Determinants Of Foreign Trade In North Sumatra

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Abstract: Independent research aims to know the analysis of Determinants of foreign trade in North Sumatra. As the independent variable in this study is the export, import, gross regional domestic product (GDP). While the dependent variable is the foreign trade in North Sumatera. This research data analysis using the method of regressions is subject to various provisions and restrictions. So use a classic Assumption test. A classic assumption used in this research is secondary data sourced from BI and CPM were analyzed using quantitative methods with the diskritif approach, and population research is the report of foreign trade, in North Sumatra. The sample used is purposive sampling technique, namely the determination of the sample with a particular consideration. The results of this study concluded that the export of influential positive and does not significantly to foreign trade in North Sumatera domestic product (GDP) gross regional effect was negative and significantly to foreign trade in North Sumatra.

Keywords: Foreign Trade in North Sumatra, Export, Import, and Gross Regional Domestic Product (GDP).

I. Introduction

Foreign trade is one of the most important aspects of each country's economy. There is not a single country in today's relationship with foreign parties. Each country's economy is practically open and intertwined with the international World (Dumairy, 1997:178).

Meanwhile, international trade is an agent of economic growth because the following is the first international trade to boost productivity and therefore become a market-expanding factor. Second with the benefits formulated with the theory "opening holes for excess goods" (Vent for surplus) "a country that enters international trade has an excess of production caused by domestic demand is not elastic Products that can be exported. Thirdly, international trade opens the possibility of a country to reallocate the appropriately owned sources (efficiently) seen from the production angle for domestic and export needs based on the prices open by international Trade (Arief, 1986:15).

Foreign trade transactions are a series of activities in a trade commonly known as import-export trade. This trade is a simple transaction, i.e. buying and selling goods between entrepreneurs that each reside in different countries. (Etty Susilowati, 2001). Further on exports in North Sumatera. Exports are sales of goods abroad using payment systems, quality, quantity and other sales terms that have been approved by the exporter and importer. The export process is generally an action to remove goods or commodities from within the country to include it in another country. Exports of goods in large generally require interference from customs in the sender or recipient countries. Exports are an important part of international trade.

Meanwhile, the sale of goods by an overseas exporter is subject to various provisions and restrictions as well as specific requirements on certain types of commodities, including how they are handled and provided. Each country has different trading rules and conditions. Special export of agricultural commodities and fisheries in Indonesia has largely no provisions and conditions that are too complicated even the government is currently making it easier for every company to export agricultural products and its reserves abroad.

Meanwhile, North Sumatra produces rubber, chocolate, tea, palm oil, coffee, clove, coconut, and tobacco. The plantations are scattered in Deli Serdang, Langkat, Simalungun, Asahan, Labuhanbatu, and South Tapanuli. Further import developments in North Sumatra. The development of vegetable commodities imports every year is increasing. In the year 2010, the value of imported vegetables was only around the US $580,857,903. The following year the import value increased to US $780,890,510. The high value of imports
as an effort to meet the needs of the growing domestic vegetable supply. This condition is an introduction to Indonesian society (RESTU and Lace, 2012).

In the country, the demand for commercial vegetables continues to increase, especially the high quality. This is because of the community's knowledge and purchasing power increases. Also, the number of foreigners living in Indonesia is expanding the commercial vegetable market in the country. Indonesia should have been able to fulfill the demand for these vegetables, both in and outside the country. Its geographical location allows for the cultivation of commercial vegetables throughout the year.

Among the various types of vegetables that can be cultivated, Sawi is a type of vegetable that has good commercial value and prospects. Reviewed from the technical aspect, the cultivation of mustard is not very difficult so that farmers in Indonesia who have often cultivated it will not have difficulty (Haryanto et al., 2007). I am further regarding PDRB with the price valid in North Sumatera. Economic growth is one of the indicators to monitor and evaluate the development results implemented, especially in the economic field. Economic growth demonstrates the performance of the economic sector in generating added value or income for a specific period of society. The fluctuations in the economic growth in real-year years can be calculated using the PDRB (gross Regional domestic product) periodically of constant prices. Improved economic performance is demonstrated by positive growth figures. Instead, negative growth rates indicate the occurrence of economic performance in the previous period.

