate can be used as a means of control for the government on direct investment funds in economic sectors.
3. Interest rates can be used as a monetary tool in controlling the supply and demand for money circulating in an economy.
4. To limit inflation, the government can alter interest rates.
5. People are more inclined to save when interest rates rise.

III. METHOD

According to the level of justification for the study, this sort of research comprises associative research, which is quantitative in character since a statistical model is utilised as the analytical instrument. The population of this study is Indonesia's inflation, economic expansion, and interest rates. Inflation, GDP, and interest rates in Indonesia from 1986 to 2018 are the samples in this study that are also variables in this study (33 years). The secondary data used in this study was acquired from Trading Economics.

The following are the operational definitions of the study's variables:

1. Gross Domestic Product (GDP) (Y) is a process of increasing the national income of a country in a certain time or period, and is expressed in units of percent (%).
2. According to Budiono (2008: 155) inflation (X) is the process of increasing the general prices of goods continuously expressed in units of percent (%).

3. Interest Rate (Z) is the price paid for loan money or the cost of borrowing for manufacturing businesses in the textile and apparel sector that are listed on the Indonesia Stock Exchange, and are expressed in units of percent (%).

The computer application (software) SPSS version 25 is being used in this study to conduct a functional linear regression analysis. And before that, a traditional assumption test was run to demonstrate the viability of the data processing. Regression's generic form can be expressed as follows:

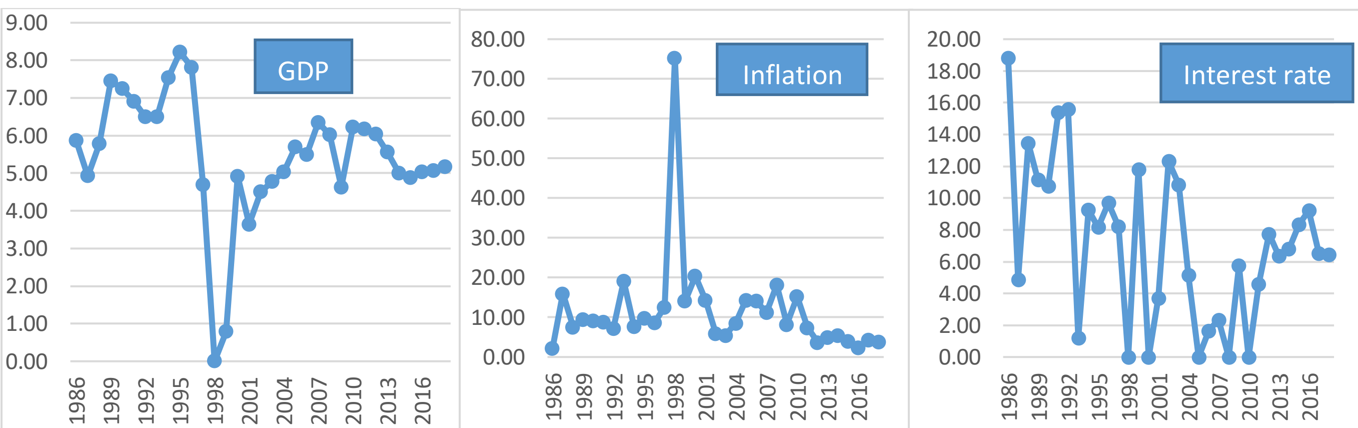
$$Y = \beta 0 + \beta 1X_1 + \beta 2X_1 Z + ei \quad \text{(1)}$$

Where:

Y = variable dependent
X_1 = variable independent
Z = moderating variable
ei = variable disturbance
β0 = called as intercept, meanwhile
β1, β2 = coefficient regression.

IV. RESULTS AND DISCUSSION

The international community is concerned about Indonesia because of its great economic potential. According to its potential, Indonesia belongs to the nation with Southeast Asia's largest economy. Indonesia possesses a variety of traits that put the nation in a favourable position for rapid economic growth. Additionally, the central government has been actively working to reduce Indonesia's reliance on exporting raw materials while boosting the importance of the manufacturing sector to the country's economy in recent years. The government's primary objective is to develop the infrastructure, and this initiative must have a positive ripple effect on the economy.



