THE EFFECT OF FISCAL POLICY ON ECONOMIC GROWTH IN INDONESIA

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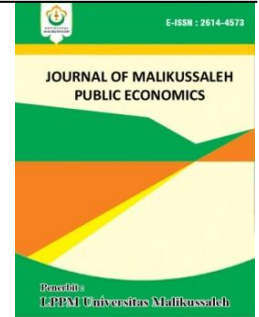[*] *Faculty of Economics and business Malikussaleh University*
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A R T I C L E I N F O R M A T I O N

A B S T R A C T

This study was conducted in Indonesia within a period of 16 years from 2005-2020 using vector autoregression (VAR) analysis methods the purpose of this study to see the effect of fiscal policy (government revenue and expenditure) on economic growth, the results of the study obtained that using granger causality analysis that economic growth and government acceptance do not have a reciprocal relationship (causality) while government spending. It has a reciprocal relationship (causality) to economic growth while by using the VAR method economic growth does not have a negative and significant effect on itself, government acceptance has a positive and significant effect on economic growth and government spending negatively and significantly limited economic growth.

1. INTRODUCTION

The debate over fiscal policy covers many issues. In relation with macroeconomic management, according to Simanjuntak (2010). Key issues that stand out are the influence of fiscal policy on economic growth, equity, inflation, and public services. Some economists believe that fiscal policy promotes growth, improves equity, and improves the quality of public services and public welfare. Others believe that fiscal policy may improve accountability and efficiency, so the process tends to complicate macroeconomic management, slow growth, increase inequality and inequality, and worsen public services and public welfare. The ambiguity of the conclusion cannot be separated from the characteristics of multi-dimensional fiscal policy.

Data on the development of government revenue over a period of 16 years has also decreased and increased every year, usually for this revenue obtained from various sectors that generate income both nationally and locally that will contribute to the National. When there is revenue in a country, there will also be expenditure for economic activities carried out in that country. government spending in a period of 15 years, for expenditure figures every year there is an increase, this increase in expenditure is sometimes not proportional to revenue, therefore the government must be able to evaluate the situation in the process of this activity.

The government sets policy instruments that aim to influence the course of the economy in Indonesia. one of the policy instruments set by the government is fiscal policy. Samuelson (1985) in Aprilia, et al (2016) argued with the two main tools of macroeconomic policy, governments can influence the amount of output, Labor use, prices and net exports. Fiscal policy includes the power to tax and spend or dispense money.

The implementation of fiscal policy implemented by Indonesia is a new challenge in Indonesia's macroeconomic management. Some countries, such as India, Brazil, Russia, and China, have faced the problem of macroeconomic stability is complicated and fraught due to lack of appropriate in managing the implementation of fiscal policy. One of the roots of this problem is the difference in economic policy orientation between the central government and local governments (Strauss et al, 2002).

According to Abhimanyu and Megantara (2009) fiscal policy will be able to increase economic growth and public welfare, because the sub-national government/local government will be more efficient in the production and supply of public goods. Decision making at the local government level will be more listened to to diversify local choices and more useful for allocation efficiency.

The main phenomenon that is a problem in this study is contained in the data fiscal policy and economic growth in Indonesia in 2005-2020 as follows:

Table 1
Data Receipts, Expenditures, And Economic Growth

Year	Government Revenue (Rp)	Government Spending (Rp)	Economic Growth (%)
2014	245.517.380	245.517.380	5,2
2015	242.706.380	247.041.479	4,9
2016	275.571.196	264.098.478	5,3
2017	323.493.251	307.039.173	5,07
2018	335.585.811	326.429.294	5,17
2019	357.559.641	354.823.499	5,02
2020	381.600.174	397.901.537	2,07

Source: BPS (2021)

In the last 5 years, it can be explained for the problems that occurred in the government revenue variable that in 2017 the government revenue figure of Rp 323,493,251 T increased from the previous year but economic growth of 5.07% decreased from the previous year, the same thing also happened in 2019. This is a problem because it is not comparable with the theory that states that when government revenue increases, it will increase economic growth.