The economic performance of North Sumattra continues to increase, visible from the PDRB province of North Sumattra based on prevailing price (ADHB) in 2009 for Rp236, 35trillion, increased to Rp275,06 trillion in 2010 and 2012 amounted to Rp351,12 trillion. The people of North Sumatera are mostly domiciled in rural areas and depend on the agricultural sector. In the period from 2000 to 2002, the agricultural sector dominated the formation of PDRB North Sumatera, but the year 2003 to 2012 was shifted by the processing industry sectors. The year 2012 Sektor Rindustri processing accounted for 22.07 percent of the SumateraUtara PDRB total, while the agriculture sector amounted to 21.88 percent to the total PDRB of North Sumatera.

II. Theoretical Review

Foreign trade

According to Christiananto (2013), The definition of international trade is simple according to the economic dictionary that is trading between two or more countries. Foreign trade is an important aspect of a country's economy. International trade is becoming increasingly important not only in the development of state-oriented countries but also in finding markets in other countries for domestic produce and procurement of goods G Capital to support the development of the domestic industry.

Meanwhile, international trade can be interpreted as trading transactions between the economic subject of the country with the subject of another country's economy, whether it is about goods or services. As for the economic subject in question is the population consisting of ordinary citizens, export companies, import companies, industrial companies, state companies or governments that can be seen from the trade balance (Sobri, 2001).

Further trade or exchange can be interpreted as an exchange process based on the voluntary will of each party. Each Party shall have the freedom to determine the profit or loss of the exchange, from the point of interest of each and then to establish whether it will exchange or not (Boediono, 2000).

Overseas exports

The understanding of exports is trading by issuing goods from within the country by fulfilling the prevailing provisions. The export of a country occurs because of the benefits gained from foreign trade transactions. Trading can also enhance the consumption capacity of a country as well as to help various efforts to make development and improve the role of sectors that have a comparative advantage because of efficiency in the production factor.

Meanwhile, according to Nopirin that exports come from a domestic production sold used by domestic residents, export is an injection into the revenue stream as well as investment. One of the components in international trade, i.e., exports, often referred to as the main development component (export-led-development) means that exports play a major and significant role in the development process of a nation. (Ibn, 2013).

Furthermore, physical exploitation is interpreted as the delivery and sale of home-made goods to other countries. This delivery will generate a flow of expenditure that goes to the company sector. Thus, the aggregate expenditure will increase as a result of exporting goods and services; in the end, this situation will cause an increase in national revenues. (Sukirno, 2006).

Furthermore, according to N. Gregory Mankiw, export activities can be distinguished into two types, namely: 1. Direct export, the direct export definition is a way of selling a product (goods or services) with the help of intermediaries or exporters in the country of destination Export. In its execution, sales occur through distributors or sales representatives of the company. The advantages of this way are the production process
centered in the country of origin and good control in the distribution process. While the downside is the presence of trade barriers and protectionism from export destination countries, and larger accommodation costs for large scale production. 2. Indirect exports: The definition of indirect exports is a way of selling goods through intermediaries/exporters in the country of origin, then sold by the intermediaries. In its implementation, export activities are conducted through export management companies and export trading companies.

**Overseas imports**

The understanding of imports is the activity of inserting goods into the customs area. Import transaction is a trade by entering goods from overseas into the Indonesian Customs territory by complying with the provisions of the Regulations of the applicable invite (Tandjung, 2011:379). Meanwhile, according to Susilo (2008:101) Imports can be interpreted as an activity to enter goods from a country (overseas) into the customs territory of other countries. This sense means that import activities mean involving two countries. In this case can be represented by the interests of two companies between the two countries, different and certainly also rules and act as a supplier and the other act as the recipient country. Imports are buying goods from abroad by the provisions of the Government paid using foreign exchange (Purnawattii, 2013:13).

