



Fiscal Strategy and Economic Growth: The Effect of Government Expenditure On Economic Growth in East Java Province

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Abstract

The relationship between government spending and economic growth is a perennial topic of discussion and debate within a country's economy. A wealth of empirical evidence explores the causal relationship between these two macroeconomic variables and finds differing or contradictory results. This study aims to analyze the relationship between government spending and economic growth in East Java Province. This is done to determine whether the two influence each other or whether they are one-way. Panel data regression analysis was used to answer these analysis results. The data analyzed were annual panel data from 2011-2020. The results show that (i) the direct expenditure (BL) variable has a positive effect on the economic growth (PE) variable in East Java Province. (ii) the indirect expenditure (BTL) variable has a negative and significant effect on the economic growth (PE) variable in East Java Province. Based on the data analysis, it shows that there is a one-way causal relationship between direct expenditure (BL) and indirect expenditure (BTL) on economic growth (PE).

Keywords: : Fiscal Policy , Government Expenditure, Economic Growth, Poverty Rate, FEM

INTRODUCTION

The relationship between government spending and economic growth is a perennial topic of discussion and debate within the economic sphere of a region, even a country (Azwar, 2016). This debate began around the late 1800s, with the discovery of a wealth of empirical evidence exploring the causal relationship between the two macroeconomic variables, yielding differing or even contradictory results . Two different perspectives can be used to examine these relationships between government spending and economic growth. The first view was first put forward by Adolph Wagner, a 19th-century German economist who formulated Wagner's Law, which posits that the magnitude of government spending is influenced by economic development. The more advanced an economy, the larger the government, measured by the magnitude of government spending (Donkor, Kong, Manu, Ntarmah, & Appiah-Twum, 2022). A later view, contradicting the opposite, was put forward by Keynes near the beginning of the 20th century, and is therefore called Keynesian Theory. According to Keynes, government spending influences economic

growth, with relatively high levels of government spending leading to an increase in aggregate demand, ultimately boosting economic growth (Sari, Winarni, & Amali, 2021).

Referring to these two perspectives, this study will examine Wagner's Law and Keynesian Theory in East Java Province during the 2011-2020 period, focusing primarily on the influence of government spending on economic growth. Economic growth is the change in Gross Domestic Product (GDP) over time. GDP is an economic indicator that can be used to assess a country's economic condition. GDP figures indicate the total value of goods and services produced within a specific time period. Figure 1.1 illustrates the development of economic growth in East Java Province from 2017-2021.



Figure 1. Economic Growth of East Java Province According to Expenditure in 2017-2021

Figure 1 above illustrates the fluctuations in the economic growth rate in East Java Province over a five-year period, 2017-2021. Economic growth was quite stable gradually from 2017 to 2019 at 5.40%. The decline in economic growth in the first quarter of 2020 occurred due to various indicators, one of which was the global economy, including the trade war between the US and China, geopolitical tensions in the Middle East, and fluctuations in commodity prices. This was followed by a decline in 2020 due to the Covid-19 pandemic, which had a negative impact on the entire global economy, including Indonesia, and brought a very bad contraction where negative growth occurred in all components except government spending (Zhuchenko et al., 2023)

The causal relationship between government spending and economic growth is explained by (Ginting, 2019) that the government must pay more attention to the socio-economic structure so that it can be more efficient so as to optimize economic growth and in this case the community can optimize government spending in the form of subsidies and other economic development for the various benefits received from increasing economic growth and research shows that there is a two-way causal relationship between government spending and economic growth in Indonesia (Pt, Grapari, & Selecta, 2012).

Government expenditure reflects the policies implemented by the government. If the government establishes a policy to purchase goods and services, then government

expenditure reflects the costs incurred by the government in implementing the policy (Hanifah, Kadir, & Yulianita, 2017)). The expenditure structure is divided into two, namely direct expenditure and indirect expenditure. The development of government expenditure is measured by the amount of direct and indirect expenditure. This classification of direct and indirect expenditure is used in the government budgeting system, both central and regional, based on (Abosedra, Shahbaz, & Nawaz, 2016).