Furthermore, the problems that occur in government expenditure variables that in 2016 the government expenditure figure of Rp 264,098,478 T increased from the previous year but economic growth of 5.3% also increased from the previous year, the same thing also happened in 2017 and 2018. This is a problem because it is not comparable to the theory that states that when government spending increases it will decrease economic growth.

This research can also be strengthened from the research conducted by Kusriyawanto (2019) with the title of research on the effect of local government revenue and expenditure on economic growth of provinces in Indonesia before and after regional autonomy in 1994-2010, that government revenue has a negative influence while government spending does not have a positive influence on economic growth (PDBR).

2. THEORETICAL STUDIES
Economic Growth

According to Boediono (1985) Economic Growth is the process of increasing output per capita production with Gross Regional Domestic Product (GDP) per capita.

According to Sukirno (2012), economic growth is the development of economic activities that occur over time and cause real national income to grow. The economic growth rate shows the presentation of the increase in real national income in a given year when compared with real national income in the previous year.

Economic growth is the long-term increase in the capacity of the State concerned to provide various economic goods to its population determined by technological, institutional (institutional), and ideological advances or adjustments to the various demands of the existing circumstances.

Fiscal Policy

Policy is a mechanism of governance that involves the pattern of relations between the national government and local government. (Anita, 2014).

Fiscal policy as stated in law No. 33 of 2004 on the financial balance between the central government and the central government, aims to first, align with sustainable fiscal policy (fiscal sustainable). Second, minimize inequality between the central government and local governments (vertical imbalance). Third, correcting inequality between regions in financial capacity (horizontal imbalance). Fourth, increase accountability, effectiveness and efficiency in order to improve the performance of local governments. Fifth, improving the quality of service to the community, and sixth, increasing public participation in decision-making in the public sector (democracy).

Government Revenue

Government revenue is income that is used as a source of funding for the activities and needs of the state in the framework of State Development (Syamsi, 2012).

In this case, government revenues are derived from tax and non-tax. Taxes are public contributions to the state treasury based on the law that can be enforced with no direct services (counter-performance) can be shown and used to pay general expenses.

Government Spending

Government spending is one aspect of the use of economic resources that are directly controlled by the government and indirectly owned by the community through the payment of taxes. In general, government spending will increase in line with the increase in economic activity of a country.
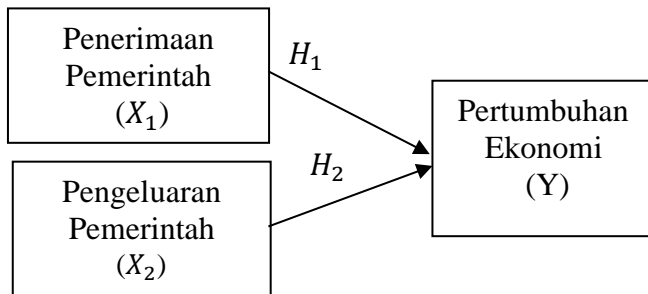
Conceptual Framework

Figure 1: Conceptual Framework

Hypothesis

H_1: Government revenue effect on Indonesia's Economic Growth

H_2: Government spending affects Indonesia's Economic Growth.

3.   RESEARCH METHODS

Time and place of research

The time used in the study was 16 years starting in 2005-2020. The location of the study was conducted in Indonesia.

Data Types And Sources

The type of data used is secondary data obtained through the publication of the book Statistics Indonesia.

Operational Definition Of Variables

1. Government revenue: income used as a source of funding (Rupiah).
2. Government expenditure: expenditure made in activities for the benefit of a country (Rupiah).
3. Economic growth: the prevailing development of economic activity over time (percent).

Data Analysis Methods

This study uses a research model that is Vector Auto Regression (VAR) model. Model Vector Auto Regression (VAR) is one of the timeseries methods used.

Stationarity Test

Stationarity test / unit Root test (Unit Root Test) is performed to determine whether or not a variable is stationary.

Lag Optimal

In a dynamic study the determination of the optimum lag is used to see how far the reaction variable affects other vearibels. (Widarjono, 2013).

Cointegration Test

Cointegration testing can be done with Engle-Granger Test, CRDW Test, or Johansen Cointegration Test.