The legal basis of the regulation on the treatment of imports is governed by the decision of the Director-General of Customs and excise number KEP-07/BC/2003. About the instruction on the implementation of customs clearance in the field of imports and decree of the Minister of Finance No. 453/KMK. 04/2002 concerning Customs management in the field of import. The commodity that is incorporated into the free circulation within the Customs territory (domestic), brought from outside the Customs territory (overseas) is subject to import duty unless exempt or granted exemption. In other words, a person or business entity that is designated as an importer shall pay customs duties and taxes as determined by the government (Purba, 1983:51).

Imported goods that have been submitted by PIB are selective customs inspection, to selectively customs inspection is determined that the production line of goods, namely: a. Red line; Is the process of service and supervision of the import of goods carried out by physical examination, and carried out research documents after the issuance of approval Letter of goods Expenditure (SPPB). B. GreenLine; Is the process of service and supervision of the production of imported goods with no physical examination, but conducted research documents after the issuance of approval Letter of goods Expenditure (SPPB). C. Yellow Line; Is the process of service and supervision of the production of imported goods with no physical examination, but carried out the Occumen research before the issuance of approval Letter of goods (SPPB). D. Priority Lane; Is the process of service and preservation of imported goods that are not carried out physical examination and document research, after the determination of the Government to the importer of the priority lane.

**Gross Regional Domestic Product (PDRB).**

The increase in the value of raw material (input) into the product (output) indicates the development of the economy of the region. In the national balance sheet statistics, the development of added value created by various economic sectors such as agriculture sector, processing industry sector, services, etc., is recorded in the form of gross Regional domestic product.

Thus, gross Regional domestic product (PDRB) is the sum of all added value of the value-added of goods and services of all economic activity in a region at a certain period without Rhatikan whether the production factor is derived from or owned by the inhabitants of the area. Meanwhile, gross Regional domestic product (PDRB) is the value of the final goods and services produced in an economy in one area or province. The calculations of PDRB that are often called Regional revenue can be done with 3 (three) approaches that are the approach of income approach, expenditure approach, and production approach.

As for the PDRB is calculated based on prevailing prices and constant top prices. PDRB based on applicable price (nominal) or at current nominal prices which demonstrates the capability of economic resources of an area that produces output at an assessed period based on prevailing prices. PDRB based on the prevailing price is used to look at the economic structure or the role of each sector and economic representation in the year. PDRB based on constant price or at constant prices is used to see the economic growth of an area both overall and sectoral.

Calculation of PDRB with revenue approach is done by summing all the services received by the production factor, namely wages and salaries and business surplus, depreciation, and indirect tax net. The Government and business sectors are looking for profit; surplus business is not taken into account.

Meanwhile, the calculation of PDRB with the expenditure approach is carried out by summing up the entire expenditure of the economic actors on goods and services produced in the economy of one area. Calculation of PDRB According to expenditure broken down into 6 groups: (1) household consumption expenditure; (2) The expenditure of consumption of non-governmental organizations is not seeking profit; (3) Withdrawal of government consumption; (4) Gross fixed capital formation (investment); (5) Changes in stock and (6) Net exports (export minus imports).
III. Methodology

This research is a kind of descriptive-quantitative library research (LibraryResearch), which is systematic, factual and accurate to a treatment in certain areas of causal relationship. Based on observations of existing consequences, it is then suspected of factors as a cause through a quantitative approach to understanding and describing rational reality as a subjective reality through quantitative analysis techniques, particularly the factor that affects the balance of payments Indonesia which will be tested empirically. But this research will also analyze linkage or correlation between variables. For this research to be more specific in its scope, this research uses a system of time (timing series), where the data collected is calculated based on the last fifteen years data.

