THE EFFECT OF EXPORTS, IMPORTS AND EXCHANGE RATE ON INFLATION IN NORTH KALIMANTAN PROVINCE

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Abstract
An increase in export demand can increase inflationary pressure in the domestic economy due to an increase in aggregate demand. Meanwhile, imports are needed to overcome the increase in domestic demand by utilizing import policies. In this case, the exchange rate or exchange rate is used as a determinant of the purchasing power of traded goods. If there is a decline in the exchange rate, it causes the price of exported goods to fall, thereby increasing competitiveness, which triggers an increase in exports. Furthermore, greater exports will result in the amount of money circulating in society increasing, because export receipts will be spent domestically in the form of rupiah, and in the end this will trigger an increase in prices or inflation. The data used is secondary data obtained from the websites of the North Kalimantan Central Statistics Agency, the Ministry of Trade, and the Tarakan Customs and Excise Service Office. The population and sample used are North Kalimantan export, import and inflation data, while the rupiah exchange rate data was obtained from the Ministry of Trade website. The sampling technique used a total sampling of 24 samples.

1. Introduction

The increase in trade flows, apart from having a positive impact on improving people's welfare, also has a negative impact on the inflation rate in North Kalimantan Province. Inflation can be caused by increased consumption and people's purchasing power, excess liquidity in the market which triggers consumption or even speculation and distribution of goods. As a newly formed province, in terms of its territorial coverage, the City of Tarakan has quite a big influence on the economy in North Kalimantan which can be seen through several economic development sectors, one of which is in the field of trade. Based on the results of monitoring of the Consumer Price Index (CPI) by the Central Statistics Agency in July 2020 which was carried out in 90 cities in Indonesia, 29 cities experienced inflation and 61 other cities experienced deflation. Tarakan City is in 13th place in Indonesia. Meanwhile, the inflation rate on the island of Kalimantan, 3 cities experienced inflation, namely, Samarinda City, inflation of 0.36 percent, Sampit City, inflation of 0.28 percent, and Tarakan City, inflation of 0.24 percent. This indicates that for the Kalimantan region itself, Tarakan City occupies third position.

According to Soesastro in Rosyadi (2018:22) inflation is a condition where there is an imbalance between *supply* And *demand* of goods and services, that is, demand exceeds supply and the greater the difference, the greater the danger that inflation poses to economic health. Administratively, the province of North Kalimantan borders Malaysia, specifically the states of Sabah and Sarawak, Malaysia. The position that borders quite close to Malaysia can trigger faster development of international trade.

Seeing the development of commodity yields, North Kalimantan tends to carry out more trading activities through non-oil and gas commodities. Based on published data (Diskominfo, 2020), total commodity exports through ports in North Kalimantan in March 2020 reached US$ 104.84 million, an increase of 5.76 percent compared to conditions in February 2020 which reached US$ 99.13 million. The export value for the January - March 2020 period reached US$ 289.48 million or an increase of 13.49 percent compared to January - March 2019. The increase in exports in March 2020 compared to February 2020 was caused by an increase in exports of non-oil and gas goods in the mining sector by 14.86 percent. This means that the amount of demand for exports has increased, this situation is not only beneficial for the economy but can also increase inflationary pressure in the domestic economy due to an increase in aggregate demand.

Cumulatively, the import value of North Kalimantan Province from January to October 2018 reached US$ 70.96 million, an increase of 260.32 percent compared to the same period in 2017 (BPS North Kalimantan, 2018). Imports can influence domestic inflation directly through the price of goods, where domestic people will choose this policy to avoid the price of domestic goods being too expensive or experiencing inflation.

The relationship between the exchange rate and inflation is usually measured by export and import policies. If there is an appreciation (increase) in a country, the price of the country's export goods will decrease and conversely the price of imported goods will increase. The higher a country's exchange rate, the stronger the country's economy, so it can obtain more foreign exchange reserves. Large foreign exchange reserves show that the country has international capabilities (Hady in Sonia & Setiawina, 2016: 1083).

Looking at the phenomena that occur based on the research results of Wahyudi, et al (2018) regarding the Influence of Money Supply, Exports and Imports on Inflation (Empirical Study of the Indonesian Economy) shows that the money supply, exports and imports have a positive effect on inflation. Meanwhile, research by Abdullah, et al (2018) entitled Analysis of the Effect of Exports and Foreign Investment on the Inflation Level in Indonesia Through the Exchange Rate for the 1997-2016 Period shows that exports have a negative and insignificant effect on inflation directly, while foreign investment has a negative and significant effect. directly to inflation. The exchange rate variable has a positive and insignificant effect on inflation in Indonesia. The export variable has a positive and significant effect on the exchange rate level and foreign investment has a positive and insignificant effect on the exchange rate level.

