

# The Effect Of Usd Exchange Rate, Inflation And Economic Growth On The Value Of Indonesian Tobacco Exports In 2014-2019

Christover Harry Siagian<sup>1</sup>, Anak Agung Bagus Putu Widanta<sup>2</sup>

<sup>1</sup> Department of Economics, Udayana University, Denpasar, Bali, Indonesia

<sup>2</sup> Department of Economics, Udayana University, Denpasar, Bali, Indonesia

## Abstract

Non-oil and gas exports get more attention than oil and gas exports, especially the tobacco processing industry, which processes tobacco into finished products. The development of the export value of Indonesian tobacco products indirectly plays a role in the contribution of export value from the non-oil and gas sector to Indonesia's national GDP, and also has a role in the national economy, namely as a source of foreign exchange, a source of government revenue through taxes / excise, a source of farmer income and community employment. The purpose of this study was to determine whether the effect of the USD exchange rate, inflation and the economic growth of the main export destinations for Indonesian tobacco products, namely the Philippines, Malaysia, Singapore, Vietnam, Sri Lanka, Germany, Belgium and the United States, were able to increase the export value of Indonesian tobacco products. The data analysis technique used in this study is multiple regression analysis. Based on the results of the calculation, it shows that the exchange rate has a significant positive effect, inflation has a significant negative effect, and economic growth has a significant positive effect on the export value of Indonesian tobacco products. Simultaneously, the exchange rate, inflation and economic growth affect the export value of Indonesian tobacco products.

**Keywords:** *Exchange Rate, Inflation, Economic Growth, Tobacco Exports*

## 1. Introduction

Non-oil and gas exports get more attention than oil and gas exports because Indonesia has entered into the era of free trade, namely the ASEAN Free Trade Area, and soon it will enter into the era of trade liberalization at the world level, according to the World Trade Organization agreement (Pramana dan Meydianawathi, 2013). Non-oil and gas processing products greatly contributed to the acquisition of Indonesia's export value, this was influenced by the increase in the non-oil and gas trade balance surplus in line with the improving performance of non-oil exports and the declining performance of non-oil and gas imports.

According to the 2015-2019 Strategic Plan Report of the Ministry of Agriculture, the agricultural sector is still an important sector in national economic development. According to Baum and Tolbert (1998), the development of the agricultural sector aims to achieve growth, sustainable stability, equity and efficiency in the economy. One of the main crops in the agricultural sector is tobacco, and the products of the tobacco plant itself are tobacco leaves and cigarettes. Tobacco is an agricultural product processed from the leaves of a plant from the genus *Nicotiana*. Tobacco can be consumed, used as a pesticide, and in the form of nicotine tartrate it can be used as medicine. If consumed, tobacco is generally made into cigarettes, chewing tobacco, and so on.

In the non-oil and gas sector, there is a tobacco processing industry that processes tobacco into finished products. Tobacco commodities and derivative products are high value agricultural products. According to research results (Sudaryanto et al., 2009: 254) in the national economy the role of the tobacco agribusiness and the cigarette industry in creating output value, added value, and labor absorption is less significant, but both sectors have output multiplier effects. This occurs because in international trade, tobacco and cigarette commodities drain more than generate foreign exchange, while tobacco agribusiness is able to attract the upstream sector and encourage the downstream sector to develop.

The development of the export value of Indonesian tobacco products indirectly contributes to the export value of the non-oil and gas sector in Indonesia's national GDP, and also has a role in the national economy as a source of foreign exchange, a source of government revenue through taxes / excise, a source of farmer income and employment. Increasing non-oil and gas exports in an effort to boost Indonesia's economic growth can be done by diversifying exports and

expanding export destination markets, thus the assumption that exports, especially non-oil and gas exports are the main driver of economic growth can become a reality (Sutawijaya, 2017).

The export value of tobacco products during 2014-2019 tended to fluctuate. This is due to erratic rainfall, and global warming, which results in erratic tobacco production in the world, especially in Indonesia. This uncertain condition of production results is the cause of the fluctuating exports of Indonesian tobacco products. In addition, other factors that cause the fluctuation of the export value of Indonesian tobacco products are caused by international tobacco product prices and changes in the value of currency exchange rates. The opinion of Saunders et al (2002: 317) states that if the foreign exchange rate increases against the domestic currency, this can increase exports. Conversely, if the foreign exchange rate decreases against the domestic currency, this can reduce exports.