RESEARCH METHODS

This study uses secondary data collected from existing databases. The data were obtained from the Statistics Indonesia (BPS) of East Java Province for Economic Growth data. Meanwhile, government expenditure on direct and indirect capital expenditures in East Java Province was obtained from the Regional Financial Statistics of East Java Province for the 2011-2020 research period. This study analyzes the relationship between variables using panel data regression methods, as in linear equations. Furthermore, the linear equation is converted into a log-linear model. This is because the log-linear equation provides more precise and efficient results compared to the simple linear model (Adisasmita, 2013)

1. Classical Assumption Testing

There are several classical assumption tests that must be met by the model to become a good and unbiased estimator or commonly called BLUE (*Best Linear Unbiased Estimator*). Gujarati and Porter, (Alam, Singh, & Singh, 2022) stated that the ten assumptions that must be met are: first, the equation model is non-linear. Second, the value of the independent variable remains constant even in repeated sampling. Third, the average value of the deviation is equal to zero. Fourth, *homoscedasticity* . Fifth, there is no *autocorrelation* between variables. Sixth, the *covariance value* is equal to zero. Seventh, the number of observations must be greater than the number of estimated parameters. Eighth, the value of the independent variable varies. Ninth, the regression model must have a clear form. Tenth is the absence of *multicollinearity* between independent variables. Fulfillment of the ten assumptions above makes the regression results have a high degree of confidence.

2. Statistical Test

1. Determination Coefficient (R²)

The coefficient of *determination* is the degree of contribution of the independent variable to the dependent variable (r^2 , R^2). This value indicates the proportion of the overall variation in the value of the dependent variable that can be explained or caused by a linear relationship with the independent variable. In relation to correlation, r^2 is the square of the correlation coefficient related to the independent variable (X) and the variable (Y). In general, it is said that r^2 is the square of the correlation between the variable used as a predictor (X) and the variable that provides the response (Y) (Antonis, Constantinos, & Persefoni, 2013).

2. Individual Parameter Significance Test (Statistical t-test)

Testing with the t-test is done by comparing the calculated t-value with the t-table. This test is carried out under the following conditions:

1. If $t_{\text{count}} < t_{\text{table}}$, then the hypothesis is not tested, meaning that the independent variable does not have a significant effect on the dependent variable.

2. If $t_{\text{count}} > t_{\text{table}}$, then the hypothesis is tested, meaning that the independent variable has a significant effect on the dependent variable.

Testing was also conducted by observing the significance value of t at the α level used (this study used an α level of 5%). The analysis was based on a comparison between the significance value of t and a significance value of 0.05, where the conditions are as follows:

- a. If the significance, $t < 0.05$, then the hypothesis is tested, meaning that the independent variable has a significant effect on the dependent variable (Arestis, Şen, & Kaya, 2021).
- b. If the significance of $t > 0.05$ then the hypothesis is not tested, meaning that the independent variable does not have a significant effect on the dependent variable.

3. Simultaneous Significance Test (F Test)

The F-test is conducted to determine whether independent variables simultaneously or jointly significantly influence the dependent variable. The F-test is performed by comparing the calculated F with the F table. This test is performed under the following conditions :

- a. If $F_{\text{count}} < F_{\text{table}}$, then the hypothesis is not tested, meaning that the independent variables simultaneously do not have a significant effect on the dependent variable.
- b. If $F_{\text{count}} > F_{\text{table}}$, then the hypothesis is tested, meaning that the independent variables simultaneously have a significant effect on the dependent variable (Bazán, Álvarez-Quiroz, & Morales Olivares, 2022).

F at the α level used in this study uses an α level of 5%).

The analysis is based on the comparison between the significance value of F and the significance value of 0.05, where the conditions are as follows:

- a. If the significance, $F < 0.05$ then the hypothesis is tested, meaning that the independent variable has a significant effect on the dependent variable.
- b. If the significance of $F > 0.05$ then the hypothesis is not tested, meaning that the independent variable does not have a significant effect on the dependent variable.

