Taxes and Economic Development in Indonesia

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Abstract

This study investigates tax revenues, economic growth and government spending in Indonesia.This research examines data from 2000 to 2020 in order to produce "autoregressive vectors" that may be used to assess the causal link between variables. Based on secondary data from the World Bank, the following multivariate regression model was used to investigate the causal link between tax collections, economic growth, and government expenditure in Indonesia. We found that state revenues from taxes have a significant impact on economic growth and government spending. Tax payments from citizens contribute to economic growth and also government spending that triggers economic growth. Taxes are a way to distribute wealth and promote economic development. This proves that paying taxes is an important thing that must be done by citizens.

Introduction

Taxes have many purposes, mainly to achieve tax equity in the distribution of income and wealth among citizens, economic goals in financing the state budget and contributing to the process of economic development, and politics as represented in state sovereignty through the rule of law, so we will discuss its role in economic balance and in redistributing income (Wilantari, 2021).

The state's capacity to spend publicly and enhance economic growth is dependent on the financial resources available to support its expenditures, and the state is reliant on the creation of internal funding sources on the one hand, and the utilization of external financing sources on the other. It emphasizes the function and significance of taxes in growing internal funding and the financial resources necessary for growth. Internal funding sources, notable taxes, are created through mobilizing national resources required for development in order to generate additional tax-generating revenues (Musaiyaroh & Bawono, 2018).

The purpose of the tax system is to aid economic growth by channeling resources into investment channels that aid development, enhance the production capacity, redistribute income and wealth, and maintain economic stability. The goals of tax policy are aligned with the goals of economic policy in general, such that changes in the economic policy lines defined have a clear impact on fiscal and tax policy actions. Thus, the taxation system usually responds to changes in the economy, and the state has sufficient capacity to review the existing tax structure and what it contains taxable elements and rates, especially if there is a deficit in the public budget while achieving tax objectives. the country's fiscal policy (Opriyanti & Wilantari, 2017).

Achieving a balance between country specificity and the nature of tax formation is the result of tax policies that interact with the stage of development and provide the necessary conditions for growth and the necessary elements, particularly the element of capital, which is necessary for the process of economic development and helps reduce the gap between saving and investment by mobilizing financial resources to finance productive investments. The importance of the taxation system in preventing distortions and volatility that interrupt economic activity demonstrates the system's efficacy in establishing economic balance (Sasongko, Bawono, Prabowo, 2021).

Because tax policy plays a vital role in attaining economic balance and stability, as well as managing the amount of government expenditure, taxes are employed to maintain a balanced state and safeguard economic activity from volatility and economic crises. The purpose of public finance, with its varied methods, has made taxes one of the most essential tools in the state's toolbox for achieving a variety of economic and social objectives. Among them is the contribution of taxes to national redistribution. income, unlike expenses which work to influence the primary distribution of income. The role of taxes in redistribution is focused primarily on their impact on cash income and real income (Alim, Setiyantono, Zakiah, 2021). This study investigates tax revenues, economic growth and government spending in Indonesia.

Research Method

This research examines data from 2000 until 2020 to be able to produce "autoregressive vectors" that may be used to evaluate the causal link between variables. Based on secondary data from the World Bank, the following multivariate regression model was used to investigate the causal link between tax collections, economic growth, and government expenditure in Indonesia. Here's the model :

$$TR_t = \beta_0 + \beta_1 EG_t + \beta_2 GS_t + e_t \qquad \text{eql 1}$$

$EG_t = \beta_0 + \beta_1 TR_t + \beta_2 GS_t + e_t$ eql 2

$GS_t = \beta_0 + \beta_1 TR_t + \beta_2 EG_t + e_t$ eql 3

Description :

TR: Tax Revenue

EG : Economic growth

GS : Government spending

E : error term

t : time series

β : the magnitude of the effect of causality

eql: equation

This study uses vector calculations where each regression relationship will be brought together so that each variable will alternately become the dependent variable and the independent variable. The zero theory of Dickey-Fuller, taken from the PP test, and p=1 is the formula in $\Delta yt = (\rho - 1)yt\text{-}1 + ut$, in which Δ – for the first time different operators. This research used the following equation for the "unit root test":

$\Delta Y_1 = \alpha_0 + \beta_0 T + \beta_1 Y_{t-1} + \sum_{i-1}^{q} \quad \alpha_1 \Delta Y_{t-1} + e_t$

Description:

Y as the variable is being examined for unit root

T as the variable which indicates the "linear trend," the "lag difference" means is $\Delta Yt-1$,

$\alpha 0$ are shown as "constant term," with the

"t" as a "time trend" indicator.

