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# THE FACTORS ANALYSIS THAT INFLUENCE ON INFLATION IN INDONESIA

**Helmi Agus Salim**[1]
**Nely Supeni**[2]

**Higher Education of Economic Mandala**
**Email: helmi@stie-mandala.ac.id**

## ABSTRACT

Inflation is an interesting topic to discuss because it has a broad impact on macroeconomic aggregates such as on economic growth, product competitiveness, interest rates and income distribution. Inflation is a dilemma that haunts the economy, especially developing countries especially Indonesia is a country with an estimated economic level in the world. Therefore there are several things that will be studied and examined to find out these problems including the effect of fuel subsidies, the effect of the Rupiah exchange rate against the US Dollar, the influence of interest rates, and the influence of Gross Domestic Product (GDP) on the inflation rate in Indonesia. The research method for analyzing data used is multiple regression. The results showed the Subsidy Variable (LS) had a positive regression coefficient of 0.1270 to inflation, the exchange rate coefficient (LK) was 0.5915 to inflation, the value of the interest rate coefficient (LSB) was -0.88638 to inflation, the GDP coefficient (LG) is 0.1489 of inflation. Based on the simultaneous test, it can be seen that the F statistic is 390 with a prob (F-statistic) of less than one percent, so these statistics mean that together the independent variables in the research model include the value of government subsidies, the exchange rate of the Rupiah against the USD, interest rates, and Gross Domestic Product / GDP of Indonesia together influence the inflation rate in Indonesia.

**Keywords:** Inflation, Rupiah Exchange Rate, Interest Rates, Gross Domestic Product

## INTRODUCTION

Inflation is an increase in prices in general and continuously within a certain period. An increase in the price of one or two items alone cannot be called inflation unless the increase is widespread (or results in a price increase) in other goods. Inflation has a broad impact on macroeconomic aggregates such as on economic growth, product competitiveness, interest rates and income distribution which, if not properly controlled, will haunt the economy, especially developing countries.

The Central Statistics Agency (BPS) classifies inflation into the form of inflation disaggregation/grouping. This disaggregation

of inflation is divided into two categories: core inflation and non-core inflation. Core inflation is influenced by fundamental factors including interactions between demand and supply of goods and services (interaction between demand and supply of goods and services), external environment such as exchange rates, international commodity prices or inflation from trading partners, and expectations inflation from traders and consumers, while non-core inflation is influenced by non-fundamental factors such as volatile foods inflation, which is predominantly affected by shocks in the foodstuffs such as reduced crop disruptions from natural events both domestically and abroad, inflation caused by government regulations (administered prices inflation) which is generally influenced by shocks from the announcement of prices made by the government such as the price of subsidies on fuel, electricity, public transportation, etc.

The inflation factor in Indonesia is also caused by foreign factors considering that Indonesia is a country with an open economy in the midst of the world economy. With such conditions, the implication is that the economic turmoil abroad will affect the domestic economy. For Indonesia, in an effort to rebuild its economy, high inflation rates must be avoided so that the momentum of healthy development and enthusiasm in the business world can be maintained.

Based on the background of the problem described above, the formulation of the problem that will be solved in this paper is how is the effect of fuel subsidies, the value of the Rupiah exchange rate against the United States Dollar, interest rates, and Gross Domestic Product (GDP) on inflation in Indonesia?

## RESEARCH METHODS

The data used in this study are secondary data, namely inflation data in Indonesia, fuel subsidy data, Rupiah exchange rate data against USS, interest rate data, and constant GDP data. This data is obtained by reliable sources, namely BPS, BI, and the World Bank. The dependent variable used in this study is inflation in Indonesia from 1999 to 2019 in the form of percent. Besides that, it also uses several independent variables, namely subsidies, the exchange rate of the rupiah against the dollar (USD), interest rates, and GDP.

