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Analysis of the Impact of Local Government Capital Expenditure and Social Spending on Economic Growth and Poverty in Indonesia

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A B S T R A C T

The purpose of this study is to examine how local governments' capital and social expenditures affect poverty and economic growth in Indonesia between 2021 and 2025. In order to provide a more complete view of the relationship between variables, this study used a panel data regression method that may combine time dimensions (time series) and regions (cross section). The Central Statistics Agency (BPS) and the Directorate General of Financial Balance (DJPK) of the Ministry of Finance of the Republic of Indonesia provided secondary data that covered 38 Indonesian provinces. Three panel data model approaches—the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM)—were used in the analysis. The Chow, Hausman, and Lagrange Multiplier (LM) tests were used to determine which model was the best. The projected results show that neither capital spending nor social expenditure significantly affects poverty or economic growth, either partially or concurrently. Three panel data model approaches—the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM)—were used in the analysis. The Chow, Hausman, and Lagrange Multiplier (LM) tests were used to determine which model was the best. The projected results show that neither capital spending nor social expenditure significantly affects poverty or economic growth, either partially or concurrently.

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INTRODUCTION

Economic development is one of the government's main goals in improving people's welfare through increasing economic growth and reducing poverty levels. One of the instruments used by the government in achieving this goal is fiscal policy through government spending, including capital expenditure and social expenditure allocated through the Regional Revenue and Expenditure Budget (APBD). Government spending is an important instrument in increasing economic activity and regional development (Purwanti & Nurhidayati, 2025).

Local government spending has a strategic role in supporting regional development because local governments have the authority to manage resources and budgets according to the needs and characteristics of each region. Effective optimization of regional spending is able to increase economic productivity and equitable distribution of community welfare so that inter-regional development can take place more evenly (Purwanti & Nurhidayati, 2025).

Capital expenditure is a government expenditure used to acquire or increase fixed assets such as the construction of roads, bridges, educational facilities, health facilities, and other public infrastructure. Adequate infrastructure can facilitate the distribution of goods and services, increase community productivity, attract investment, and encourage increased regional economic activity (Moedy & Ling, 2024). Meanwhile, social spending is government expenditure aimed at improving people's welfare through social assistance, health services, education, and social protection programs. Social expenditure is crucial for preserving people's purchasing power and lowering poverty rates, particularly for disadvantaged populations (Fitri & Amri, 2025).

One measure of how well a nation or region is developing is its economic growth. High economic growth is expected to be able to increase people's incomes, expand job opportunities, and reduce poverty levels. However, increasing economic growth is not necessarily able to reduce poverty if development results are not distributed evenly to all levels of society (Ananda & Rizkina, 2026). Indonesia's economic condition has shown relatively stable growth in recent years. Indonesia's economic growth in 2024 is recorded at around 5.03%, supported by increased investment and government spending as an important component of Gross Domestic Product (GDP).

On the other hand, the problem of poverty is still a challenge for national development. Although the government continues to improve various social protection programs and public spending, there is still a gap in the poverty level between provinces in Indonesia. Some regions show high economic growth but have not been able to significantly reduce poverty rates (Rambe *et al*., 2024).

Previous research generally focused more on total government spending in general without separating types of expenditure such as capital expenditure and social spending. In addition, some studies only analyzed the influence of government spending on economic growth or on poverty separately, so the relationship between variables has not been analyzed simultaneously (Priambodo & Hidayat, 2024).

Based on these conditions, research on the influence of capital expenditure and social expenditure of local governments on economic growth and poverty in

38 provinces in Indonesia is important. This research is expected to provide policy recommendations related to the effectiveness of APBD allocation in increasing economic growth and reducing poverty in a sustainable manner.

Theoretically, capital expenditure and social spending have different mechanisms of influence on regional development. Capital expenditure is more oriented towards increasing production capacity and infrastructure development that can create long-term effects on economic growth. Quality infrastructure is able to improve connectivity between regions, reduce distribution costs, facilitate trade activities, and increase regional competitiveness. On the other hand, social spending functions as an instrument of equitable distribution of welfare that directly targets poor and vulnerable groups through various social assistance, education, health, and social protection programs.