The null and alternative hypotheses for the "unit root test" are as follows:

$H_{0:}\ \alpha=0$

$H_1:\ \alpha\neq0$

Result and Discussion

The ADF test evaluates the probability of autocorrelation in the error component if the series being evaluated is non-stationary. The following are the results of the unit root test:

Table 1: ADF's Unit Root Test on TR, EG, and GS data in Indonesia

Variable	Unit Root	Include in the examination Equation	Statistics for the ADF Test	5% Critical Value	Description
Tax revenues	Level	Intercept	0.251665	0.9681	

(TR)	First Diff	Intercept	-5.199054	0.0007	Stationer
Economy growth (EG)	Level	Intercept	-0.527808	0.8660	
	First Diff	Intercept	-1.929268	0.3129	
	Second Diff	Intercept	-3.319458	0.0293	Stationer
Government spending (GS)	Level	Intercept	-2.674413	0.0958	
	First Diff	Intercept	-4.911236	0.0011	Stationer

The TR and GS data at the first difference, the data are stationary, and the EG data at the second difference level is stationary. The ADF test is worth -5.199054 with a critical value of 0.0007. Smaller than the p-value, in this case, the TR data shows stationary at the first difference compared to the original data. From here we can take the next step in determining vector analysis.

Optimum Lag Test

The lag duration sensitivity is required for both the VAR and the causality tests. It's vital to pick an appropriate optimal lag time before starting a VAR or causality test inquiry. The following are the findings of the lag test:

Table 2 : Optimum lag test at Lag 0 to 3 IL, IR, CO, and EG data

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-68.33044	NA	0.555613	7.925605	8.074000	7.946067
1	-45.76460	35.10243*	0.125843*	6.418289*	7.011870*	6.500136*
2	-41.23523	5.535899	0.230156	6.915025	7.953792	7.058257
3	-31.36411	8.774329	0.280708	6.818234	8.302187	7.022851

Table 2 shows the findings of the Optimum Lag test. At Lag 0 to 3, the results show that the variable lengths of lag TR, EG, and GS data are at FPE, AIC, SC, and HQ at Lag 1. Because the findings of the five components are identical, then lag 1 will be chosen.

Var Model Analysis

Table 4 : VAR Model Analysis

	TR	EG	GS
TR	0.263487	0.935035	-0.201289
	(0.29830)	(0.74396)	(0.15451)
	[0.88330]	[1.25683]	[-1.30274]
EG	-0.620130	-1.237536	0.268913

	(0.37441)	(0.93379)	(0.19394)
	[-1.65629]	[-1.32529]	[1.38660]
GS	-0.772189	-0.768738	0.306143
	(0.62683)	(1.56334)	(0.32469)
	[-1.23189]	[-0.49173]	[0.94288]
C	5.309117	-20.09122	3.130470
	(5.28883)	(13.1905)	(2.73951)
	[1.00384]	[-1.52316]	[1.14271]
R-squared	0.752915	0.359665	0.784649
Adj. R-squared	0.629372	0.039497	0.676973
Sum sq. resids	5.997991	37.30833	1.609284
S.E. equation	0.706988	1.763243	0.366206
F-statistic	6.094376	1.123364	7.287154
Log likelihood	-16.00620	-33.37022	-3.507659
Akaike AIC	2.421705	4.249497	1.106069
Schwarz SC	2.769656	4.597448	1.454021
Mean dependent	11.18725	4.977976	8.872568
S.D. dependent	1.161297	1.799132	0.644327

The relationship between TR and TR itself is significantly positive, with something like a coefficient of 0.263487 and a t-statistic of 0.88330. The relationship between TR and EG is significantly positive with a coefficient of 0.935035 and a t-statistic of 1.25683, meaning that the higher the TR, the higher the EG. Likewise, the relationship between TR and GS is significantly negative, with a coefficient of -0.201289 and a t-statistic of -1.30274, meaning that the lower the TR, the higher the GS. The relationship between EG and TR is significantly negative, as evidenced by the coefficient -0.620130 and the t-statistic -1.65629. This shows that an increase in tax revenue will increase economic growth, a decrease in tax revenue in this study will also increase government spending, as well as the variable economic growth if it decreases it will cause an increase in tax revenue.

Granger Causality Analysis

Table 5 : Granger Causality test

Null Hypothesis:	Obs	F-Statistic	Prob.
TR does not Granger Cause EG	20	0.72481	0.4064
EG does not Granger Cause TR		0.15131	0.7021
GS does not Granger Cause EG	20	0.06891	0.7961
EG does not Granger Cause GS		2.27500	0.1498
GS does not Granger Cause TR	20	0.15441	0.6992
TR does not Granger Cause GS		0.21163	0.6513

Table 4 shows the findings of the Granger causality test study. The findings reveal that there is no single causal link between variables, as shown by the fact that none of them has a probability of less than 5%.

Conclusion

State revenues from taxes have a significant impact on economic growth and government spending. Tax payments from citizens contribute to economic growth and also government spending that triggers economic growth. Taxes are a way to distribute wealth and promote economic development. This proves that paying taxes is an important thing that must be done by citizens

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