## RESULT ANALYSIS

Based on the results of calculations using the help of a time series processor program, the results obtained in the form of analytical equations are as follows:

LI = -6.6217 + 0.1270LS + 0.5915LK - 0.8638LSB + 0.1489LG + e
(t stat) (-0.070) (0.6410) (0.5833) (-3.1950) (2,642)
R2 = 0.9156 D-W statistics = 2.0769 F-statistics = 390
Where,
LI = Inflation
LS = Subsidies
LK = Exchange Rate
LSB = Interest Rates
LG = GDP
L = in log

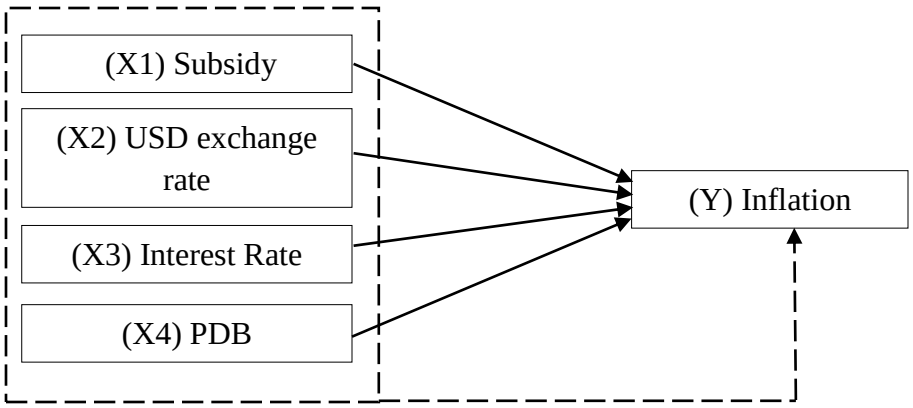


**Figure1.Conceptual Framwork**

From the equation obtained from the regression results above, the coefficient value can be explained as follows:

1. The constant value of the equation above is -6.6217 which shows the inflation rate regardless of factors X1 (LS), X2 (LK), X3 (LSB), X4 (LG).
2. Subsidy variable (LS) has a positive regression coefficient of 0.1270 to inflation. It means when there is the increase of 1 percent, the inflation will increase by 0.1270 percent. However, this coefficient figure is partially not statistically significant with a df level of 5 percent. So it can be said that the value of subsidies provided by the government to the public does not have an impact on the increase in inflation for the period of observation 1999 to 2019.
3. The second independent variable is the value of the rupiah exchange rate against the USD. Based on the regression results show that the value of the exchange rate coefficient (LK) is equal to 0.5915 to inflation. Which means when the Rupiah depreciates against USD 1 percent, inflation will increase by 0.5915 percent. However, this coefficient figure is partially not statistically significant with a df level of 5 percent. So it can be said that the value of the depreciation of the rupiah that occurred during the observation range (1999-2019) did not have an impact on the increase in inflation.
4. The third independent variable is the interest rate. Based on the results of the regression analysis shows that the value of the coefficient of the interest rate (LSB) is equal to - 0.8638 of inflation. Which means when an interest rate increase of 1 percent then inflation will decrease by - 0.8638 percent. From the t-statistic value or number, this coefficient is partially statistically significant with a df level of less than 5 percent. So it can be said that the value of the interest rate that occurred during the time span of observation (1999-2019) is negatively related to the inflation rate in Indonesia.
5. The last independent variable is GDP. Based on the results of regression analysis shows that the coefficient of GDP (LG) is 0.1489 of inflation. Which means when there is a 1 percent increase in GDP, inflation will increase by 0.1489 percent. Judging from the t-statistic value or number, this coefficient is partially statistically significant with a df level of less than 5 percent. So it can be said that the increase in GDP that occurred during the span of observation (1999-2019) is positively related to the inflation rate in Indonesia.

6. Simultaneous tests in this study can be seen in the F statistic 390 with a prob (F-statistic) of less than one percent. This statistical figure implies that together the independent variables in the research model that include the value of government subsidies, the exchange rate of the Rupiah against the USD, the interest rate, and the Gross Domestic Product / GDP of Indonesia jointly affect the inflation rate in Indonesia. The variation of all the independent variables influences the variation of the dependent variable by R-Squared (0.91 or 91 percent). While the rest is influenced by independent variables outside the model.