The main objective of the economy of each country is the welfare of the people, however, one of the main problems facing these countries is inflation. Inflation is an important indicator for economists in analyzing a country's economy. Inflation has a considerable influence on the achievement of several macro policy objectives, such as economic growth, employment opportunities, income distribution, and balance of payments balance (Pohan, 2008). To control inflationary pressure, it is necessary to stabilize the exchange rate of the rupiah against foreign currencies, particularly the US dollar (Atmadja, 1999). With the decreasing rate of inflation in Indonesia, thus export goods, especially tobacco products will have a cheaper price, so they are easier to export and can be sold in large quantities.

The increase in the export value of Indonesian tobacco products is expected to meet the demand for tobacco in the international market and will increase income for Indonesia and improve the national trade balance. There are several main export destination countries for Indonesian tobacco products, namely the Philippines, Malaysia, Singapore, Vietnam, Sri Lanka, Germany, Belgium and the United States. According to Lovely (2016) and Hazemi (2013), if a country has a high level of gross domestic product (GDP), then that country will have a greater ability to absorb goods traded on international markets. As shown in the table, it can be seen that the higher a country's GDP, the higher its ability to absorb goods traded on international markets. Increasing a country's gross domestic product (GDP) will increase the country's import volume. For the exporting country itself, an increase in gross domestic product in the importing country will in fact increase its export volume.

## 2. Literature Review

### **Putri et al (2016)**

The low unemployment rate will cause production output to rise. If production increases, the export value will increase. Another thing that causes a positive effect of inflation is that a country's exports can increase because capital from debt or loans to produce goods and services increases

### **Lovely and Natha (2016)**

Economic growth is the process of changing the economic conditions of a country on an ongoing basis towards a better direction within a certain period of time, economic growth can be seen from the GDP of a country and has a positive relationship to exports. If a country has a high level of gross domestic product, then that country will have a greater ability to absorb goods traded on international markets. An increase in a country's gross domestic product will increase the country's import volume. For the exporting country separately, an increase in gross domestic product in the importing country will in fact increase its export volume.

## 3. Problem Formulation

The problem formulation of this study is:

- 1) USD exchange rate, inflation and economic growth simultaneously have a significant effect on the export value of Indonesian tobacco products.
- 2) USD exchange rate, inflation and economic growth partially significant effect on the export value of Indonesian tobacco products.
- 3) The dominant influence between the USD exchange rate, inflation and economic growth on the export value of Indonesian tobacco products

## 4. Research Methodology

The research design used in this study is a quantitative approach in the form of an associative. This research was conducted in Indonesia with data taken and processed from the official website of the Central Statistics Agency (BPS), and related sources of the required research variables. The object of this research is focused on several studies, namely exchange rates, inflation, the economic growth of Indonesia's export countries and the export value of Indonesian tobacco products in 2014-2019. The data collection method used in this study is to use the non-participant observation method. The type of data used in this research is quantitative data. The data source used is secondary data. In this study, the secondary data used is time series. The data analysis technique used is regression analysis.

## 5. Analysis Result

### 1) Classic assumption test

Based on the normality test, the Kolmogorov-Smirnov statistical value was 0.071 with a Sig (2-tailed) of 0.200 greater than 0.05. This means that the residual data is normally distributed or passes the normality test. Based on the autocorrelation test, the Durbin Watson (dW) value is 1.617. With the amount of data 72, the independent variable 3, the regression equation obtained is  $du = 1.675$ ,  $dl = 1.561$  and the value of  $4-du$  is 2.225. Therefore,  $du < dW < 4-du$  i.e.  $1.675 < 1.617 < (4-value\ du) = 4-1.675$  is 2.225. So it can be concluded that the regression model used does not occur autocorrelation and the data passes the autocorrelation test using the Durbin Watson test so that the equation model can be used in this study. The multicollinearity test results show that the VIF and Tolerance values, where it is shown that there is no Tolerance value greater than 0.10 (10 percent) or a VIF value that is not lower than 10. Therefore it can be concluded that the analysis model does not exist multicollinearity symptoms. The results of the heteroscedasticity test showed that the Sig. of each variable used in this study the value is greater than 0.05, so it can be concluded that the regression equation model used in this study does not contain symptoms of heteroscedasticity.