Source: Trading Economics, 2020

Figure2: Gross Domestic Product (GDP), Inflation and Interest Rates in Indonesia, 1986-2018

The Indonesian economy expanded at an average yearly pace of approximately 7% between 1986 and 1997. This accomplishment has allowed Indonesia's economy to expand, moving it from the category of "low-income countries" to "lower middle-income countries." The Indonesian economy, however, was severely harmed by the Asian Financial Crisis that broke out in the late 1990s. As a result, the GDP shrank by 13.6 percent in 1998 and only slightly increased (+0.3 percent) in 1999. the emergency This caused Indonesia's economic and political foundations to tremble and signalled the start of a brand-new era filled with chances and difficulties.

Indonesia's economy recovered during the Asian Financial Crisis in the years 2000–2004, growing by an average GDP of 4.6 percent annually. Since then, GDP growth has surged (with the exception of 2009, when capital outflows from Indonesia caused Indonesia's GDP growth to plummet to +4.6%, still a respectable number) as a result of the global financial shocks and unpredictability. Between 2000 and 2011, there was a period of economic recovery, which was largely attributed to several interconnected factors:

1. Increased household consumption (as the GDP per capita is being strengthened and consumer purchasing power is rising); and
2. The surge in commodity prices during the 2000s (2000s commodities boom).

In reality, there is a direct link between changes in commodity prices and shifts in Indonesian household consumption patterns: when commodity prices are high, household spending increases. However, consumption experiences snags when commodity prices are structurally low. Changes in commodity prices also have a direct and considerable impact on Indonesia's GDP, with household spending accounting for between 55 and 58 percent of the country's overall economic development.

Few nations wish to have a GDP per capita as low as Indonesia's, and the majority of nations in the world are envious of Indonesia's GDP growth rate. The issue is that Indonesia is still not among the top 100 nations in the world in terms of GDP per capita. Through a number of Government development plans, the Government of Indonesia aims to increase this figure to around 14,250 - 15,500 US dollars by 2025. It is still uncertain whether this ambitious goal can be attained, especially given that, as was already indicated, this indicator does not accurately reflect the distribution of wealth or income in Indonesian society. Effective government policies are required to give Indonesian children more educational chances and Indonesian adults more employment options.

In the past, Indonesia's inflation rate and volatility have been higher than those of other developing nations. Inflation rates in other emerging nations ranged from 3 to 5 percent annually between 2005 and 2014, but Indonesia even saw an average annual inflation rate of 8.5 percent during that time. Inflation in Indonesia can only be deemed under control as of 2015 even starting a brand-new age, the one with little inflation.

Peaks in Indonesia's inflation volatility are correlated with governmental price controls. The Government or State-Owned Enterprises (BUMN) Pertamina and the State Electricity Company (PLN) must pay the shortfall since energy prices (fuel and electricity) are set by the Government and do not fluctuate in accordance with market conditions . This long-running programme puts significant strain on the State Budget's (APBN) financial sheet and restricts public spending on worthwhile long-term initiatives like infrastructure or social development. The Indonesian government has successfully managed to reduce funding for energy subsidies and increase the allocation of funds for infrastructure development and social development. This is because the world's global oil prices have increased.

A higher departure from Bank Indonesia's yearly inflation prediction is brought on by Indonesia's less steady inflation rate (compared to the deviation between actual inflation and central bank targets in other countries). Such inflationary ambiguity has economic consequences, such as increased domestic and international borrowing costs in this nation relative to other developing nations. Greater credibility for monetary policy will follow if the yearly inflation target has been consistently met. However, we anticipate that there will be less of a difference between Bank Indonesia's initial target and actual inflation in 2018 and 2019 due to erratic inflation brought on mostly by subsidised fuel price fluctuations (especially since the government has confirmed that subsidised fuel and electricity prices will not be revised until by the end of 2019).

High economic costs are also a result of Indonesia's lack of adequate infrastructure, both in terms of quantity and quality. Due to the archipelagic nation's limited connectivity, transportation costs for goods and services rise, which raises logistical costs and detracts from the attractiveness of the country's investment climate. The government is made aware of the significance of infrastructure investment by the frequent reports of distribution disruption caused by infrastructure-related problems.

Indonesia's weather-dependent, highly unpredictable food costs put a heavy financial strain on people living below or near the poverty line. These households spend a majority of their available funds on food, particularly rice. Due to the substantial inflation of the poverty basket caused by increasing food prices, the percentage of the people living in poverty may rise. Inflationary pressures are brought on by failed harvests and the government's tardiness in importing foreign foods to replace domestic ones.