RESULTS AND DISCUSSION

Based on the results of the classical assumption test, the following results were obtained (Arsyad, 2010):

a. Normality Test

Jarque-Bera probability value is $0.976438 > 0.05$, meaning it is normally distributed. Based on the results of *the histogram normality test* , it can be concluded that the data is normally distributed or accepts H_0 .

b. Multicollinearity Test

Based on the results of the multicollinearity test above, it can be seen that:

1. Direct spending (LnBL) has a value of 4.227785 or less than 10, meaning there is no multicollinearity.
2. Indirect expenditure (LnBTL) has a value of 7.819980 or less than 10, meaning there is no multicollinearity.
3. Gross Fixed Capital Formation (LnPMTB) has a value of 2.666966 or less than 10, meaning there is no multicollinearity.
4. Labor force (LnTK) has a value of 5.878527 or less than 10, meaning there is no multicollinearity.

Based on the results of the multicollinearity test using *the Variance Inflation Factor (VIF)*, it is proven that there is no multicollinearity (Adriani, 2020).

c. Heteroscedasticity Test

heteroscedasticity test, it can be shown that *the Chi-Square Prob.* is $0.0674 > 0.05$, which indicates that the data meets the homoscedasticity assumption or H_0 is accepted and the model is not affected by the *heteroscedasticity problem* (Alfian & Yasin, 2023).

1. Autocorrelation Test

Based on the results of the autocorrelation test, it can be seen that the Prob. Obs*R-squared value is $0.7258 > 0.05$, meaning that the data does not experience autocorrelation or accepts H_0 .

The statistical test aims to determine whether there is a positive influence of the independent variables of direct spending (LnBL), indirect spending (LnBTL), Economic Growth (LnPE) in East Java province in 2011-2020.

1. Determinant Coefficient

The coefficient of determination indicated by *the R-squared* in this test was 0.830428, meaning that 83.04% of the economic growth variable is influenced by the independent variables, namely direct spending, indirect spending, Gross Fixed Capital Formation, and labor. Meanwhile, 16.96% is influenced by other variables outside the model (Timur, 2021).

2. Partial Test (T-Test)

The partial test, often referred to as the T-test, is a test that aims to examine the effect of each independent variable on the dependent variable. The T-test is used to determine the significance level of the regression coefficient. The following is the T-test hypothesis (Alfian & Yasin, 2023):

H_0 : No Effect

H_a : Influential

If a variable is significant at 10% alpha, it means that each independent variable has an influence on the dependent variable. Conversely, if the variable is not significant at 10% alpha, it means that each independent variable has no influence on the dependent variable.

Table 1. Partial Test (T Test)

Variables	t-Statistic	Prob.*	t-Table	Information
D(LNBL(-4))	-1.437378	0.1625	1.67943	Not significant
D(LNBTL(-4))	2.868889	0.0081	1.67943	Significant

Table 1 is the result of partial testing of each independent variable, namely direct spending, indirect spending, on the economic growth variable which can be analyzed as follows (Adriani, 2020):

Testing of direct spending variables D(LnBL)

The effect of direct spending on economic growth can be seen in the table, the calculated t value for the direct spending variable D(LnBL(-4)) is -1.437378 and the t table value with a 95% confidence level and using a left-sided one-sided test (significance = 0.05) at degrees of freedom (df) $50-5 = 45$ is 1.67943, from the results obtained, the calculated t value is smaller than the t table, namely $(-1.437378 < -1.67943)$ then H_0 is accepted and H_a is rejected, which means there is no influence of direct spending on economic growth in the previous four years. (Susanto, 2019) This means that the direct spending variable D(LnBL)

in the previous four years has no effect on economic growth (PE) in East Java Province in the current year.