The importance of studying the influence of capital expenditure and social spending is increasingly relevant considering that there is still development inequality between provinces in Indonesia. Some provinces are able to record high economic growth, but the poverty rate is still relatively large. On the other hand, there are regions that have succeeded in reducing poverty even though economic growth is not very high. This condition shows that economic growth does not always go hand in hand with poverty reduction.

RESEARCH METHODS

Public economics and regional economics methodologies are combined with quantitative research tools in this study. Because the goal of this study is to use statistically analyzed numerical data to examine the link and influence of independent variables on bound variables, quantitative research is employed. While the regional economic approach examines the impact of fiscal policy on economic circumstances in each Indonesian province, the public economic approach examines the function of local government spending in economic development (Sugiyono, 2022).

This research is explanatory, which is research that aims to explain the causal relationship between variables through hypothesis testing. Explanatory research is used to determine the influence of capital expenditure and social expenditure of local governments on economic growth and poverty levels in Indonesia (Ghozali, 2021).

Data Types and Sources

This study used panel data, a type of secondary data that combines cross-sectional and time series data. Compared to using cross section or time series data independently, panel data can provide more comprehensive information, increase the number of study observations, and provide more effective estimations.

This study's data sources came from a number of government organizations. The Central Statistics Agency (BPS) provided information on provincial poverty rates and economic growth. The Directorate General of Fiscal Balance (DJPK) of the Ministry of Finance of the Republic of Indonesia provided information on capital and social expenditures made by local governments.

Additionally, supporting information about the Regional Revenue and Expenditure Budget (APBD) and regional economic conditions from the Ministry of Home Affairs and local governments' official websites is used in this study.The data used covers 38 provinces in Indonesia with an observation period of 2021–2025.

Independent variable (X)

1. Capital Expenditure
   Capital expenditure is a local government expenditure that is used to acquire fixed assets or increase the value of existing assets, such as infrastructure development, educational facilities, and health facilities.
2. Social Shopping
   Social spending is a local government expenditure aimed at improving people's welfare through social assistance, health services, education, and social protection.

Variable dependen (Y)

1. Economic Growth
   Economic growth is measured using the percentage growth of the Gross Regional Domestic Product (GDP) on a constant price basis.
2. Poverty
   Poverty is measured based on the percentage of the number of poor people in each province in Indonesia.

Data Analysis Techniques

Using EViews or Stata software, the panel data regression approach was used to analyze the data. Because panel data analysis could combine time and geographic dimensions to generate more effective estimates, it was employed (Widarjono, 2020).

RESULTS AND DISCUSSION

1. Results of Analysis of the Influence of Capital Expenditure and Social Expenditure on Economic Growth

Chow Test Results

Table 1. Results of *the Chow* Test of Capital Expenditure and Social Expenditure on Economic Growth

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	6.685931	(37,150)	0.0000
Cross-section Chi-square	185.108700	37	0.0000

Cross-section fixed effects test equation:
Dependent Variable: PERTUMBUHANEKONOMI
Method: Panel Least Squares
Date: 06/09/26 Time: 05:46
Sample: 2021 2025
Periods included: 5
Cross-sections included: 38
Total panel (balanced) observations: 190

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.231041	0.417022	12.54380	0.0000
BELANJAMODAL	-3.64E-06	0.000294	-0.012373	0.9901
BELANJASOSIAL	-9.11E-05	0.000583	-0.156370	0.8759

R-squared	0.000322	Mean dependent var	5.213579
Adjusted R-squared	-0.010369	S.D. dependent var	3.963012
S.E. of regression	3.983506	Akaike info criterion	5.617865
Sum squared resid	2967.376	Schwarz criterion	5.669134
Log likelihood	-530.6972	Hannan-Quinn criter.	5.638634
F-statistic	0.030140	Durbin-Watson stat	0.691263
Prob(F-statistic)	0.970314		

The most suitable panel data regression model between the Common Effect Model (CEM) and the Fixed Effect Model (FEM) for examining the impact of capital expenditure and local government social expenditure on economic growth in Indonesia for the years 2021–2025 was found using the Chow test. According to the test findings, the probability value was 0.0000, the degree of freedom was (37; 150), and the cross-section F value was 6.685931. Furthermore, a probability of 0.0000 and a Cross-section Chi-square value of 185.108700 were found.