The reference interest rate, also known as the BI Rate, is a policy interest rate that reflects the stance taken on monetary policy by Bank Indonesia and made public. In 2015, the central bank maintained the BI Rate at 7.75% after reacting quickly to raising the benchmark interest rate the day after the announcement of the November increase in subsidized fuel prices with the excuse of controlling inflation expectations. At each monthly Board of Governors meeting, the Bank Indonesia Board of Governors releases the BI Rate. In order to meet the operational goals of monetary policy, BI implements the BI Rate in its monetary operations through money market liquidity management.

The benchmark interest rate is currently the lowest level in history since the central bank changed its calculation from monthly to weekly to be precise on August 19, 2016. The BI Rate was at the level of 4.25% which occurred from September 2017 to May 2018. After thereafter, the period of low interest rates grew due to the Fed, the central bank of the United States, starting to raise the Fed Fund Rate. The Fed's interest rate went up in step with the nation's economy, which is headed in the right direction.

The outcomes of analysing statistical data from the three variables employed in this study—Gross Domestic Product, Inflation, and Interest Rates as moderating variables—are further provided below.

Table 1. Description Statistics

Information	Product Domestic Gross	Inflation	Interest Rate
Means	5,468	11,522	7,160
Standard Error	0.294	2,169	0.871
Median	5,557	8,677	6,792
Standard Deviations	1,687	12,458	5.005
kurtosis	3,801	22,617	-0.433
Skewness	-1,468	4,407	0.274
Range	8,220	73,017	18,826
Minimum	0.000	2,254	0.000
Maximum	8,220	75,271	18,826

Source: Processed Data, 2020

The data used were 33 data obtained from data from 1986 to 2018. So Table 1 can generally describe the variables used in this study. Gross Domestic Product in Indonesia for 33 years has reached the highest GDP of 8.22, which occurred in 1995 while the lowest occurred in 1998, where the Gross Domestic Product was zero. This resulted from the effects of the 1998 financial crisis. Because of the fragile economic climate around the world, especially in Indonesia, many investors still lacked the confidence to make investments, combined with the unpredictable political environment.

Meanwhile, the lowest and highest inflation for 33 years in Indonesia were 2.254 percent and 75.271 percent respectively, where the lowest occurred in 1986 and the highest in 2018. The high inflation rate indicates that the price level and economy in Indonesia experienced a bad condition. Meanwhile, the lowest inflation that occurred in 1986 showed that the economic conditions related to the price of goods and the economy were better. fold, so people's purchasing power is greatly reduced.

A. Assumption Test Classic

The traditional assumption test seeks to guarantee the accuracy, objectivity, and consistency of the regression equation discovered. The normality test, multicollinearity test, heteroscedasticity test, and autocorrelation test are employed as the assumption tests.

B. Normality Test

To improve the outcomes of the data normality test, the Kolmogorov-Smirnov test is utilised as the normality test. The data is regularly distributed if the Kolmogorov-Smirnov results reveal a significance level greater than 0.05, and vice versa.

Table 2. Normality Test Results

N		33
Normal Parameters [a,b]	Means	-1547,8986813
	std. Deviation	1556.08744605
Most Extreme Differences	absolute	,106
	Positive	,106
	Negative	-.049
Test Statistics		,106
Asymp . Sig. (2-tailed)		,[200c,d]

Source: processed data, 2020

Table 2 shows that the Kolmogorov-Smirnov score significance is 0.200. If the number was more than 0.05, it might be said that the research data was regularly distributed.

C. Multicollinearity

The multicollinearity test determines whether or not the independent variables in a multiple linear regression model have a high degree of correlation. The relationship between the independent variables and the dependent variable is hampered if there is a correlation between the independent variables. There shouldn't be any association between the independent variables in a suitable regression model.

The tolerance value, its opposite, and the variance inflation factor (VIF) can all be used to determine whether multicollinearity is present or absent. These two metrics show how much of each independent variable can be accounted for by

the other independent variables. When the VIF is less than 10 and the tolerance value is greater than 10%, it may be said that the regression model is multicollinearity-free.

Table 3. Multicollinearity Test Results

Model		Unstandardized Coefficients		standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	std. Error	Betas			tolerance	VIF
	(Constant)	53,495	,532		89,433	,000		
	Inflation	,003	,000	,000	6,468	,000	,528	1,892

Source: processed data, 2020

The inflation tolerance value is 0.528, as shown by Table 3. While 1.892 is the VIF value on investment. Using a tolerance value > 0.1 (10%) and a VIF value <10, the multicollinearity test determines if the data exhibit multicollinearity or whether there is no connection between the independent variables. Given that the tolerance value in the test results is larger than 0.1 (> 0.1) and the VIF value is less than 10 (<10), this shows that there is no multicollinearity for the independent variables.