Granger Test Of Causality

Causality test is performed to determine whether there is a relationship between endogenous variables (dependent) so that it can be treated as exogenous variables (independent)

Estimation Of VectorAutoRegression

In VAR estimation, in order to calculate varbel y affects X and vice versa, it can be known compared to table t with table f. If the value of the T-statistic is > than the value of the T-table, so the variable Y affects X. The VAR equation in this study is as follows:

$$Y_t = \beta i + \sum_{i=1} \beta_1 X1 P_{t-i} + \sum_{i=1} \beta_2 X2 P_{t-i} \, \varepsilon_{t1}$$

Keterangan :

Y	: Economic Growth
X1	: Government Revenue
X2	: Government Spending
ε_{t1}	: Interference Factors
βi	: Constants
β_1-β_2	: Estimation Coefficient

Implus Response Analysis

The IRF results are very sensitive to the ordering of the variables used in the calculation.

Variance Decomposition Analysis

This test is done to provide information about how the dynamic relationship between the variables analyzed.

4.   RESEARCH RESULTS AND DISCUSSION

Vactor Autogeression (VAR)
Stationarity Test

Stationary test is conducted to determine whether the data on the research variable is contained in the unit root or not, or in other words the presence or absence of stationarity of the data on the research variable. In the stationary test can be seen whether the data is stationary at level (0), first difference, or second difference. Based on

testing stationarity using ADF (Augmented Dickey Fuller) obtained the following results :

Table 2
Unit Root Test with Augmented Dickey Fuller (ADF)

Variable	Unit Root	ADF test Satistic	Critical Value 5%	Prob ADF	description
Economic Growth	Level	-0.601840	-3.081002	0.8425	no
	First Diff	-2.692830	-3.098896	0.0996	no
	Second Diff	-3.675360	-3.144920	0.0209	stationary
Government Revenue	Level	-1.539659	-3.081002	0.4870	no
	First Diff	-3.886930	-3.098896	0.0123	stationary
	Second Diff	-6.533665	-3.119910	0.0002	stationary
Government Spending	Level	-2.322039	-3.081002	0.1780	no
	First Diff	-4.151151	-3.098896	0.0077	stationary
	Second Diff	-6.173313	-3.119910	0.0003	stationary

Variable economic growth at the level of the level has a value of ADF < critical value of 5% that is -0.601840 < -3.081002 means that the data is not stationary at the level of the level. Government revenue variable has ADF value < 5% critical value that is -1.539659 < -3.081002 means the data is not stationary at the level level. Variable government spending at the level of the level has a value of ADF < critical value of 5% that is -2.322039 < -3.081002 means that the data is not stationary at the level of the level.

Then the economic growth variable at the first different level has an IF value < 5% critical value, which is -2.692830 < -3.098896, meaning that the data does not rank at First different. Government revenue variable has a value and > 5% critical value of -3.886930 > -3.098896 means that the First Rank data is different. Government management variable at first different level has ADF value > 5% critical value that is -4.151151 >-3.098896 Means ranking data at first different level.

Furthermore, the economic growth variable at the Second different level has an IF value > 5% critical value, namely -3.675360 > -3.144920, which means that the ranking data is second different. Government revenue variable has a value and > 5% critical value of -6.533665>-3.119910 means that the second rank data is different. Government management variable at Second different level has ADF value > 5% critical value that is -6.173313>-3.119910 Means ranking data at second different level .

Determination Of The Optimal Lag

Table 3
Optimal Lag Testing Results

Lag	LogL	LR	FPE	AIC	SC	HQ
0	37.47679	NA*	9.99e-07	-5.304121	-5.173748*	-5.330918
1	42.39641	6.811793	1.99e-06	-4.676371	-4.154880	-4.783561
2	60.51551	16.72532	6.73e-07*	-6.079310*	-5.166699	-6.266892*

The criteria of (LR) Sequential Modifie lrtest statistic, FPE (Final Prediction Error), Akaike Information Creterion (AIC), (SC) Schwarz information criterion and Hannan-Quin Information Creterion (HQ) are located at lag 2. Thus in this study the optimal lag length to be used is 2. Once accumulated, the largest number of stars is located on lag 2. The purpose of the optimum lag in this study is that all research variables used in the equation affect each other until one previous period. This means that government revenue and expenditure variables affect economic growth variables.