2. Method

This research is included in the type of quantitative research. According to Supriyanto & Machfudz in Roziqin (2018:40) quantitative research is research carried out by collecting data in the form of numbers, this data is then processed and analyzed to obtain scientific information behind the numbers. In this technique, the variable value will be known *independent* And *dependent*. Researchers will only explain the figures resulting from data processing so that the information presented will be easier to understand.

The research location is the place where researchers conduct research, namely in North Kalimantan Province. This research uses data on variables obtained from the North Kalimantan Central Statistics Agency (BPS) and the Tarakan Customs Supervision and Services Office. Research or data collection was carried out from March 2021 to June 2021.

The population and sample used in this research are inflation data and the value of North Kalimantan exports and imports obtained from North Kalimantan BPS for the 2019-2020 period. Meanwhile, exchange rate data was obtained through the Ministry of Trade website, as well as a visit to the Tarakan Customs and Excise Supervision and Services Office to obtain more information regarding the data used.

The sampling technique is carried out using a saturated sample technique or technique *non probability*. According to Sugiyono (2014:120) *non probability sampling* namely a sampling technique that does not provide equal opportunities or opportunities for each element or member of the population to be selected as a sample.

3. Results and Discussion

3.1 Results

Based on the results of the data collection carried out, data was obtained from each variable which is presented in the data description table. The results of descriptive statistics for each variable in this study are seen from the average value and standard deviation. Briefly, the description is presented in table 4.2 as follows:

Table 3.1 Results of Descriptive Analysis of Export Values, Imports, Exchange Rates and Inflation for the 2019-2020 Period of North Kalimantan

Variable	Rate-Rata / *Mean*	*Std. Deviation*
Export	0,1167	0,54770
Impor	83,1508	13,11191
Exchange Value	6,1196	4,88273
Inflation	14377,92	542,978

Based on the data in table 3.1 above, it can be seen that for each variable with a total sample of 24 samples, the export variable has an average value of Rp. 0.1167 million with standard deviation (*Std. Deviation*) IDR 0.54770 million, the average value of imports is IDR 83.1508 million with a standard deviation of IDR 13.11191 million, the average exchange rate is IDR 6.1196 with a standard deviation of IDR 4.88273, and the average inflation value is 14377.92 with a standard deviation of 542.978.

Hypothesis testing which states that there is a partial influence of exports, imports and exchange rates on inflation in North Kalimantan Province can be seen on the day of the T test results. The test criteria are if the calculated significant value is <0.05 it can be concluded that H_0 rejected. The hypothesis for partial testing is as follows:

H_{01} : Exports have no effect on inflation in North Kalimantan Province.
Ha_1 : Exports influence inflation in North Kalimantan Province.
H_{02} : Imports have no effect on inflation in North Kalimantan Province.
Ha_2 : Imports influence inflation in North Kalimantan Province.
H_{03} : The exchange rate has no effect on inflation in North Kalimantan Province.
Ha_3 : The exchange rate influences inflation in North Kalimantan Province.

Based on the results of the multiple regression test, the T test results were obtained in table 4.6 and in full can be seen in attachment 4 page 61 as follows:

a. **The Influence of Exports on Inflation in North Kalimantan Province for the 2019-2020 Period**

Table 4.8 Summary of Partial Significance Test Results Exports Against Inflation in North Kalimantan (T Test)

Variable	t_{count}	Say
Export	-0,837	0,412

Based on the data in table 4.8 above, the t value is obtained$_{count}$ of -0.837 and a Sig value of 0.412. At the level of significance α = 5% (0.412 > 0.05), while the value obtained at t_{table} worth 2.07961 which means (t_{count} = -0,837 < t_{table} = 2.07961) so it can be concluded that there is no partial significant influence between exports against inflation. The hypothesis proposed is in accordance with the research results, namely that exports have no effect on inflation in North Kalimantan Province, which means H_{01} accepted.

b. **The Influence of Imports on Inflation in North Kalimantan Province for the 2019-2020 Period**

Table 4.9 Summary of Partial Significance Test Results Imports Against Inflation in North Kalimantan (T Test)

Variable	t_{count}	Say
Impor	0,739	0,468

Based on the data in table 4.9 above, the t value is obtained$_{count}$ of 0.739 and a sig value of 0.468. At the level of significance α = 5% (0.468 > 0.05), while the value obtained at t_{table} worth 2.07961

which means ($t_{count} = 0,739 < t_{table} = 2.07961$). It can be concluded that there is no significant partial influence between imports against inflation. The hypothesis proposed is not in accordance with the research results. This shows that imports have no effect on inflation in North Kalimantan Province, which means H_{02} rejected.

c. The Influence of the Exchange Rate on Inflation in North Kalimantan Province for the 2019-2020 Period

Table 4.10 Summary of Partial Significance Test Results
Exchange Rates Against Inflation in North Kalimantan (T Test)

Variable	t_{count}	Say
Exchange Value	-0,938	0,359

Based on the data in table 4.10 above, the t value is obtained$_{count}$ of -0.938 and a sig value of 0.359. At the level of significance $\alpha = 5\%$ (0.359 > 0.05), while the value obtained at t_{table} worth 2.07961 which means ($t_{count} = -0,938 < t_{table} = 2.07961$). It can be concluded that there is no partial significant influence between exchange rates against inflation. The hypothesis proposed is not in accordance with the research results. This shows that the exchange rate has no effect on inflation in North Kalimantan Province, which means H_{03} rejected.