D. Heteroscedasticity

The heteroscedasticity test determines whether the residual variance of one observation differs from that of another. It is known as homoscedasticity if the residual variance between one observation and the next does not change, and it is known as heteroscedasticity if it does. Existence of homoscedasticity or the absence of heteroscedasticity is a suitable regression model. In this study, to determine whether there is a heteroscedasticity problem, Glejser and Scatter Plot tests are used.

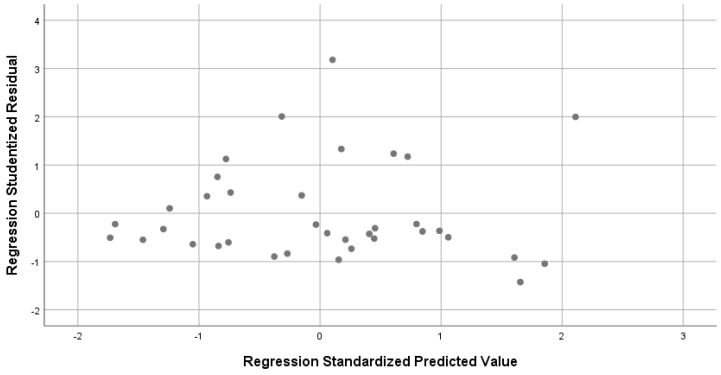
Table 4. Glejser Test Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	std. Error	Betas		
1	(Constant)	4682,103	432,272		10,727	,000
	Inflation	9,670	7,342	,130	1.317	, 197

a. Dependent Variable: GDP

Source: processed data, 2020

According to Table 4's Glejser test results, inflation has a significance value of 0.197. The significance value must be greater than 0.05 (> 0.05) in order to determine whether there is heteroscedasticity. The findings demonstrate that the study's data did not exhibit heteroscedasticity.



Source: processed data, 2020

It is clear that there is no heteroscedasticity because the Scatter Plot test results in Figure 3 provide output points that are random and without any discernible pattern.

E. Autocorrelation

The autocorrelation test seeks to determine whether there is a relationship between the confounding errors in period t and the confounding errors in the preceding period in the linear regression model. Researchers performed the Run Test to carry out the autocorrelation test. Whether or whether the data is random determines how to proceed with the run test. If the

probability value ≥ α = 0.05, then observations happen at random and it may be said that autocorrelation has no effect on the data.

By using the Run Examine to test Table 5, it is possible to observe that the significance value is 0.063. Because the research data is greater than 0.05 (> 0.05), it may be said that it is free from autocorrelation.

Table 5. Run Test Results

	Unstandardized Residuals
Test Value [a]	-1876,74356
Cases < Test Value	18
Cases >= Test Value	18
Total Cases	36
Number of Runs	13
Z	-1,860
Asymp . Sig. (2-tailed)	,063

a. Median

Source: processed data, 2020

F. Analysis Regression

When determining if an association between an independent variable (X) and a dependent variable (Y) is positive or negative, linear regression analysis is helpful. ANOVA testing was done first to determine whether the independent variables in the model had any effect on the dependent variable. The estimated F value serves as the foundation for decision-making for the ANOVA test. The hypothesis is accepted if F count > F table, which indicates that the independent variable significantly affects the dependent variable.

According to Table 6 above, which demonstrates that the calculated F test results obtained are 14.289, which is greater than the F table of 2.90, it can be inferred that Fcount > Ftable, and its significant value is 0.00067, which is less than the 0.05 significant level used in this study. Based on these results, it can be concluded that inflation affects gross domestic product.