Research Materials

The research is a type of LibraryResearch that is descriptive-quantitative, which is a systematic, factual and accurate description of the treatment of certain areas of causal relationship based on observations of existing consequences, then suspected factors as the cause through a quantitative approach to understanding and describing rational reality as a subjective reality through quantitative analysis techniques, particularly the factors affecting Indonesia's balance of payments to be tested in Victory. Num

Research Procedure

The research procedure is a research step from start to finish. The research procedure is outlined into three, namely the data collection stage, analysis stage, and the phase of the conclusion. 1. Collecting stage; The first stage in this study is the data collection phase. This step is to do the data collection found in the determinant of foreign trade in North Sumatera. 2. Analysis stage; The second stage in this study is the analysis stage. After the data in the form of results on the foreign trade determinant in North Sumatra that has been collected analyzed using theory, after that analyzed with the purpose of research to be conducted. 3. Conclusion stage; The last phase of this research is the conclusion stage. Conclusions are done after the analysis is done by research so that it can be known results.

Data Analysis Techniques

The regression test used in this study is that multiple linear regression is a linear regression involving only more than two variables (variable X and Y). A linear analysis of multiple regression is used to demonstrate the relationship between dependent variables (Y) with independent variables (X). With this multiple regression analysis, it can be known the export, import, gross domestic product (PDRB) influence on foreign trade in North Sumatra.

Classic Assumption Test

1) Multicholinerity

Multicholinergic tests are needed to determine whether an independent variable has similarities with other variables in a single model. The similarity between independent variables in a model will result in a very strong correlation between an independent variable and another independent variable. Also, it avoids the habit in the process of taking conclusions regarding the influence on the partial test of each variable independent of the dependent variable.

2) Autocorrelation

Autocorrelation can be interpreted as a correlation that occurs among members of a series of observations that are a row of time when the data time is seresor correlates between adjacent places when crossing sectional. The autocorrelation test aims to test whether in a linear regression model there is a correlation between disruptor errors in the T-period with disruptor errors in the T-1 period (formerly).

3) Heteroskesdastisity

Heteroskesdastisity test the occurrence of differences in the residual variance of a period of observation to another period of observation, or a description of the relationship between the predicted value with the Studentized Delete residualvalue. A good regression model is a regression model that has the equation of the residual variance of a period of observation with another observation period or the existence of a relationship between the predicted value with Studentized Delete residualthe value of it SEH Ingga can be said the model is homokesdastisity.

4). Test the Normality

Testing normality is used to test whether, in a regression model, variables are bound, variables are free, or both have normal distributions or not. A good regression Model is normal data distribution or close to
normal. As seen in the Normal P-P plot of regression Standardized Residual, it appears that the dots spread around the diagonal line, as well as the spread following the direction of the diagonal line (forming a straight line), then it can be said Normal distribution and regression models are used.

**Hypothesis Testing**

1. **Coefficient of the determinant (R Square)**
   Identifying determinants serves to identify the significance of variables. The coefficient of determinant shows the magnitude contribution of independent variables (X) to the dependent variable (Y). The determination coefficient with an $R^2$ symbol is a proportion of variability in a calculated data based on the model statistic. The next definition mentions that $R^2$ is the ratio of variability values created by the model to the variability of the original data value. In general $R^2$ is used as a measurement of how well a regression line approaches the original data value the model created. If $R^2$ equals 1, then the number represents a regression line with perfect data.

2. **Simultaneous significant tests (test F)**
   The F test is performed to determine whether the overall independent variables are statistically significant in affecting the dependent variables. When the $F_{hitung}$ greater value of the table value then independent variables overall affect the dependent variable.

3. **Test partial (Test T)**
   The T-test is intended to know whether individually independent variables have a significant effect on the dependent variables, assuming other independent variables are constant.

**IV. Result and Discussion**

**Data description**

Below is a picture of the data on foreign trade in North Sumatera, from 2003 to 2008 foreign trade has increased, because North Sumatera exports are good enough, especially in the field of agriculture, and other commodities.