**INTERPRETATION.**

From the analysis results above it can be interpreted completely as follows:

1. The subsidy variable partially has no effect on inflation. It means that the zero hypothesis (Ho): α1 <0 which says that there is no significant relationship or effect of the fuel subsidy variable on the inflation variable, is accepted. And reject the alternative hypothesis (H1): α1> 0, which states there is a significant and positive influence of the fuel subsidy variable on the inflation variable.
2. The variable Rupiah exchange rate against the USD has no effect on inflation. It means that the zero hypothesis (Ho): $\alpha$2 <0, which states that there is no significant relationship or effect of the Rupiah exchange rate variable against the USD against the inflation variable, is accepted. And reject the alternative hypothesis (H1): α2> 0, which states there is a significant and positive influence of the exchange rate variable on the inflation variable.
3. Interest rate variables have a negative effect on inflation. It means that the zero hypothesis (Ho): $\alpha$3 <0, which states there is no significant relationship or effect of the interest rate variable on the inflation variable, is rejected. And accept the alternative hypothesis (H1): $\alpha$3> 0, which states that there is a significant and positive influence on the interest rate variable with the inflation variable.
4. The variable level of GDP has a positive effect on inflation. This means that the null hypothesis (Ho): $\alpha$4 <0, which states that there is no significant relationship or effect of the GDP variable on the inflation variable, is rejected. And accept the alternative hypothesis (H1): $\alpha$4> 0, which states there is a significant and positive influence of the GDP variable with the inflation variable.

This study uses four independent variables to answer the dominant factors that influence the money supply in Indonesia. From the results of the study show that in theory interest rates ($L_{SB}$) and GDP ($L_G$) have a negative effect on inflation. The results of the study are in accordance with existing theories, and also support the results of research conducted by previous researchers. For example, Rio Maggi and Briggita Dian Saraswati (2013) state that interbank money market interest rates (PUAB) have a significant effect in the short and long term. That is, the government can regulate the circulation of money in an economy. Interest rates can be used as monetary tools in order to control bids. The government needs to adopt a policy of raising interest rates to reduce the money supply so that it can have an impact on reducing the demand for money. And if there is an increase in inflation, the money supply will automatically decrease due to the tight money policy implemented by the government.

From the results of the study also showed that for the variable subsidy ($L_S$), the rupiah exchange rate ($L_K$) partially had no effect on inflation in Indonesia. This shows that the two variables are still very small in

value, and have little impact on inflation. In theory, inflation occurs due to increased demand or needs of the community, increasing the amount of money circulating in the community, increasing production costs, structural economic rigid. From the factors causing the above when the government provides subsidies to the community, the purchasing power in the market is still in a normal condition because the community has money left over from government subsidies. While the rupiah exchange rate variable showed insignificant results because based on the trend seen from the 1999-2019 data there was a very stable trend, in the sense that the government was able to control the exchange rate against the USD through its financial elements well.

## CONCLUSION

Based on the simultaneous test, it can be seen that the F statistic is 390 with a prob (F-statistic) of less than one percent, so these statistics mean that together the independent variables in the research model include the value of government subsidies, the exchange rate of the Rupiah against the USD, interest rates, and Gross Domestic Product / GDP of Indonesia together influence the inflation rate in Indonesia. From the factors causing the above when the government provides subsidies to the community, the purchasing power in the market is still in a normal condition because the community has money left over from government subsidies. While the rupiah exchange rate variable showed insignificant results because based on the trend seen from the 1999-2019 data there was a very stable trend, in the sense that the government was able to control the exchange rate against the USD through its financial elements well.

## IMPLICATIONS

These two significant variables can be used as a reference for the government in maintaining the stability of the domestic inflation rate with several alternatives including:

1) Interest rates have a significant effect, BI interest rates will increase inflation will go down, BI interest rates will reduce inflation will increase. The monetary policy scenario in Indonesia is good, meaning that the inflation rate in Indonesia is well controlled. When the inflation rate rises the government adopts a tight money policy with the aim of reducing the amount of money in circulation, on the contrary if the economic level is sluggish / stagnating, the government can adopt an expansive monetary policy by lowering the interest rate of Bank Indonesia to stimulate the real sector to move so that it has an impact on national output growth.
2) GDP in Indonesia has an effect on inflation, meaning that the government still maintains inflation rates below 2 digits, because inflation is important, to stimulate the real sector to continue to grow which means that there is ongoing economic growth so that the inflation rate is maintained within normal limits.

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