ANALYSIS OF THE EFFECT OF INFLATION ON EXPORTS OF NON-OIL AND GAS COMMODITIES THROUGH THE PORT OF TANJUNG PERAK SURABAYA

Bambang Purwoko
WR Supratman University
E-mail: bamavinda70@gmail.com

ARTICLE INFO	ABSTRACT
	Export-import activities are based on the condition that no one country or region is truly independent because they need and complement each other. In order to increase the growth of the national economy, it is necessary to encourage non-oil exports. The aim of this study is to analyze the effect of inflation on non-oil and gas commodity exports in 2017-2019. The research conducted by the researcher is a quantitative correlation study by understanding the relationship between variables, in this case the effect of inflation on the export of non-oil and gas commodities through the Tanjung Perak Port of Surabaya in 2017-2019. The population of this study was taken from data from the Annual Report of Bank Indonesia and the Port of Surabaya Harbormaster for the 2017-2019 period. The sample data is from January 2017 to December 2019. This study used documentation in collecting the data. The documentation method is a method of finding data or information related to research variables through notes, literature, documentation, and others. The analysis data in this study is used descriptive statistical, classic assumption tests and simple linear regression tests. The results of the study conclude that inflation has a significant positive effect on exports of non-oil and gas commodities through the Port of Tanjung Perak Surabaya in 2017-2019.

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INTRODUCTION

Foreign trade or more specifically, export-import is one of the important sectors in the economy of every country (AdriAn Sutedi, 2014). Nowadays there is not a single country on this earth that does not conduct trade relations with outsiders (Muhamad, 2014). The economy is practically open and intertwined with the international world. Recognizing trends and performance (exports and imports) is not only useful for observing the development of a country's trade, but it is also useful for addressing patterns and characteristics of foreign trade (Simatupang & Puspitasari, 2017).

Trading activities using sea transportation media are a promising alternative (Jinca, 2019). The development of internet technology marks the advances information technology. It is possible to market the necessary products. Progress in the transportation sector makes the mobility of goods and capital faster, so that it will further facilitate the flow of trade (Sasono, 2021).

International trade or concretely export-import is defined as trade in goods and services across the national borders (Supardi, 2021). The emergence of international trade as a result of the country's inability to meet its full needs due to the limited resources it has, makes a country enter into trade relations with other countries that have the required resources (Oktaviana, 2017).

The export sector is very important given its role related to the position of the country's foreign exchange reserves and the procurement of imported goods in the country (Thalib, 2011). Exports are one of the reliable sources of foreign exchange for foreign countries, foreign exchange from foreign receivables, foreign exchange from securities abroad and rare sources of foreign exchange, namely loans or foreign debt (Niko & Samkamaria, 2019). Various export commodities loaded through the Tanjung Perak port of Surabaya include household appliances, cake, copra, chocolate, seafood, fish, glass, coffee, rubber, cassava, paper, rattan, plywood, fodder and others.

The qualification or quantification of changes in loading and unloading from ships and onboard ships did not determine the flow of goods of it (Mohammad, 2018). It happened in carrying the task of these cases. But this is also determined by other external factors (Firayanti, 2018). Such an example, that factor is the role of the port administrator in determining the location of mooring ship, it is far or close to line or stockpiling warehouse. Then, in managing export documents at the Custom Office Tanjung Perak Surabaya is one of the role of the ship's freight forwarder. Natural condisitons such as the rainy season also greatly affect the smooth flow of loading and unloading ships.

Meanwhile, the strategy that can be used to increase non-oil and gas exports in East Java is to optimize the market potential in other provinces, such as South Kalimantan, East Kalimantan, South Sulawesi, East Nusa Tenggara, West Nusa Tenggara, and East Kalimantan provinces. South Sumatra. Furthermore, he actively participated in international exhibitions, both in Jakarta and other countries. Another strategy is to create efficiency, effectiveness, and productivity in the production process in order to compete in the international market (Mario, 2016).