![Graph of Foreign Trade in North Sumatera](image)

**Figure 4.1.** Foreign trade in North Sumatera.

**Interachievement of Linear double regression**

Multiple regression is a regression or predictive model involving more than one free variable or predictor. The term multiple regression can also be referred to by the term regression. Multiple words mean plural or more than one variable. Multiple Linear regression is a multiple regression model if the variable is a data-scale interval or ratio (quantitative or numeric). While the free variables in general also scale the interval data or ratio. However, there is also linear regression where the free variables use nominal or ordinal data scales, which are more commonly referred to as dummy data terms. Then such linear regression is referred to by the term linear regression with dummy variables.
Table 4.1. Multiple Linear Regression Eviews Output Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>3.73E+08</td>
<td>2.04E+08</td>
<td>1.827.547</td>
<td>0.658333333</td>
</tr>
<tr>
<td>X1</td>
<td>0.848679</td>
<td>0.052974</td>
<td>1.602.053</td>
<td>0.0000</td>
</tr>
<tr>
<td>X2</td>
<td>-0.681493</td>
<td>0.098351</td>
<td>-6.929.221</td>
<td>0.0000</td>
</tr>
<tr>
<td>X3</td>
<td>-0.663353</td>
<td>0.421819</td>
<td>-1.572.599</td>
<td>1.000694444</td>
</tr>
</tbody>
</table>

R-squared 0.981662
Mean dependent var 4.38E+09
Adjusted R-squared 0.976661
S.D. dependent var 4.107.821
S.E. of regression 1.80E+08
Akaike info criterion 4.107.619
Sum squared resid 3.56E+17
Schwarz criterion 4.107.619
Log likelihood -3.040.865
Hannan-Quinn criter. 4.107.619
F-statistic 2.432.916
Durbin-Watson stat 2.432.916
Prob(F-statistic) 2.432.916

Interaccomplishment R Square Value (coefficient of determination)

Koefesien is treated with an R2 symbol as a proportion of variability in a calculated data based on the statistical model. The next definition mentions that R2merupakan ratio variability values are created models with the variability value of the original data. In general R2 is used as information about the match of a model.

The value of R-Square or coefficient of determination of 0.286 indicates that the variation of foreign debt, exchange rate, and foreign exchange reserves are able to explain Indonesia's balance of payments by 28.6%, while the remainder is 71.4% variation of the balance of payments Indonesia is described by other variables that do not enter the model or are not researched. Interpretation of the coefficient of determination can also be explained by the Adjusted value of R-Square which produces more efficient value because it can explain the error variance of the free variables of more than one number.

Interachievements Classical Assumsi Test

Test normality

The normality test is a test conducted to assess the spread of data to a data group or variable, whether the spread of data is a normal distribution or not.

Meanwhile, the normality test aims to test whether the sample used has a normal distribution or not. In a linear regression model, this assumption is demonstrated by the value of the normal distribution Error. A good regression model is a regression model owned by normal or near-normal distribution, making statistical testing worth doing.

Based on the results of JB Test test in the table above, obtained the magnitude of the value Jarque-Bera on the probability of 1,454 > 0.05, then it can be concluded that the data is a normal distribution. This means that the Emiris model used by the model has a residual or a normal distribution factor can not be rejected.

Linearity Test

The linearity test aims to determine whether two variables have a linear or not significant relationship. This test looks at how variable (X) affects the variable (Y), whether it is of direct influence or inversely proportional. This test is typically used as a prerequisite in correlation analysis or linear regression.
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Ramsey RESET Test
Equation: UNTITLED
Specification: Y C X1 X2 X3
Omitted Variables: Squares of fitted values

<table>
<thead>
<tr>
<th>Value</th>
<th>df</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>t-statistic</td>
<td>0.260578</td>
<td>10</td>
</tr>
<tr>
<td>F-statistic</td>
<td>0.067901</td>
<td>(1, 10)</td>
</tr>
<tr>
<td>Likelihood ratio</td>
<td>0.101507</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 4.3. Test Reset Ramsey

Based on table 4.3. Above, indicating that the value of the probability F count is 0.799 > 0.005 so that the assumption of linearity has been fulfilled. The actual linearity test does not necessarily have to be used, where if the theory of relations between variables freely and the bound variables are already strong, the test of linearity is not absolute use. However, to reinforce the assumption, it gives a way to test Liniieritas.