The F test is carried out to see the influence of the variables *independent* (exports, imports, and exchange rates) to variables *dependent* (inflation in North Kalimantan Province) together. The F test is carried out using *SPSS 26.0* namely by comparing the calculated significance with $\alpha = 5\%$, if the calculated significance value is <0.05 then H_{04} rejected. Meanwhile, according to Siregar (2014:418), determining the simultaneous influence between variables *independent* and variables *dependent* are as follows:

Hypotheses for simultaneous testing are as follows:

H_{04} : Exports, imports and exchange rates do not have a significant effect
      on inflation in North Kalimantan Province.

Ha_4 : Exports, imports and exchange rates have a significant effect on
      inflation in North Kalimantan Province.

By using help *SPSS 26.0*, the results of the F test are obtained in table 3.2 and in full can be seen in attachment 5 page 62 as follows:

Table 3.2 F Test Results

	Amount Square	Df	Rate-Rata Square	F_{count}	Say
Regression	0,648	3	0,216	0,691	0,568
Residual	6,252	20	0,313		
Total	6,900	23			

Based on the data in table 3.2, the F test results were obtained with an F value$_{count}$ of 0.691 and a sig value of 0.568. Because the sig value > $a = 5\%$ or $0,568 > 0,05$ until the F value is obtained$_{table}$ worth 3.07 which means $F_{count} = 0,691 < F_{table} = 3,07$ eyes H_{04} accepted. So it can be said that exports, imports and exchange rates do not have a significant effect on inflation in North Kalimantan Province.

Based on calculations using assistance *SPSS 26.0*, then the coefficient of determination value can be seen in table 4.11 and in full see attachment 6 page 62.

Table 3.3 Test Results for the Coefficient of Determination

R value	R value^2	Estimated Standard Error
0,306	0,094	-0,042

Based on the data in the table above, it is found that the R value^2 is 0.094 or 9.4%, then the coefficient of determination simultaneously is 9.4%. This shows that the influence of exports, imports and exchange rates on inflation in North Kalimantan Province is 9.4%, while the remaining 90.6% (100-9.4) is influenced by other variables.

3.2 Discussion

3.2.1 The Influence of Exports on Inflation in North Kalimantan for the 2019-2020 Period

From the results of data processing, research results and calculations of multiple linear regression tests were obtained. Based on partial test results (T test), the influence of exports on inflation in table 4.8, a significance value was obtained α = 5% (0.412 > 0.05), this shows that the hypothesis proposed is in accordance with the research results, namely that exports have no effect on inflation in North Kalimantan Province for the 2019-2020 period. So it can be concluded that H_{01} accepted.

This can happen based on the data obtained that the highest export value in 2019 reached US$ 102.09 million with an inflation rate of -0.92%, an increase in 2020 of US$ 104.84 million with an inflation rate of -0.46%, this increase can be seen based on export commodities in the North Kalimantan region that non-oil and gas commodities such as marine products are still the commodities most in demand by exporters from various countries. However, high demand will have an impact on the price of goods where the proceeds from exports will be spent domestically, triggering inflation. This indicates that the increasing demand for export goods results in an increase in the price of goods so that people abroad tend to look for alternative offers from other countries that are cheaper than exporting products in North Kalimantan or also prefer to save their money.

This research is supported by research by Abdullah, et al (2018), that exports do not have a significant direct effect on inflation. This research is also supported by the theory by Sukirno in Ribka (2017) who says that inflation causes the prices of export goods to become more expensive, so that inflation tends to reduce exports.

3.2.2 The Influence of Imports on Inflation in North Kalimantan for the 2019-2020 Period

From the results of data processing, research results and calculations of multiple linear regression tests were obtained. Based on the results of partial testing (t test), the influence of imports on inflation in table 4.9, a significance value was obtained α = 5% (0.468 > 0.05), this shows that the import variable has no effect on inflation in North Kalimantan Province. So it can be concluded that H_{02} accepted. The hypothesis proposed is not in accordance with the research results.

