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The Government's Role in the Economy and the Influence of Exports and Imports on North Sumatra's Economic Growth in 2001-2021

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A B S T R A C T

This study aims to determine the government's role in the economy and the effect of exports and imports on the rate of economic growth in North Sumatra in 2001-2021. This study uses data collection methods and literature studies. Data was collected through the Central Bureau of Statistics for North Uumatera Province and literature studies were carried out by collecting library data, reading and taking notes, and managing research materials. The results of the study show that the government has a role in increasing economic growth and exports and imports in the short term have an influence on the rate of economic growth of 29.69 percent. Export and import variables are not the variables that have the most influence on the rate of economic growth in North Sumatra for the 2001-2021 period. In the short term, there is 70.31% influence from other variables that cannot be explained in this study

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INTRODUCTION

Economic growth is one way to measure the progress or not of a development in a country or in a region. In this study, the authors wanted to find out how big the influence of exports and imports was on economic growth in North Sumatra, as well as the government's role in the economy or in the market. What we can see is that the economic progress of a region has an impact or not on the level of production of goods and services in society which also has an impact on improving people's welfare.

One of the benchmarks for the progress of a country or region can be marked by increasing economic growth in that country or region. Increased economic growth can be calculated based on increasing the amount of production of goods or services in the economy, as a result increasing per capita income of the population in an area. Economic growth is a process of increasing activity in the economy which as a result increases the production of goods or services in society. At this time the economic development of a country or region is very influential in terms of the global economy. According to Adam Smith's classic theory in pridayanti (2012), economic growth can be achieved if the country specializes in producing goods or services. Specialization can occur if there is still a large market to accommodate the production output of a country or region, the market is still there if a country or region trades with other countries. In the following, we can see data on the number of exports and imports of North Sumatra Province for the period 2001-2021

Table 1. Economic Growth Rate (%), Exports and Imports (Billion Rupiah) of North Sumatra Province, 2001_2020

Year	Growth rate Economy	Export	Import
2001	3,65	23.550,77	8.833,69
2002	4,04	21.261,79	7.587,67
2003	4,42	19.686,26	5.826,76
2004	5,58	38.290,00	8.610,67
2005	5,48	78.848,01	20.352,28
2006	6,18	50.495,35	13.318,62
2007	6,90	64.754,82	19.289,40
2008	6,39	90.505,18	36.116,76
2009	5,07	66.900,84	28.168,77
2010	6,35	83.065,99	32.500,14
2011	6,66	104.226,21	39.040,96
2012	6,45	97.391,53	48.367,69
2013	6,07	101.401,60	53.975,23
2014	5,23	111.800,52	59.782,22
2015	5,10	103.651,08	53.363,59

2016	5,18	103.572,81	52.119,65
2017	5,12	123.531,10	62.167,49
2018	5,18	125.079,88	80.489,90
2019	5,22	108.672,42	64.267,11
2020	-1,07	117.539,61	57.825,42
2021	2,64	183.127,83	80.841,34

Sumber: Bps.sumut.go.id

The rate of economic growth in North Sumatra does not always increase every year, there are times when it has increased and has decreased again, such as in 2001 where the percentage rate of economic growth in North Sumatra reached 3.65% increased in 2002 to 2008, then from that year it decreased again in the following year where in 2008, the percentage rate of economic growth in North Sumatra reached 6.39%, fell in 2009 to 5.07%. North Sumatra's economic growth rate has decreased drastically in 2020 where the percentage is at a negative number of -1.07%, and the largest economic growth was in 2007 with a percentage of 6.90%. Likewise with exports and imports which do not always increase or decrease every year. North Sumatra's largest export was in 2021, which was IDR 183,127.83 and the smallest export was in 2003, which was IDR 19,686.26. Meanwhile, the largest import will be in 2021, namely Rp. 80,841.34 and the smallest import was in 2003 amounting to Rp. 5,826.76.

In general, the definition of economic growth is as an important indicator for analyzing the development of a State or Regional economy. It can also be interpreted as a development of activities in the economy and can have an impact on increasing the production of goods and services produced in society and increasing prosperity. Michael P. Todaro states that economic growth is defined as a process in which the production capacity of an economy increases over time to produce greater levels of income (Todaro, 2006: 245). Meanwhile, according to Budiono economic growth is the process of increasing output per capita in the long run (Robinso, 2005:46). According to Arsyad, regional economic growth is a the process of local government and its people in managing existing resources to create jobs and stimulate the development of economic activity in the region (Arsyad, 2015:90). Economic growth according to BPS is the total value of goods and services produced by all business units in an area. GRDP is also defined as the total value of final (net) goods and services produced by all economic units (BPS, 2017: 4).