Multicollinearity Test
Multicollinearity tests were used to test whether in a regression model were found to exist or whether the correlation between the free variables. If there is a tolerable, there is a problem multikolinierita. A good regression Model should be no collusion between independent variables. If there proved to be multicollinearity, preferably one of the independent that is removed from the model, then the creation of regression model was reissued (Singgih Santoso, 2010:234).

Autocorrelation test
The autocoleration test conducted the study aimed at knowing whether, in a linear regression model, there was a collation between the disturbing fault in the T-period with an error in the T-1 period (formerly). In case of Coloration, there is a problem with autocorrelation. Of course a good regression model is a regression that is free of autocoleration (Singgih Santoso, 2012:241). In the procedure of detection of autocholineration can be used in the size of the Durbin-Waston.

Breusch-Godfrey Serial Correlation LM Test:
F-statistic 1.791.010     Prob. F(2,9) 1,5375
Obs*R-squared 4.270.403     Prob. Chi-Square(2) 0,820833333

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 08/19/19   Time: 13:48
Sample: 1 15
Included observations: 15
Presample missing value lagged residuals set to zero.

1. The influence of positive and significant exports abroad to foreign trade in North Sumatra
Based on the results of testing using the Random Effect method with generalized least Square with software using EViews 7 changed done is known that the variable of foreign export debt is positively influential with Miami regression coefficient is 0.848, but the probability value is 0.00 < 0.05 at the level of Hu 95% (α = 5%) So it is stated that foreign export influence is not significant to foreign trade in North Sumatra. The conclusion of this result can also be seen that the export of foreign affairs to foreign trade in North Sumatra has a positive and insignificant effect.

2. Negative influence and insignificant imports on foreign trade in North Sumatra.
Based on the results of tests using the Random Effect Method with Generalized Least Square by using software EViews 7 has been done known that the imported variables negatively affect the nail coefficient of regression is as-0663, But the probability value 0.000 < 0.05 at a confidence level of 95% (α = 5%) So it is stated that the import influence is not significant to the balance of Indonesian payments. The conclusion of this
result can also be seen that the exchange rate of the balance of payments in Indonesia has negative and significant effect.

3. The negative and significant influence of gross regional product (PDRB) on foreign trade in North Sumatra.

Based on the results of tests using the Random Effect Method with Generalized Least Square by using software EViews 7 has been done known that the foreign Exchange reserve variables negatively affect the nail regression coefficient is amounting to \(-0.663\), but the value probability \(1,000 > 0.05\) at a confidence level of 95\% (\(\alpha = 5\%\)) So it is stated that the influence of gross regional products (PDRB) is significant to foreign trade in North Sumatra. The conclusion of this result can also be seen that the gross regional product (PDRB) of foreign trade in North Sumatra has a significant negative effect.

V. Conclusion

This self-study was conducted to see whether the export, import, and income of gross regional areas (PDRB), could affect foreign trade in North Sumatra. Based on the regression or research results that have been done, it can be concluded in the following studies:
1. Exports have a positive and insignificant influence on foreign trade in North Sumatra. This means that more exports will also be higher overseas trade in North Sumatera.
2. Imports have a negative and insignificant influence on foreign trade in North Sumatra. This means that increasing imports will reduce foreign trade in North Sumatera.
3. The income of Gross regional region (PDRB) has a negative and significant influence of foreign trade in North Sumatra. This means that the increase in a gross regional area (PDRB) will be lower than foreign trade in North Sumatera.

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