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The Effect of Regional Fiscal Policy on Economic Growth in North Sumatera

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ABSTRACT

The aim of this research is to evaluate and provide new evidence of the influence of regional fiscal policy with government expenditure instruments and tax revenue on economic growth in North Sumatra Province. The data used are quarterly data from 2011: 1 to 2017: 4 sourced from the Central Statistics Agency of North Sumatra Province (CSA). The analytical method used in this study is the error correction model (ECM) method. The findings of this study are that government expenditure (GE) has a positive and significant effect in the short and long term on the economic growth (PDB) of the province of North Sumatra during the study period. While tax revenue (TAX) in the long-run has a positive and significant effect, but in the short term, it has a positive but not significant effect on the economic growth (PDB) of the province of North Sumatra during the study period.

Keywords: Economic Growth, Fiscal Policy, Government Expenditure, Tax Revenue

INTRODUCTION

Economic stability is an important indicator in managing a country. Good economic stability can be seen from the fundamental aspects of the economy, among others stable and increased output, low inflation rate and under control absorption of single labor. To maintain the good economic stability which is reflected in the fundamental economic campaign, it is necessary to make appropriate policies can guard it all, such as fiscal policy, monetary policy, policy macroprudential and other macroeconomic policies. The government as a holdertiscal policy authority will use its fiscal instrument to stimulate sustainable economic growth and can have an impact on the real sectoring the form of absorption of labor (Tanjung al, 2019: Felede and Folorunso, 2015). Fiscal policy is closely related to government actions in managing it APBN (the State Budget) / APBD (the Area Budget) with Government Expenditure and Tax instruments. If the economy experiencing a recession and the unemployment rate is high then the government will take it expansive policy, this policy requires the government to do a lot discharge, reduce the number of pujak or both. On the other way, if the inflation grows too fast, the government must adopt a contractive fiscal policy, namely reduce spending and increase taxes.

The main objective of fiscal policies is to achieve economic growth good business, high employment, and the stable prices. Government as maker rational planning and seeking new sources of funding in the sub-sector acceptance of the area so that it can be extracted to increase the exclusive development budget, efficient and economical for the welfare of society. According to Dewi (2018) the efforts are can be done by local governments in increasing economic growth by how to increase routine expenses and

handling expenses and allocating it properly and accurately in order to equalize world development program to empower the poor who are productive and have good income better to improve people's welfare. Acceptance of source of tools area's original supports all activities of the community's economic activities local government programs in an effort to increase and progress in welfare of society which is getting higher and higher. To measure growth economics, the economists use data on Gross Domestic Product (GDP), which measures total income of goods and coats produced by a country in a certain period. GDP is the value of goods and services produced in a country in one year certain by using the production factors belonging to its citizens and residents in other countries. Therefore, GDPR is the main element in calculating growth of an area. To calculate the growth of an economy of the area, the one-year real GDPR (GDPR) must be considered the real-year GDPR previously ($GDPR_{t-1}$).

Several researches have been conducted to examine the effect of policy fiscal on economic growth in Indonesia, as in the research conducted by 1anjung et al. (2019) concludes that if you look together between the effectiveness of monetary policy and fiscal policy on economic growth then monetary policy has a positive and significant effect on growth economy, while the fiscal policy positivistic ally has no significant effect economic growth. This is in line with research conducted by and Irawan (2010) stated that based on the results of the implies response that shock positivity acceptance of the tax has the negative effect for GDP and shock positive the state budget has the positive effect for the GDP. However, it is different with the research conducted by Saraswati (2018) concludes that in part Original Area effected has a positive and significant effect on growth economy, and capital expenditures have a positive and significant impact on growth economics in Indonesia.

The relevant research in various regions has also been done, such as Sary (2018) simultaneously states that the Economic Growth variable and Government Expenditures in the Education and Health Sector collectively or simultaneously affected economic growth in Acch 2010-2016. The next research, by Maulida and Zuhro (2017) which states that government expenditures in the form of operational spending and capital expenditures have an effect positive for economic growth in the North and South corridor of East Java Province. This is confirmed by Windhu (2015) research that the government expenditure variable The fields of infrastructure, education and health have an effect on ownership economic growth in border districts.