According to the Big Indonesian Dictionary (KBBI) Export means sending merchandise abroad. Export is also an international trade activity that provides a stimulus to require domestic demand which causes the growth of large manufacturing industries, along with a stable political structure and flexible social institutions. Based on the description above, it can be seen that exports

reflect trading activities between nations which can provide a boost in the dynamics of international trade growth, so that a developing country is likely to achieve economic progress on a par with more developed countries. Export is the sale of goods abroad using a payment system, quality, quantity and other terms of sale that have been approved by the exporter and importer. Exports can also be interpreted as purchases by other countries of goods made by domestic companies. The most important factor determining exports is the country's ability to produce goods that can compete in foreign markets.

Import is the process of buying foreign goods or services from one country to another. Import can also be interpreted as the purchase of goods or services from abroad to the country with a cooperation agreement between two or more countries. Import can also be said as trade by bringing goods from outside Indonesia into Indonesian territory by fulfilling the applicable regulations. Import is the process of legally transporting goods or commodities from one country to another, generally in the process of trading in services or goods. The import process is generally the act of bringing goods or commodities from other countries into the country. Large imports of goods generally require intervention from customs in both sending and receiving countries.

METHODOLOGY

a. Data types and sources

The research method in this journal uses data collection methods and literature studies. Literature study is a series of activities related to methods of collecting library data, reading and taking notes, and managing research materials. According to Danial and Warsiah (2009:80). Literature study is research conducted by researchers by collecting a number of books, magazines related to the problem and research objectives. The collection or retrieval of quantitative data is carried out through a search at the Central Statistics Agency (BPS) of North Sumatra Province through the official BPS website.

b. Data analysis

In analyzing the data, researchers used the Error Correction Model (ECM) method, supported by E-Views 12 software. Where the general model used in the Error Correction Model is

$$\Delta Yt = \alpha 0 + \alpha 1\ \Delta Xt\text{-}1 + \alpha 2\ \Delta ECt\text{-}1 + \varepsilon t \quad \text{.....(1)}$$

The model used by researchers in the Error Correction Model is

$$GDPt = \alpha 0 + \alpha 1\ \Delta EKSPORt + \alpha 2\ \Delta IMPORt + ECTt \quad \text{..... (2)}$$

Where:

GDPt : Economic

Growth D(EXPORT) : Real export
D(IMPORT) : Real import
α0 : constant
α1, α2, α3 : coefficient
εt : Error term
ECTt-1 : Error Correction Term

RESULT AND DISCUSSION

The role of government on the economy in the province of North Sumatra

Quoted from the book The Role of Economic Actors in Economic Activities written by Wiwit Yuliana, in the Indonesian economic system, especially in the province of North Sumatra, the government has a fairly important role in economic activities. The main role of the government in economic activity is to establish a number of policies in the economic field. The economic policies set by the government have the ultimate goal, namely to prosper the people as contained in article 33 of the 1945 Constitution. In addition to determining economic policies, there are a number of other economic activities carried out by the government, especially the government in North Sumatra province, namely:

1. Collecting direct and indirect taxes in the province of North Sumatra
2. Spending state revenue to buy goods needed by the government in North Sumatra province
3. Borrowing money from abroad in the province of North Sumatra
4. Renting workers in the province of North Sumatra
5. Provide currency needs for the people in the province of North Sumatra
6. Economic activities carried out by the government sector in the province of North Sumatra also include production, consumption, distribution and regulatory activities.

The Relationship of Exports and Imports to the Rate of Economic Growth in North Sumatra

Model Selection

Testing unit roots in Augmented Dickey-Fuller with a test on the Level option

In order to be able to analyze the estimation results using the Error Correction Model (ECM) in the long term and in the short term, data testing must be carried out first for each variable used. Make sure every variable you want

modeling is already stationary by testing its unit roots. After all the variables are stationary, we can test all variables simultaneously by testing the unit roots and cointegrating. In testing the stationarity of the data on the variables used, it is all based on the Augumented Dickey-Fuller (ADF) Test. Where this calculation uses the help of E-Views 12 software.

Table 2. Unit Roots Test Results with the Augumented Dickey-Fuller Test at the Option Level

ADF Statistik	Sign	Critical Value 1%	Critical Value 5%	Critical Value 10%	Description
Variabel LPE -2.386856	>	- 3.808546	- 3.020686	- 2.650413	Not Stationary
Variabel Ekspor -1.293331	>	- 3.857386	- 3.040391	- 2.660551	Not Stationary
Variabel Impor -0.498363	>	- 3.857386	- 3.040391	- 2.660551	Not Stationary

Source: Data Processed by E-views 12, 2022

Based on the results of the unit roots test with the option level test in table 2, the three variables have not passed or are not stationary. The rate of economic growth, exports and imports has a probability value above 0.05. Therefore, to be able to make the Error Correction Model, we still have to test the stationarity of the data, but the option level will be changed to the first difference so that the data is stationary at the same degree.