Table 6. ANOVA test results

Model		Sum of Squares	df	MeanSquare	F	Sig.
1	Regression	28,729	1	28,729	14,289	,00067b
	residual	62,326	31	2.0105		
	Total	91,056	31			

a. Dependent Variable: PDB_Y

b. Predictors: (Constant), Inflation_X

Source: processed data, 2020

The test results mentioned above demonstrate that investment affects GDP. Then the research also wants to see how inflation affects gross domestic product with interest rates as a moderating variable. The outcome of data processing to examine the impact of inflation on the gross domestic product with interest rates acting as a moderating variable is as follows;

Table 7. Test Results t

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	std. Error	Betas	Q	Sig.
1	(Constant)	6,518	,521		12.5231	,00019
	Inflation_X	-0.078	,021	,015	-3.7257	,00081
	Inflation.SB_ XZ	-0.003	,006	,027	-0.4447	,65972

a. Dependent Variable: PDB_Y

Source: processed data, 2020

Table 7 shows t test results and from table the cough equality linear regression as following :

$$Y = 6.518 - 0.078 X - 0.003 XZ + e \quad (2)$$

Based on the aforementioned regression equation, it is possible to assess the relationship between the rate of inflation as an independent variable and the gross domestic product as a dependent variable with the moderating influence of interest rates, namely:

1. The results of the regression test show that the constant value obtained is 6.518, meaning that if the independent variable, namely inflation (X) and the moderating variable, namely interest rates, is zero, then the size of the gross domestic product is 6.518 percent.
2. There is a negative correlation between the gross domestic product (Y) and the value of the regression coefficient on the inflation variable (X). This demonstrates that, if the other moderating variables remain constant, the gross domestic product will fall by 0.078 percent for every one percent increase in inflation.
3. Gross domestic product is negatively correlated with the value of the regression coefficient on the interest rate variable (XZ) as a moderating variable (Y). This demonstrates that, if the other independent variables remain constant, the gross domestic product will decline by 0.003 percent for every one percent increase in the moderating variable.

Table 7 also shows the results of other hypothetical decisions in the study, namely, which inflation moderating variable still has a significant effect on gross domestic product. Where the significant value is more than the real level value, namely 0.00081 which is less than 0.05, this proves that with the moderating variable, namely interest rates, the hypothesis is plausible because inflation continues to have a considerable impact on GDP.

E. Coefficient Test Determination (R^2)

The coefficient of determination is used to determine how clearly various variables relate to one another. How much of a change or variation in one variable can be accounted for by changes or variations in another is shown by the coefficient of determination. The coefficient of determination has a value between 0 and 1 ($0 < R < 1$). The influence of the independent factors on the dependent variable increases with determination.

Table 8. Coefficient Determination (R^2)

Model	R	R Square	Adjusted R Square	std. Error of the Estimate
1	,5657 [a]	.3200	,2747	1.4366

a. Predictors: (Constant), Moderating_XZ , Inflation_X

Source: processed data, 2020

Table 8 in the Adjusted R Square column, the coefficient of determination is 0.3200 or 32.00%, the change in the gross domestic product variable is explained by the change in the inflation variable as the independent variable and interest rates as the moderating variable. While additional factors outside the scope of this study model, such as interest rates, investment, labour, unemployment, poverty, capital expenditure, population, total government assets, and other factors, account for the remaining 68% of the explanation.

According to the study's findings, whether or not interest rates act as a moderating factor, Indonesian inflation affects gross domestic product. This is consistent with the findings of Fischer (1993), Barro (1996), Bruno and Easterly (1998), who came to the conclusion that when inflation is high, the economy will suffer significantly, whereas when inflation is low, the economy will rebound. This study supports earlier studies on the impact of inflation on Gross Domestic Product (GDP) by Pratiwi (2015) and Ratnasari (2016), the findings of which demonstrate that inflation has a considerable detrimental impact on economic growth. The results of this study, however, disagree from those of Mallik and Chowdhury (2001), who discovered that inflation has a long-term beneficial impact on GDP in four South Asian nations (India, Pakistan, Bangladesh, and Sri Lanka). If the level of inflation is still seen to be low, it will have a positive effect on the economy. The economy will suffer if a nation has inflation that is higher than what is considered to be low inflation.

V. CONCLUSION

The findings from this study are that inflation has an influence on gross domestic product both with a moderating variable, namely interest rates and not with a moderating variable. Gross domestic product in Indonesia can still be said to be not too high, but this low number can be one of the things that some countries want. Indonesia's gross domestic output has fluctuated throughout the previous 33 years, according to movement. In Indonesia, the gross domestic product for the years 1986 to 1995 averaged 7, but after the monetary crisis, it is still only about 5.

The conclusion that can be drawn from this study is that in order to maintain GDP growth, a successful government strategy is required to enhance access to education for Indonesian children and to work possibilities for Indonesian adults. Considering that the education sector is a key determinant of rising gross domestic product. Therefore, it is crucial that the government focus more on public education.