Various internal and external factors play a role in influencing the export volume (Rosida, 2017), namely the inflation rate in the country which affects the prices of domestic products and prices of ex-imported items including ex-imported livestock meat, the

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increase in freight at Tanjung Perak Surabaya Organda, thereby increasing transportation costs. It included land and water transportation, particularly the transportation for importers. Based on the background of the problem, the problem that will be formulated in this research is stated as follows: Does inflation affect the export of non-oil and gas commodities through the Tanjung Perak Port of Surabaya.

Previously, there was previous research that was relevant to this research, namely research written by (Rafii, 2020) with the title The Effect of Inflation, Exchange Rates, and Ship's Call Units on Exports of Non-Oil and Gas Commodities passing through the Tanjung Perak Port of Surabaya in 2017-2019. The results of the study indicate that inflation affects the export of non-oil and gas commodities through the Port of Tanjung Perak, Surabaya. The exchange rate has a negative and significant effect on the export of non-oil and gas commodities through the Port of Tanjung Perak, Surabaya. The ship's call unit has a positive and significant impact on the export of non-oil and gas commodities through the Tanjung Perak Port, Surabaya. Inflation has a dominant effect compared to the exchange rate and ship's call units on exports of non-oil and gas commodities through the Port of Tanjung Perak, Surabaya. In contrast to previous studies, this study only focuses on analyzing the effect of inflation on non-oil and gas commodity exports.

RESEARCH METHODS

The research conducted by the researcher is a quantitative correlation study by understanding the relationship between variables, in this case the effect of inflation on the export of non-oil and gas commodities through the Tanjung Perak Port of Surabaya in 2017-2019 (Sugiyono, 2019). The population of this study was taken from data from the Annual Report of Bank Indonesia and the Port of Surabaya Harbormaster for the 2017-2019 period. The sample data is from January 2017 to December 2019. This study used documentation in collecting the data is obtained from the Annual Report of Bank Indonesia and the Port of Surabaya Harbormaster. The documentation method is a method of finding data or information related to research variables through notes, literature, documentation, and others. The analysis data in this study is used descriptive statistical, classic assumption tests and simple linear regression tests with the following model:

$$Y = \alpha + \beta_1 X_1 + e$$

Where:
Y = Export Volume
α = Constant
X_1 = Inflation
e = variable residual (error)
β_1 = Regression Coefficient

RESULTS AND DISCUSSION

A. Descriptive Statistical Analysis

Descriptive statistical analysis in this study is used to find out a description of inflation and exports of non-oil and gas commodities through the port of Tanjung Perak Surabaya. The results are as follows:

Table 1 Descriptive Statistics of Research Data

	N	Minimum	Maximum	Mean	Std.Deviation
X1	36	-,07	2,89	1,5178	1,08981
Y	36	957747,79	1765223,38	1349114,609	243453,2508
Valid N (listwise)	36				

Source: processed secondary data, 2021

Based on the results of descriptive statistical calculations of inflation data related to exports of non-oil and gas commodities through the port of Tanjung Perak Surabaya in two years, from 2017 to 2019 it is known that the lowest inflation rate is -0.07; the highest inflation rate is 2.89 and the standard deviation is 1.08981. The average inflation rate in 2017-2019 was 1.5178.

B. Data Analysis Process

Classic Assumption Testing

A certain data assumpsion derives the formula called as a regression. So that it menas not all data are allowed to apply a regression. The implementation of regression will be biased estimates if the data cannot meet the regression assumptions. Consisting normality, multicolinearity, heteroskedastisity and autocorrelation tests are including to the classic assumption tests.

1. Normality Test

Kolmogorov Smirnov test and normal probably plot of standardized residual in testing normality. From the calculation of the characteristics of social responsibility disclosure, then to know the distribution, the normality test *(Kolmogorov Smirnov*test), if obtained p>0.05 means that the data is normal distribution so that it can be continued with statistical analysis using multiple linear regressions. It was obtained that for inflation (X_1) and export volume of export comditas through the port of Tanjung Perak Surabaya (Y) is distributed normally, shown in Figure 1 below.
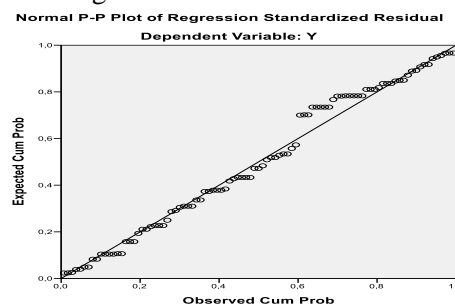

Figure 1. Normality Test

Based on Figure 1 obtained data spread around the diagonal line and following the diagonal line direction shows the normal distribution pattern.