Some of the reasons for this could be because in general, inflation triggers import growth to grow faster than export growth, because if domestic goods experience an increase in price, then domestic people tend to prefer to import goods that are relatively cheaper. This is because the price of goods is too expensive, causing domestic industry, especially North Kalimantan, to increase its production costs due to increasing raw material costs. According to Wahyudi et al (2018), the availability of imported goods can influence domestic inflation directly through import prices. This means that increasing the number of imports will reduce the inflation rate, because the price of imported goods which tends to be cheap will create competition in the domestic industry through import prices.

However, based on data on the annual import value of North Kalimantan in the 2019-2020 period, import growth is smaller than export growth, which is caused by the condition of the North Kalimantan region which has quite extensive waters so that the availability of imported commodities needed for industry is still small and only in the form of equipment. - only industrial tools such as *polysterine* (fish boxes), machines and factory electronic equipment. This shows that imports for the North Kalimantan region do not have a significant influence on inflation because demand for imported goods is relatively smaller.

3.2.3 The Effect of Exchange Rates on Inflation in North Kalimantan for the 2019-2020 Period

From the results of data processing, research results and calculations of multiple linear regression tests were obtained. Based on the results of partial testing (t test), the influence of the exchange rate on inflation in table 4.10, a significance value was obtained α = 5% (0.359 > 0.05). This shows that the exchange rate variable has no effect on inflation in North Kalimantan Province. So it can be concluded that H_{03} accepted. The hypothesis proposed is not in accordance with the research results. However, based on the regression coefficient obtained in table 4.6, it shows that there is a relationship between these two variables. This means that if the exchange rate increases, inflation will also increase. This is in line with research by Sutawijaya (2012) that if the exchange

rate increases, it means that the value of the rupiah will decrease. This decline causes the price of exported goods to fall, thereby increasing competitiveness, which triggers an increase in exports. Furthermore, greater exports will result in the amount of money circulating in society increasing, because export receipts will be spent domestically in the form of rupiah, and in the end this will trigger an increase in prices or inflation.

3.2.4 The Influence of Exports, Imports and Exchange Rates on Inflation in North Kalimantan for the 2019-2020 Period

In processing the data, linear regression was used with the F test to determine the relationship between how much influence the independent variables, namely exports, imports and exchange rates, together influence the dependent variable, namely inflation in North Kalimantan for the 2019-2020 period. From the results of data processing, research results and calculations of multiple linear regression tests were obtained.

Based on the results of the simultaneous significance test (f test) in table 4.7, linear states that the F value$_{count}$ amounting to 0.691 and a significant value of 0.568. Because the sig value is > 5% or 0.568 > 0.05 and $F_{count} = 0{,}691 < F_{table} = 3{,}07$ eyes H_{04} accepted. So it can be said that exports, imports and exchange rates have a significant influence on inflation in North Kalimantan Province. This result is similar to research conducted by Abdullah (2018) which stated that exports had a negative and insignificant effect on inflation. Inflation is the process of continuously increasing the general prices of goods. If inflation cannot be regulated any longer, then the prices of domestic goods and services (North Kalimantan) will become more expensive and it will be increasingly difficult for people to buy these goods. This will cause people to tend to import relatively cheaper foreign goods or choose to save their money. As a result, imports increase and exports decrease.

However, due to several factors that influence the development of imports in the North Kalimantan region. The research results show that imports have no effect on inflation because the value of imports is smaller than the value of exports in the 2019-2020 period. Usually, an increase in imports will cause a depreciation in the exchange rate, meaning the local currency becomes cheaper for foreign parties. However, the low level of demand for goods from abroad has resulted in the exchange rate being at a stable level in line with the development of imports in North Kalimantan which is said to be still relatively low.

4. Conclusion

Based on the results of the research that has been carried out, the following conclusions can be drawn:

1. The partial test results (t test) show that the export variable has no effect on inflation with a significant value of 0.412 > 0.05. This shows that exports do not directly influence inflation in North Kalimantan.
2. The partial test results (t test) show that the import variable has no effect on inflation with a significant value of 0.468 > 0.05. This shows that imports do not affect inflation in North Kalimantan.
3. The partial test results (t test) show that the exchange rate variable has no effect on inflation with a significant value of 0.359 > 0.05. However, based on the parameter coefficients obtained, it shows that there is a positive relationship between the two.
4. Simultaneous test results (f test) show that all variables *independent* namely exports, imports and exchange rates have no influence on the variables *dependent* namely inflation with a significant value of 0.568 > 0.05. This means that all three variables together do not influence inflation in North Kalimantan Province.
5. Coefficient of determination test results *Adjusted R-squared* obtained a value of 0.094 or 9.4%. This shows that the influence of exports, imports and exchange rates on inflation in North Kalimantan Province is 9.4% and the remaining 90.6% (100-9.4) is influenced by other variables not discussed in this regression model.

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