In North Sumatra, a similar study was conducted by Rahman (2018) with results research that the Expenditure Side Fiscal Decentralization has a positive and significant effect on the Economic Growth (EG) of the Province in Sumatra Island in 2011-2015. This matter in line with research conducted in Southeast Sulawesi province by Afiat (2015) which concludes that government spending has a significant effect on changes in the economic structure. The higher the government spending, the higher it will be changes in the economic structure from the Agriculture sector to the Industry and Service sectors. Conversely, if the lower government spending, the lower the conversion economy structure from the Agriculture sector to the Industrial sector and the Services sector. Based on the research above, the writer wants to do further research with independent variables that are different from previous studies. Some of the problems are want to know in this research is to analyze how the influence of expenditure government in the growth of the economy and analyze how to change it income tax on economic growth.

Based on the questions above, the authors formulate the hypothesis research as follows. First, government spending will affect growth economy in North Sumatra. Second, tax revenue affects growth economy in North Sumatra. This study aims to test and provide evidence of the most recent addiction Government expenditure variables and taxes as instruments of regional fiscal policy on economic growth in North Sumatra from 2011-2017.

RESEARCH METHOD

The objects in this research are economic growth, spinning expenditure and tax revenue. Analysis of the effects of regional fiscal policies on growth economy in North Sumatra is recognized by the Two-Step Error Correction Model (ECM) in the short term and Ordinary Least Square (OL5) in the long term. The research is uses quarterly time-series secondary data from the Badan Pusat Statistik North Sumatra with the period 2011: 1 to 2017: 4, the dependent variable is the economic growth of North Sumatera which is proxied with Domestic Products Gross (GDP) constant prices. While the independent variable includes the fiscal policy with the instrument is the Government Expenditure (GE) and Tax Revenue (TAX).

The long-term and short-term petsama in this study are as follows:
Long term model:

$$\log(PDB_t) = \alpha_0 + \alpha_1 \log(GE_t) + \alpha_2 \log(TAX_t) + e_t \qquad \text{Pers.(1)}$$

GDP = Economic growth proxies with Brulo Domestic Products
GE = Government Expenditure
TAX = Tax Revenue
Log = logaritma
$\alpha_0, \alpha_1, \alpha_2$ = regression coefficient
e_t = distraction variable (disturbance error)

Short term model:

$$d(\log(PDB_t) = \beta_0 + \beta_1 ECM_{PDB_{t-1}} + \beta_2 d(\log(GE_t)) + \beta_3 d(\log(TAX_t)) \qquad \text{Pers.(2)}$$

With:
D = first Difference
ECM_{PDB-1} =error correction term
Coefficient $\beta_0, \beta_2, \beta_3$ = short run regression coefficient
Coefficient β_1 = imbalance correction coefficient (speed of adjustment)
The use of the ECM method is based on the belief that there is long-term relationships (cointegration) between macroeconomic variable which estimated estimated in this research, the Engle-Granger method is used.

The definitions of the variables in this study are:

1. **Gross Domestic Product** (GDP), in proxy for Output, is Product Domestic Bruto based on constant prices in the initial quarter: 2011: I to2017: 4. Obtained by Badan Pusat Statistik of North Sumatra, in billion rupiah.
2. **Public Expenditure** (GE) is the realization of a prepared Budget allocation in the North Sumatera APBD. This data was obtained from BP'S North Sumatera data2011: 1 to 2017:4 and within billion rupiah.
3. **Tax revenue** (TAX) is a tax which is a mandatory contribution by society to the government with no direct compensation for data's government. Tax is the income of

an area with the aim to this time it was obtained from data from BPS North Sumatera starting from 2011: 1 to 2017:4 and in thousands of rupiah.

RESULTS AND DISCUSSION

In the next step, the step taken is to perform a stationarity test. The results of the stationary time series data test results for all the variables studied can be seen in the estimation results described in the table.

Table. 1 Stationarity test results

No	Variabel	Nilai ADF	Nilai Kritis*)	obabilitas	Stasioner
		-5,919353	-3,724070	0,0001<0,01	2 st Difference
		-5,279315	-3,724070	0,0002<0,01	2 st Difference
		-5,983709	3,724070	0,0000<0,01	2 st Difference

*) trend source: Authors' estimation using e-views 6.0

From Table 1 on above it can be seen that none of the variables are stationary at the level and at the level of difference chin, the ADF test is not carried out again and the result is the variables PDB, GE and TAX tasıloner at level 2nd difference, because of value Augmeried Dickey fuller is greater than the critical value of McKinnonpadia's degree of confidence percent.