Granger Causality

Table 4
Granger Causality Test Results

Null Hypothesis:	Obs	F-Statistic	Prob.
Reception does not Granger Cause PE	14	2.13567	0.1742
PE does not Granger Cause Reception		3.63437	0.0697
Production does not Granger Cause PE	14	2.16064	0.1713
PE does not Granger Cause Production		6.01509	0.0219
Production does not Granger Cause reception	14	0.09814	0.9075
Reception does not Granger Cause Production		3.21591	0.0884

Government revenue variables have no relationship to economic growth variables. however, economic growth variables have a relationship to government revenue variables, therefore in this variable reciprocity (causality) does not exist. Government spending variables have a relationship with economic growth variables, and economic growth also has a relationship to government spending. Therefore in this variable reciprocity (causality) exists. Government expenditure variable has no relationship with government revenue variable, but government revenue has a relationship with

government expenditure. this variable reciprocity (causality) does not exist.

Cointegration Test

Table 5
Cointegration Test

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.884149	37.39168	29.79707	0.0055
At most 1	0.388396	9.370839	15.49471	0.3322
At most 2	0.204801	2.979115	3.841466	0.0843

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.884149	28.02084	21.13162	0.0046
At most 1	0.388396	6.391724	14.26460	0.5635
At most 2	0.204801	2.979115	3.841466	0.0843

Trace statistic < critical value and maxeigen < critical value mean that there is no cointegration. If using VECM and ARDL, the data must be cointegrated, then the most appropriate method in this study using the VAR method.

Estimated Results *Vector Autoregression* (VAR)

Tabel 6
Test Results *Vector Autoregression* (VAR)

	D(PE)	D(RECEPTION)	D(PRODUCTION)
D(PE(-1))	0.110181	0.063868	0.064058
	(1.25603)	(0.03943)	(0.02024)
	[0.08772]	[1.61984]	[3.16480]
D(PE(-2))	-0.905954	0.024466	0.014720
	(0.98325)	(0.03087)	(0.01584)
	[-0.92139]	[0.79266]	[0.92903]
D(RECEPTION (-1))	0.898102	-1.072397	-0.310574
	(21.3091)	(0.66892)	(0.34339)
	[0.04215]	[-1.60317]	[-0.90444]
D(RECEPTION (-2))	13.23766	-0.039066	0.667045
	(19.0848)	(0.59910)	(0.30755)
	[0.69362]	[-0.06521]	[2.16892]
D(PRODUCTION (-1))	-0.850044	0.823157	0.274002
	(25.8768)	(0.81231)	(0.41700)
	[-0.03285]	[1.01336]	[0.65708]
D(PRODUCTION (-2))	-5.464424	0.513787	-0.074915
	(15.9325)	(0.50014)	(0.25675)
	[-0.34297]	[1.02728]	[-0.29178]
C	-0.802117	0.042900	0.026238
	(1.28104)	(0.04021)	(0.02064)
	[-0.62615]	[1.06680]	[1.27102]

t_{table} 2.1603 the economic growth variable does not have a negative and significant effect on itself this can be seen by the value of t_(count) is smaller than t_(table) that is equal to -0.9059 < 2.1603.

Government revenue has a positive and significant effect on economic growth because the value of t_(count) is greater than the value of t_(table)is equal to 13.2376 > 2.1603.

Government spending has a negative and significant effect on economic growth because the value of t_(count) is greater than the value of t_(table)that is equal to -5.4644 > 2.1603.
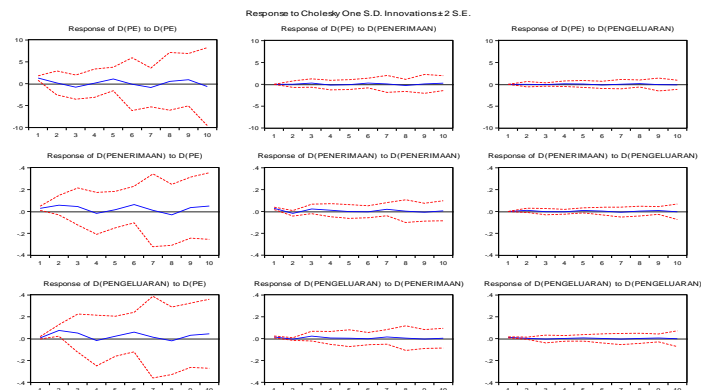
Implus Response