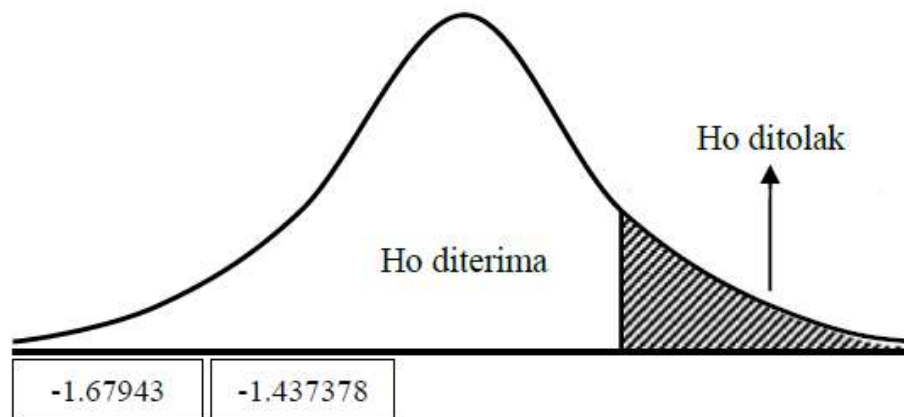


Figure 2. Results of Partial LnBL Test on PE

Direct expenditure budgeting is used to implement regional government programs and activities, consisting of mandatory and discretionary functions. Direct expenditure is presented in the form of programs and activities whose benefits and performance achievements can be directly felt by the community in the form of quality public services and the regional government's commitment to public interests (Firmansyah, Ilman, & Permatacita, 2020).

Testing of indirect spending variables D(LnBTL)

The test of indirect spending on economic growth can be seen in the table, the t-count value for the indirect spending variable D (LnBTL (-4)) is 2.868889 and the t-table value with a 95% confidence level and using a right-sided one-sided test (significance = 0.05) at degrees of freedom (df) $50-5 = 45$ is 1.67943 from the results obtained, namely the t-count value is greater than the t-table, namely $(2.868889 > 1.67943)$ then H_0 is rejected and H_a is accepted, which means that there is an influence of indirect spending on economic growth in the previous four years. This means that the direct spending variable D (LnBTL) in the previous four years has an effect on economic growth (PE) in East Java Province in the current year (Muhamad & Rahmi, 2023).

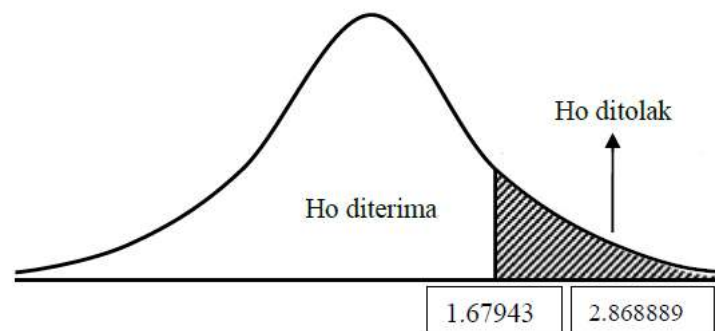


Figure 3. Partial Test Results of LnBTL against PE

Indirect spending according to theory can increase economic growth, but in this study indirect spending has a negative effect on economic growth in the short term. However, the effect of indirect spending on economic growth has a positive and significant impact in the

long term. This is in line with research conducted by Tempone et al., (Simarmata & Iskandar, 2022) entitled The Effect of Direct and Indirect Spending on Economic Growth in Siau Tagulandang Biaro Regency which states that the allocation of indirect spending budget has a positive and significant influence on economic growth even though government spending on indirect spending does not have a direct impact on the community, but with the existence of government spending on indirect spending through allocations to be budgeted for grants, social and others which automatically increases the welfare of the community (Mamuane, Kalangi, & Tolosang, 2021).

Simultaneous Test (F Test)

The calculated F value can be compared with the F table value. If the calculated F value $> F$ table, then H_0 is rejected and the independent variables simultaneously influence the dependent variable (Carolina, 2017). Conversely, if the calculated F value $< F$ table, then the independent variables simultaneously do not influence the dependent variable. Changes that occur in the dependent variable cannot be explained by changes in the independent variables, where the significance level used is 5% (Sayifullah, 2021).

From the analysis results in Table 5.13, the F-Calculation is greater than the F-Table, namely $7.073713 > 2.58$, which means that H_0 is rejected and H_a is accepted (Zusanti, Sasana, & Rusmijati, 2020). Thus, it can be concluded that direct spending and indirect spending, together (simultaneously), have a significant influence on economic growth in East Java Province in 2011-2020.

CONCLUSION

Based on the results of the data analysis and discussion that have been described, the following conclusions can be drawn:

1. Based on the data analysis, it can be concluded that the direct expenditure (BL) variable has a positive effect on the economic growth (PE) variable in East Java Province in 2011-2020.
2. Based on the data analysis, it can be concluded that the indirect spending (BTL) variable has a negative and significant effect on the economic growth (PE) variable in East Java Province in 2011-2020

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