Meanwhile, this research also suggests for further research to be able to add to the independent variables used such as investment, education, unemployment, labor, poverty and other macroeconomic variables. As well as being able to also develop models that are used in making variables that are more in-depth.

VI. REFERENCES

[1] Barro, R. 1996. Inflation and Growth. Federal Reserve Bank of St. Louis Review. vol. 78, pp. 153-169.
[2] Bruno, M. and W. Easterly, 1998. Inflation crises and long-run growth, Journal of Monetary Economics, vol. 41, pp. 3-26.
[3] Budiono. 2008. Ekonomi Makro. Yogyakarta: BPFE-Yogyakarta.
[4] Fischer, S., 1993. The role of macroeconomic factors in economic growth, Journal of Monetary Economics, vol. 32, pp. 485-512.
[5] Mallik, G. and A. Chowdhury. 2001. Inflastion and Economic Growth: Evidence in Four South Asian Countries. Asia-Pacific Development Journal, Vol 8, No. 1, June 2001.
[6] McEachern, W. A. 2000. Ekonomi Makro Pendekatan Kontemporer. Jakarta: Salemba Empat.
[7] Mishkin, S.Frederic. 2008, Ekonomi Uang, Perbankan dan Pasar Keuangan, Salemba Empat.Jakarta.
[8] Murni, Asfia. 2006. Ekonomika Makro. Yogyakarta: Refika Aditama.
[9] Murni, Asfia. 2013. Ekonomika Makro. Edisi Revisi. Bandung : PT. Refika
[10] Murwani, Sri. 2007. Analisis Kebijakan Moneter Kaitannya Dengan Penanaman Modal Asing: Pendekatan Taylor Rule. Tesis. Program Pascasarjana Universitas Diponegoro Semarang. Semarang.
[11] Natsir, Muhammad. 2014, Ekonomi Moneter dan Ke Bank Sentralan, Jakarta: Mitra Wacana Media.
[12] Pratiwi, Nabilla Mardiana. 2015. Pengaruh Inflasi, Tingkat Suku Bunga SBI, dan Nilai Tukar terhadap Penanaman Modal Asing dan Pertumbuhan Ekonomi di Indonesia (Tahun 2004 sampai dengan Tahun 2013). Malang.
[13] Prasetyo, P. E. 2009. Fundamental Makro Ekonomi. Yogyakarta: Beta Offset.
[14] Rahardja, Prathama & Manurung, Mandala. 2008. Teori Ekonomi Makro; Suatu Pengantar, Edisi Keempat. Jakarta:Lembaga Penerbit Fakultas Ekonomi Universitas Indonesia
[15] Ratnasari, Ratih. 2016. Analisis Pengaruh Penerimaan Pajak, Belanja Pembangunan/Modal, dan Tingkat Inflasi Terhadap Pertumbuhan Ekonomi Indonesia Tahun 1979 – 2014. Semarang.
[16] Samuelson dan Nordhaus. 2004. Ilmu Makro Ekonomi. Jakarta: Media Global Edukasi.
[17] Sukirno, Sadono. 2006. Makro Ekonomi. Jakarta: PT Raja Grafindo Persada
[18] Sukirno, Sadono. 2008. Pengantar Teori Makro Ekonomi. Jakarta: PT Raja Grafindo Persada.
[19] Sukirno, Sadono. 2013. Makro Ekonomi, Teori Pengantar. Jakarta : PT Raja Grafindo
[20] Sugiyono, 2012. Statistik Untuk Penelitian. Bandung: Alfabeta.
[21] Suseno dan Astiyah. 2009. Inflasi. Jakarta: Pusat Pendidikan dan Studi Kebanksentralan (PPSK) Bank Indonesia.
[22] Suparmoko, 2000. Pengantar Makro Ekonomi .Yogyakarta : BPFE – UGM
[23] Trading Economic. 2020. Inflasi Negara Asia. www.tradingeconomics.com
[24] GDP Negara Asia. www.tradingeconomics.com
[25] Utami, Ayu Mita. 2012. Pengaruh Investasi dan Pertumbuhan Ekonomi terhadap Pendapatan Asli Daerah (Studi Kasus di Pemerintahan Kota Tasikmalaya). EJournal: Fakultas Ekonomi Universitas Siliwangi.
[26] Widarjono, A. 2018. Ekonometrika Pengantar dan Aplikasinya. Yogyakarta: UPP STIM YKPN.