Figure 2 : *Implus Response*

IRF analysis for the next 10 years can be seen that in the first year of economic growth depreciated to 1.3 and in the second year there was a shock to the variable itself so that the poverty rate reached 0 to the fifth year the depreciation rate returned to 1.1 but the sixth year to the tenth year stabilized at 0.

While the variable government revenue from the first year depreciated an increase of 0.03 and there were shocks in the second year to the tenth year the number remained stable reaching the equilibrium point at 0. This means that government revenue figures in the next 10 years will remain stable against economic growth in stable numbers ranging from 0.

Then the government expenditure variable from the first year depreciates increasing by 0.01 and shocks occur in the second to tenth years, the number remains stable reaching the equilibrium point at 0. This means that government spending figures in the next 10 years will remain stable against economic growth in stable numbers ranging from 0.

Analysis *Variance Decomposition*

Table 7
Varian Decomposition

Variance Decomposition of D(PE): Period	S.E.	D(PE)	D(RECEPTION)	D(PRODUCTION)
1	1.283037	100.0000	0.000000	0.000000
2	1.293217	99.98491	0.009014	0.006080
3	1.555465	96.62067	3.226695	0.152634
4	1.574416	94.74867	4.568319	0.683011
5	1.905191	96.10851	3.352418	0.539072
6	1.933748	93.71732	5.152872	1.129808
7	2.126504	94.67164	4.381551	0.946814
8	2.212607	93.00410	5.563272	1.432624
9	2.394560	93.80812	4.869628	1.322255
10	2.502306	92.98746	5.539592	1.472945

Analysis *Variance Decomposition* kurs in Table 4.7 it can be seen that initially economic growth is still strongly influenced by economic growth itself, which is 100% where government revenues and expenditures have not had any effect at all. However, in the following years the contribution of government revenue and expenditure shock has increased and decreased until the 10th year of 5.53% revenue and 1.47% government revenue. This follows the decline and increase in the proportion of economic growth shock to the economic growth variable itself but until the 10th year the contribution is still relatively 92.98%.

DISCUSSION
Relationship Of Government Revenue To Economic Growth

Based on the results of testing that has been done, it can be concluded that government revenue has a positive and significant effect on economic growth because the value of $t_{(count)}$ is greater than the value of $t_{(table)}$ that is equal to 13.2376 > 2.1603.

The results of this study are in line with research conducted by Zahara (2021) that government revenue has a positive and significant effect on economic growth.

Relation Of Government Spending To Economic Growth

Based on the results of testing that has been done, it can be concluded that government spending has a negative and significant effect on economic growth because the value of $t_{(count)}$ is greater than the value of $t_{(table)}$ that is equal to -5.4644 > 2.1603.

The results of this study are in line with research conducted by research conducted by Zahara (2021) that government spending has a negative and significant effect on economic growth.

5. CONCLUSION AND SUGGESTIONS

Conclusion
1.
By using the Granger causality analysis method that economic growth and government revenues do not have a reciprocal relationship (causality) while government spending has a reciprocal relationship (causality).

2.
Using Vector Auto Regression (VAR) model, the research can be concluded that the economic growth variable does not have a negative and significant effect on itself, government revenue has a positive and significant effect on economic growth and government spending has a negative and significant effect on economic growth.

Suggestions
1. There needs to be special attention for the government to increase economic growth, in the sector of revenue and expenditure the government must be able to calculate well and correctly every year, so that there will be no budget deficit, and the government is able to maximize revenue from sectors such as PAD and be able to minimize spending such as government spending.
2. Expected to the government in order to assist and find solutions to the declining and increasing numbers of government revenues and expenditures.
3. The need for further research, so that the findings obtained are more varied and better in explaining the variables of economic growth with different research methods.

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