### 2) Multiple Linear Regression Analysis

Based on the regression equation, it can be explained that:

1. The constant value ( $\alpha$ ) of 16.945 means that if the exchange rate (X1), the inflation rate (X2), and economic growth (X3) are 0 (zero), the export value (Y) is 16.945.
2. The value of the exchange rate regression coefficient (X1) is positive at 0.018, which means that the exchange rate has a positive relationship with the export value of Indonesian tobacco products. The coefficient value of the exchange rate variable is 0.018, meaning that if the exchange rate increases by 1 Rupiah / 1 US \$, it will increase the export value of Indonesian tobacco products by US \$ 0.018 million, assuming other variables are constant.
3. The inflation regression coefficient (X2) is negative at -0.124 means that inflation has a negative relationship with the export value of Indonesian tobacco products. The regression coefficient value of inflation is 0.124, meaning that if inflation increases by 1 percent, it will reduce the export value of Indonesian tobacco products by US \$ 0.124 million, assuming other variables are constant.
4. The value of the economic growth regression coefficient (X3) is positive at 0.708, which means that economic growth has a positive relationship with the export value of Indonesian tobacco products. The economic growth regression coefficient value is 0.708, meaning that if the average economic growth of Indonesia's export destination countries (Philippines, Malaysia, Singapore, Vietnam, Sri Lanka, Germany, Belgium, United States) increases by 1 percent, it will increase the value of Indonesia tobacco products amounted to US \$ 7.08 million with the assumption that other variables are constant

### 3) Model Feasibility Test

#### 1. F test

The results of the F test indicate that the F-count value is 2.511 with a significance value of P value 0.004 which is smaller than  $\alpha = 0.05$ , this means that the model used in this study is feasible. This means that the exchange rate (X1), inflation (X2) and economic growth (X3) simultaneously have a significant effect on the export value of Indonesian tobacco products.

## 2. Determination Coefficient Test ( $R^2$ )

The result of the coefficient of determination test shows that the R Square result is 0.460. This means that 46% of the variation in the export value of tobacco products is significantly influenced by the variable exchange rate, inflation and economic growth, while the remaining 54% is influenced by other factors not included in the model.

## 3. T test

### The Results of The Exchange Rate Test on The Export Value of Tobacco Products

The result of the calculation on the t test shows that the regression coefficient value of X1 or the value of the USD exchange rate is 0.018 with a t value of 4.292 which indicates a positive value with a significance level of  $0.008 < 0.050$ . This proves that the exchange rate has a significant positive effect on the export value of tobacco products, so the hypothesis is accepted. The coefficient value of the exchange rate variable is 0.018, meaning that if the exchange rate increases by 1 Rupiah / 1 US \$, it will increase the export value of Indonesian tobacco products by US \$ 0.018 million, assuming other variables are constant. The exchange rate has a positive and significant effect on the export value of Indonesian tobacco products, when the value of the exchange rate increases it will be accompanied by an increase in the price of domestic tobacco products, so that entrepreneurs will increase the production of tobacco products to increase the export value of Indonesian tobacco products. This is because every transaction in international trade, especially exports, uses exchange rates, especially the exchange rate of the rupiah against the USD. This means that if the value of the USD exchange rate against the Rupiah increases, countries that import Indonesian tobacco products will buy at a higher price for Indonesian tobacco.

In conducting international trade, a country with another country will definitely require the same currency unit and it is universally accepted (Normasyhuri, 2019). This is in accordance with the theory in the literature review regarding the exchange rate which has a positive impact on the export value of Indonesian tobacco products. This research is in accordance with the theory put forward by Sukirno, which states that in a floating exchange rate system, depreciation or appreciation of currency values will result in changes to exports and imports. Other supporting research results from Dias Pratama (2015) which states that the United States dollar exchange rate has a positive and significant effect on shellfish exports in Bali Province.

### The Results of The Inflation Test on The Export Value of Tobacco Products

The results of the calculation on the t test indicate that the regression coefficient value of X2 or inflation is -0.124 with a t value of -2.095 which indicates a negative value with a significance level of  $0.048 < 0.050$ . This proves that inflation has a significant negative effect on the export value of tobacco products, so the hypothesis is accepted. The regression coefficient value of inflation is 0.124, meaning that if inflation increases by 1 percent, it will reduce the export value of Indonesian tobacco products by US \$ 0.124 million, assuming other variables are constant. This means that prices rise together within a certain period (inflation) will affect the size of Indonesia's tobacco product exports. If the lower the existing inflation rate, the total export value of tobacco products will increase, and vice versa. Inflation causes the people's purchasing power to fulfill their needs to decrease because the prices of goods and services have increased continuously, where when the prices of domestic goods and services continue to increase it will result in imports of goods from abroad also increasing. This is because people are more motivated to buy imported goods than domestic goods. This is what causes the value of exports to fall and imports to rise. This study is in line with research conducted by Wardhana (2012) by finding that inflation has a negative effect on Indonesia's non-oil and gas exports to Singapore in 1990-2010. And said that if inflation increases, the price of goods in the domestic market will also increase, which will cause production costs to be even higher. Producers are not able to produce optimally and this will cause exports to decline.