Furthermore, the integration test is carried out**,** the integration test aims to test whether the resulting regression residuals are stationary or not and Also to find out whether in the long run there is a relationship between the independent variables and the dependent variable (using the Engle-Granger test). Cointegration test was performed as a follow-up to the occurrence of non-stationary data at the level. The test result of the cointegration with e-vicws 6.0 tools is shown in table 2 below.

Table 2. The result of cointegration test.

Variabel	ADF-test	Probability	Nilai Kritis MacKinnon			Keterangan
	-5.459488	0.0001	-3.711457	-2.981038	-2.629906	Berkointegrasi

source: Authors' estimation using e-views 6.0

From table 2 above, it can be seen that the variable e is stationary at the first level difference. In other words, variable e is stationary so it can be said that the cointegration strength among all the variables included in the model of economic growth (log (GDP). It can be concluded that in the long run there will be a balance or stability among the variables studied or the ECM model become valid to apply.

Table 3. Long-run model

Dependent Variable: Log(PDB)				
Variable	Coefficient	Std.Error	T-Statistic	Prob.
C	15.50824	0.439260	35.30539	0.0000
Log (GE)	0.206783	0.046840	4.414669	0.0002
Log(TAX)	0.200440	0.092219	2.173514	0.0394

*) trend source: Authors' estimation using e-views 6.0

Table 4. Short-run model

Dependent Variable: D(Log(PDB))				
Variable	Coefficient	Std.Error	T-Statistic	Prob.
C	0.012580	0.000206	61.11528	0.0000
$ECM_{PDB(-1)}$	-0.022027	0.004826	-4.563939	0.0001
D(Log(GE))	0.013558	0.002823	4.802212	0.0001
D(Log(TAX))	0.004385	0.006423	0.682651	0.5016

source: Authors' estimation using e-views 6.0

In the ECM model, changes in the dependent variable are not only explained by changes in the dependent variable, but also by past imbalance variables (ECM_{PDB-1}). Efficient ECM_{PDB-1} indicate imbalance adjustment speed past towards the balance of the past. The Changes in economic growth in North Sumatera is determined by government spending and tax revenue, as well adjustments because there is no balance of the past. Every percent of the past imbalance will be answered by adjusting the growth rate economy 2.2027 percent for the first quarter.

The outline of the government's output on economic growth in the Province of North Sumatera is positive. Increased government spending (GE) as a proxy fiscal policy will encourage an increase in economic growth (GDP) in significant at 0.014 percent in the short term and 0.2l percent in the long term. This length is in line with the research conducted by Rahman (2018) with the results of the research that the Fiscal Decentralization of the Expenditure System has a positive and positive effect economic growth (GDP) in the Province of Sumatra in 20ll-2015. Despites the government spending on economic growth in North Sumatera is significant but what should be noted is that government spending it must be in line between quantity and quality so that governmental expenditures are not alone is able to hinder economic growth but also able to improve community learning in North Sumatera.

The effect of tax revenue on economic growth in in the province of North Sumatera North is positive. Increase in tax revenue (TAX) as a proxy for fiscal policy will promote an increase in economic growth (GDP) by 0.094 percent later short term but not significant while in the long term the increase tax revenue (LAA) will encourage increased economic growth (GDP) in significant amount of 0.20 percent. Thus, this result is in accordance with the theoretical design suggested by Solow and Keynes that economic growth can be influenced by changes in tax. However, it should be noted that if it is a warning effort tax revenue is not carefully confirmed, it will generate a trade-off for the economic growth means that there is a chance of potential decline in revenue tax.

CONCLUSIONS

Based on the analysis above, it can be concluded that the regional fiscal policies are very much for the growth of economic in province of North Sumatera. Policy instrument fiscal in the form of spending by the North Sumatera provincial government has a significant influence positive and significant towards Sumatra economic growth in the good term in the short and long term. The instrument of fiscal policy is tax revenue has a positive influence on economic growth in North Sumatra however in the short term the effect is insignificant while in the long term has a significant effect. So that North

Sumatera can be self-sufficient increase the economy will need a capable tax increase to finance economy wheels and reduce dependence on finance and public.

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