Testing unit roots on Augmented Dickey-Fuller with a test on the First Difference option

When the unit roots test does not pass at the option level, then we will change the option level to first difference but still use Augmented Dickey-Fuller with the following results:

Table 3. Unit Roots Test Results with the Augumented Dickey-Fuller Test at First Difference

ADF Statistik	Sign	Critical Value 1%	Critical Value 5%	Critical Value 10%	Description
Variabel LPE -6.085722	<	- 3.831511	- 3.029970	- 2.655194	Stationary
Variabel Ekspor -6.290892	<	- 3.857386	- 3.040391	- 2.660551	Stationary
Variabel Impor -7.092818	<	-3.857386	-3.040391	-2.660551	Stationary

Source: Data Processed by E-views 12, 2022

Based on the results of the unit roots test in table 3, testing using Augmented Dickey-Fuller with tests on first difference has shown that the data are stationary at the same degree, where the value of each variable is higher than the critical value of 1%, 5%, or 10 %. After the data has passed the unit root test, the next step is to conduct a cointegration test to find out the long-term parameters.

ECM Model Cointegration Estimation in the Long Term

Cointegration is carried out to see the parameters in the long run, whether the independent variables significantly affect the dependent variable. The result is shown as follows:

Table 4. ECM Model Estimation Results in the Long Term

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EKSPOR	5.68E-06	2.89E-05	0.196347	0.8465
IMPOR	-2.43E-05	4.87E-05	-0.498493	0.6242
C	5.510129	1.034893	5.324346	0.0000
R-squared	0.046454	Mean dependent var		5.040000
Adjusted R-squared	-0.059496	S.D. dependent var		1.746190
S.E. of regression	1.797385	Akaike info criterion		4.142106
Sum squared resid	58.15068	Schwarz criterion		4.291324
Log likelihood	-40.49212	Hannan-Quinn criter.		4.174490
F-statistic	0.438452	Durbin-Watson stat		1.113886
Prob(F-statistic)	0.651742			

Source: Data Processed by E-views 12, 2022

From the table above, we can see that the independent variables, namely exports and imports, have no significant effect in the long run for the rate of economic growth, where the probability value for exports is 0.8465 and the probability for imports is 0.6242. Adjusted R-square value gets a minus value, namely-0.059496 which shows that the independent variables, namely exports and imports, only explain a little about the rate of economic growth, which means that there are many variables that have a more significant effect on the rate of economic growth in North Sumatra. The F-statistic value shows the number 0.438452 which is means that the independent variables, namely exports and imports, have a relationship with the rate of economic growth but do not have a large effect.

From the regression results, we can see the effect of each independent variable on the dependent variable. Where exports have a positive value, which means that every 1% increase in exports will drive the economic growth rate by 0.68E-06, conversely if exports decrease by 1%, it will reduce the economic

growth rate by 5.68%. As for imports, if there is an increase in imports of 1%, it will reduce the rate of economic growth by 2.43E-05, and vice versa if imports decrease by 1% then it will increase the rate of economic growth by 2.43%. This is of course in line with economic growth, where when exports increase it will increase the real income of the region/country and will increase the rate of economic growth.

ECM Model Estimation Results in the Short Term

The estimation results of the ECM model in the short term are shown in the following results:

Table 5. ECM Model Estimation Results in the Short Term

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EKSPOR)	-3.00E-05	2.78E-05	-1.079880	0.2962
D(IMPOR)	8.85E-05	5.45E-05	1.624267	0.1239
ECT(-1)	-0.636696	0.243232	-2.617654	0.0187
C	-0.067578	0.372902	-0.181222	0.8585

R-squared	0.407952	Mean dependent var	-0.050500
Adjusted R-squared	0.296943	S.D. dependent var	1.785923
S.E. of regression	1.497470	Akaike info criterion	3.822287
Sum squared resid	35.87864	Schwarz criterion	4.021433
Log likelihood	-34.22287	Hannan-Quinn criter.	3.861163
F-statistic	3.674944	Durbin-Watson stat	2.462409
Prob(F-statistic)	0.034625		

Source: Data Processed by E-views 12, 2022

The estimation results in table 5 show that the coefficient value of the ECT variable or the error correction model is at a value of 0.0187, this value is below 0.05 and the coefficient of the ECT itself is at a minus number, namely -0.636696, which means that this error correction model is under balance. This ECT coefficient can be used in measuring the regressand response of each period that has deviated from the balance. This ECCT coefficient in the form of an absolute value can also explain how fast it takes to get a balance value (Widarjono, 2009).

The adjusted R2 value is at 0.296943 indicating that in the short term, the independent variables, namely exports and imports, have an influence of 29.69% in influencing the rate of economic growth in North Sumatra, while the remaining 70.31% influenced by other variables. The F-statistic value of 3.674944 indicates that the independent variables, namely exports and imports, jointly affect the rate of economic growth in North Sumatra in the short term. Exports have a negative value and imports have a positive value on the economic growth rate in North Sumatra, which means that every 1% increase in the independent variable will affect the economic growth rate in a negative direction, namely for exports of -3.00E-05 and imports in a positive direction of 8. 85E-05. And vice versa if imports decrease, it will reduce the rate of economic growth by 8.85%. This can happen because these two independent variables are not the variables that have the most significant influence on the rate of economic growth in North Sumatra. Still there is another 70.31% influence from other independent variables.

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