H_0 is rejected and H_1 is accepted because the probability values of Cross-section F and Cross-section Chi-square are below the significance level of 5% (0.05). Therefore, it can be said that the Common Effect Model (CEM) is less suitable than the Fixed Effect Model (FEM). These findings demonstrate that the relationship between capital investment, social expenditures, and economic growth varies significantly throughout Indonesian provinces, necessitating the inclusion of each province's unique effects in the research model.

Based on the estimated output of the Chow test equation, a constant value (C) of 5.231041 with a probability value of 0.0000 is obtained, which shows that if the variables of capital expenditure and social expenditure are considered constant, then the average economic growth of provinces in Indonesia is estimated at 5.23 percent. The value of this constant is statistically significant at a significance level of 5%.

The Capital Expenditure variable has a coefficient of -3.64E-06 with a t-statistical value of -0.012373 and a probability value of 0.9901. A probability value much greater than 0.05 indicates that capital expenditure does not have a significant effect on economic growth. The negative coefficient indicates that an increase in capital expenditure tends to be followed by a decrease in economic growth, but because this influence is not significant, the relationship cannot be used as a basis for drawing conclusions from the study.

Furthermore, the Social Expenditure variable has a coefficient of -9.11E-05 with a t-statistical value of -0.156370 and a probability value of 0.8759. A probability value greater than 0.05 indicates that social spending also does not have a significant effect on economic growth. The negative coefficient indicates a tendency to have an opposite relationship, but statistically this influence is not proven to be significant.

The R-squared value of 0.000322 indicates that only about 0.03% of the variation in economic growth can be explained by the variables of capital expenditure and social expenditure included in the model. Meanwhile, the Adjusted R-squared value of -0.010369 indicates that the model's ability to explain the variation in economic growth is very low. In other words, there are other factors outside the research model that are more dominant in influencing the economic growth of provinces in Indonesia during the study period

The results of the simultaneous test showed an F-statistic value of 0.030140 with a Prob(F-statistic) value of 0.970314. Because the probability value is greater than 0.05, it can be concluded that together the variables of capital expenditure and social expenditure do not have a significant effect on economic growth. This

indicates that these two variables have not been able to explain the changes in provincial economic growth in Indonesia during the 2021–2025 period.

Overall, the results of Chow's test show that the Fixed Effect Model (FEM) model is the most suitable model compared to the Common Effect Model because it is able to capture differences in characteristics between provinces. However, the results of the initial estimates show that both capital expenditure and social expenditure have not had a significant influence on economic growth. This condition indicates that regional economic growth is not only influenced by the amount of government spending, but also influenced by various other factors such as private investment, quality of human resources, labor productivity, community consumption levels, and economic conditions of each region.

Hausman *Test Results*

Table 2. Results of *the Hausman* Test of Capital Expenditure and Social Expenditure on Economic Growth

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.157561	2	0.9242

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
BELANJAMODAL	0.000181	0.000107	0.000000	0.7675
BELANJASOSIAL	-0.000168	-0.000240	0.000000	0.9194

The most suitable panel data regression model between the Fixed Effect Model (FEM) and the Random Effect Model (REM) for examining the impact of Capital Expenditure (BM) and Social Expenditure (BS) on Economic Growth (PE) in 38 Indonesian provinces for the years 2021–2025 was identified using the Hausman test. This model was chosen in order to determine whether each province's unique effects were connected with the study's independent variables.