### Test Results of Economic Growth on The Export Value of Tobacco Products

The results of the calculation on the t test indicate that the regression coefficient value of X3 or economic growth is 0.708 with a t value of 2.150 which indicates a positive value with a significance level of  $0.035 < 0.050$ . This proves that economic growth has a significant positive effect on the export value of tobacco products, so the hypothesis is accepted. The regression coefficient value of economic growth is 0.708, meaning that if the average economic growth of Indonesia's export destination countries (Philippines, Malaysia, Singapore, Vietnam, Sri Lanka, Germany, Belgium, the United States) increases by 1 percent it will increase the value of Indonesia tobacco products amounting to US \$ 7.08 million with the assumption that other variables are constant. This means that the economic growth of the export destination countries will have a major effect on the export value of Indonesian tobacco products. This is because GDP provides a brief overview of the level of prosperity of a country and the productivity of a country. If the GDP of a country is high, the level of prosperity of a country is also high so that people's ability to absorb goods traded abroad will increase, therefore if GDP increases, the volume of imports will also increase. This also indirectly affects the increase in GDP which will automatically increase economic growth in the country of Indonesia, and with the increase in GDP and Indonesia's economic growth, the

purchasing power and the ability of the people to carry out the production process is greater so as to produce a lot of output which in the end. can be exported to other countries. Indonesia's GDP growth will boost exports because excess domestic output will be channeled through exports. This research is in line with research conducted by Okta Rabiana Risma and T. Zulham (2018) that partially GDP has a positive effect on exports of Indonesian tobacco products.

#### **Dominant Influence of Variables**

Based on the test results, it can be concluded that the exchange rate variable (X1) has Standardized Coefficients Beta of 0.334, which is the largest of the other variables. This proves that the exchange rate variable (X1) has the most dominant effect on the export of Indonesian tobacco products. If the Rupiah gets stronger against the USD, it will have an impact on the increase in the export value of Indonesian tobacco products.

## **6. Conclusion**

Based on the research results that have been described, it can be concluded as follows: The simultaneous test results show that the exchange rate, inflation, and economic growth have a significant effect on the export value of Indonesian tobacco products. The result where R<sup>2</sup> or R Square is 0.460. This means that 46% of the variation in the export value of tobacco products is significantly influenced by the variable exchange rate, inflation, and economic growth, while the remaining 54% is influenced by other factors not included in the model. The exchange rate (X1) partially has a positive and significant effect on the export value of tobacco products in Indonesia. If the value of the USD exchange rate against the Rupiah increases, then indirectly the export value of tobacco products will also increase. Inflation (X2) partially has a negative and significant effect on the export value of Indonesian tobacco products. If inflation increases, then the export value will indirectly decrease. This means that prices rise together within a certain period (inflation) will affect the size of Indonesia's tobacco product exports. If the lower the existing inflation rate, the total export value of tobacco products will increase, and vice versa. For a country with a good economy, the rate of inflation that occurs ranges from 2 to 4 percent per year. Economic growth (X3) partially has a positive and significant effect on the value of rubber exports in Indonesia. If economic growth increases, the value of tobacco product exports will be of high value. The exchange rate (X1) is the variable that has the dominant influence between inflation and economic growth on the export value of Indonesian tobacco products with the highest value of Standardized Coefficients Beta of 0.334. This proves that among the variables of exchange rate, inflation, and economic growth on the export value of Indonesian tobacco products, the exchange rate variable has the most influencing contribution to the export of Indonesian tobacco products. This is because every transaction in international trade, especially exports, uses exchange rates, especially the exchange rate of the rupiah against USD. This means that if the value of the USD exchange rate against the Rupiah increases, countries that import Indonesian tobacco products will buy at a higher price for Indonesian tobacco.

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