2. Multicolinearity Test

Multicolinearity relates to situations where linear relationships are definite or close between free variables. The influence of multicolinearity in this study will be eliminated by eliminating variables that have a high zero degree correlation (simple correlation). The guideline of a multicolinearity-free regression model is to have a value (VIF) around the

number one, and have a Tolerance Value approaching 0.1 while the limit of VIF value is 10. Here are the results of multicolinearity testing:

Table 2. Variance Inflation Factor Values

No.	Variable	VIF Value
1	X_1	1.018

Source: Data processed, 2021

The test results showed that there were no symptoms of multico-co-inicity because the VIF value was greater than one and it is smaller by 10. By looking at the results of the multicolinearity test above, there is none of the free variable in tolerancing value smaller than 0.1. It is allowed to the VIF value which the variable are not greater than 10. Thus it can be concluded that there is no perfect correlation between free variables (*independent*), so this regression model is no problem multicolinearita.

3. Heteroskedastisity Test

Heteroskedastik tests are conducted through *scatterplot*chart analysis. If *a scatterplot* chart has a data distribution pattern that forms a specific pattern then it shows homoskedastik. Conversely, if *a scatterplot* chart pattern does not form a particular pattern or randomly then it shows no heterokedastik. A random pattern on the chart as shown in the image below shows the linear regression model does not meet heteroskedastik assumptions. Thus, heteroskedastik tests through *scatterplot* charts show that multiple linear regression models meet homoskedastic assumptions.
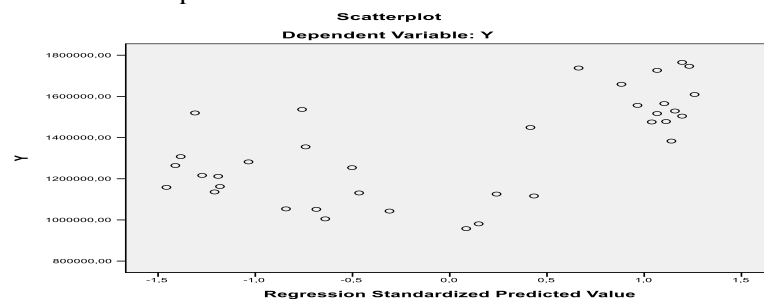

Figure 2. Heterokedastisity Test

4. Autocorrelation Test

The autocorrelation test aims to determine whether or not there are deviations that occur in the classic assumption of autocorrelation, i.e. correlations that occur between residuals on one observation with another observation on the regression model. The results of the autocorrelation test using *durbin-watson test (DW Test)* showed that the DW number was between -2 to +2, which is 1,215. Thus, it is concluded that there is no correlation between the value of a variable and the value of the same variable in one or more previous periods.

Table 3. Autocorrelation Test Results with Durbin-Watson

Type	Dw	Information
Regression model	0,715	No autocorrelation

The result of conducting the classic assumption is the model has been used meet the previous setted classic assumption. This is also met the criteria of Best Linear Unbiased Estimated (BLUE) which means the regression model can be used as the basis analysis of this study.

5. Linear Regression Testing

Simple regression analysis is performed to prove the influence of independent variables on dependent variables. In this study, simple linear regression tests were used to determine the effect of inflation on exports of non-oil and gas commodities through the port of Tanjung Perak Surabaya. Based on the calculation obtained the following results:

Table 4. Simple Linear Regression Test Results

variable	Regression Coefficient	t_{count}	Significant
constant	1140008.252	20.327	0.000
Inflation (X_1)	137771,391	4.568	0.000

a. Predictors: (Constant), X_1
b. Dependent Variable: Y

From table 4 which is the result of simple linear regression tests can be created the following regression equations:

$Y = 1140008.252 + 137771.391X_1$

Based on the regression equation above, the following interpretation can be made:

1. α = 1140008.252; The constant value for the regression equation is 1140008.252with a positive parameter. This means that inflation will increase the export of non-oil and gas commodities through the port of Tanjung Perak Surabaya.
2. β_1 = 137771.391; The large regression coefficient to the variable inflation is 150362,387 with positive parameters. This means that there is an increase in inflation of 1%; it will have an impact on the increase in exports of non-oil and gas commodities through the port of Tanjung Perak Surabaya by 137771,391%.

6. Test T

This t test is a partial independent variable test of dependent variables. In this study, T test was used to determine the effect of inflation on non-oil and gas commodity exports through the port of Tanjung Perak Surabaya in 2017-2019. The result is as follows:

Table 5. T Statistical Test Results

variable	Regression Coefficient	t_{count}	Significant
constant	1140008.252	20.327	0.000
Inflation (X_1)	137771,391	4.568	0.000

a. Dependent Variable: Y
Source: Secondary data processed, 2021

Based on the calculation result for the influence of inflation on the export of non-oil and gas commodities through the port of Tanjung Perak Surabaya in 2017-2019 obtained a calculated t value of 4,568 with p = 0,000. Which $t_{calculate} > t_{table}$ (4,568 > 1,688) and $p < 0.05$ so that H_1 is accepted, meaning inflation has positive and it is significant effect on the export of non-oil and gas commodities through the port of Tanjung Perak Surabaya in 2017-2019.

7. Model Accuracy Test

Determination Coefficient (R^2)

The calculation result obtained the value of the coefficient of determination (R^2) of 0.380. This means that inflation contributes 38,0% to the export of non-oil and gas commodities through the port of Tanjung Perak Surabaya in 2017-2019, while the remaining 62.0%, can be explained by other variables outside the model.

8. Hypothesis Test Results

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Based on the calculation of the effect of inflation on the export of non-oil and gas commodities through the port of Tanjung Perak Surabaya in 2017-2019 obtained a calculated t value of 4,568 with $p = 0,000$. Which are $t_{calculate} > t_{table}$ (4,568> 1,688) and $p < 0.05$ so that H_1 is accepted, meaning inflation has a positive and significant effect on the export volume of export commodities through the port of Tanjung Perak Surabaya in 2017-2019.

Based on the results of this study, inflation effects to the exports of non-oil and gas commodities positively, through Tanjung Perak Surabaya port in 2017 until 2019. It is caused by the high rate of inflation that associated with overheated economic conditions. That means it is experiencing the conditions where the capacity of their product is lower than the demand for products. This condition makes the prices tend to increase. Too high inflation will also lead to a decrease in*purchasing power of money*).

The results of this study are contrary to research conducted by Rauzatul Ulfa and Devi Andriyani (2019) which concluded that partial inflation (X3) had no effect on the export of non-oil and gas commodities in Indonesia in 1985-2017. The same opinion is research conducted by Yito Lestiyono which concluded that variable inflation has no effect on the export of non-oil and gas commodities in Indonesia in 2002-2007.

Inflation has a significant effect on non-oil and gas exports in Port of Tanjung Perak Surabaya because inflation is the only dominant factor inhibiting exports, especially the non-oil and gas sector. Most of the raw materials used by export actors are by using imported raw materials. While the average main export commodity is raw goods from natural products. The existence of import tariffs as a protectionist policy on domestic goods that eventually resulted in a high price to pay consumers. Most of the goods exported are raw materials such as agricultural products, plantations and others that do not go through further processing that has added *value* so that the export selling price is low.

CONCLUSION

The conclusion of this is study: That inflation has a positive and significant effect on the export of non-oil and gas commodities through the Tanjung Perak port of Surabaya in 2017-2019. Where decision making for companies must pay attention to the element of inflation, because the increase in inflation rates affect the export of non-oil and gas commodities through the Tanjung Perak port of Surabaya.

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