Hausman's test results yielded a Chi-Square Statistic value of 0.157561 with a degree of freedom (d.f.) of 2 and a probability value (Prob.) of 0.9242. H_0 is accepted and H_1 is rejected because the probability value exceeds the 5% significance level (0.9242 > 0.05). Therefore, it can be said that the Fixed Effect Model (FEM) and Random Effect Model (REM) estimates do not significantly differ from one another. As a result, the Random Effect Model (REM) was determined to be the best model for this investigation.

These results show that the individual effects of each province do not correlate with the independent variables used, namely capital expenditure and social spending. In other words, variation in characteristics between provinces can be considered as part of a random component, so the use of REM is considered more efficient than FEM.

The results of the comparison of the coefficients between the Fixed Effect and Random Effect models showed that the Capital Expenditure (BM) variable

had a coefficient of 0.000181 in the FEM model and 0.000107 in the REM model. The difference in variance (Var (Diff.)) was 0.000000 with a probability value of 0.7675. Because the probability value is greater than 0.05, there is no significant difference between the capital expenditure coefficient in the two models. This indicates that the choice of FEM and REM does not provide a significant difference in estimation of the effect of capital expenditure on economic growth.

Additionally, the Social Expenditure (BS) variable has a probability of 0.9194, a Var(Diff.) value of 0.000000, and a coefficient of -0.000168 in the FEM model and -0.000240 in the REM model. The calculated social spending coefficient in the FEM and REM models does not differ significantly when the probability value is significantly higher than 0.05. As a result, both estimate models show a very constant relationship between social spending and economic development.

Overall, the Hausman Test results indicate that the Random Effect Model (REM) is the best model for studying how local governments' capital and social expenditures affect Indonesia's economic growth between 2021 and 2025. The Hausman probability value of 0.9242, which shows that the effects of particular provinces do not correlate with independent variables, is the basis for the choice of REM. As a result, the REM model can be used for additional analysis to produce more accurate estimates and satisfy the statistical presumptions needed for panel data analysis.

Hussle Uzi *LaGrange Multiplayer*

Table 3. Results of the *Multiplayer Lagrange Test* Capital Expenditure and Social Expenditure on Economic Growth

Lagrange Multiplier Tests for Random Effects
Null hypotheses: No effects
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	105.6438 (0.0000)	0.230290 (0.6313)	105.8741 (0.0000)
Honda	10.27832 (0.0000)	0.479885 (0.3157)	7.607199 (0.0000)
King-Wu	10.27832 (0.0000)	0.479885 (0.3157)	3.666283 (0.0001)
Standardized Honda	10.74085 (0.0000)	0.883187 (0.1886)	3.772305 (0.0001)
Standardized King-Wu	10.74085 (0.0000)	0.883187 (0.1886)	1.121418 (0.1311)
Gourieroux, et al.	--	--	105.8741 (0.0000)

When analyzing panel data, the Lagrange Multiplier (LM) test is used to choose between the Random Effect Model (REM) and the Common Effect Model (CEM). The Common Effect model is better suitable because the test's zero (H_0) hypothesis claims that there are no individual effects (random effects) in the data. However, as each cross-section unit has considerable individual effects, the Random Effect model is more appropriate if the zero hypothesis is rejected.

The Breusch-Pagan approach yielded a statistical value of 105.6438 for cross-section effects with a probability value of 0.0000 based on the Lagrange Multiplier Test for Random Effects. Furthermore, a statistical value of 105.8741 with a probability of 0.0000 was achieved in the combination test (both). The null hypothesis is rejected since the probability value is less than the 5% significance level (0.0000 < 0.05). These findings demonstrate that the Random Effect model is more appropriate than the Common Effect Model since there are notable individual effects between provinces.

Numerous other test techniques supported these findings. The cross-section effect in the Honda Test had a statistical value of 10.27832 with a probability of 0.0000, while the time effect had a statistical value of 0.479885 with a probability of 0.3157. A significant interprovincial individual effect is indicated by a cross-section probability value less than 0.05, although the time effect is minor due to a probability greater than 0.05.

Furthermore, the King-Wu Test showed a statistical value of 10.27832 for cross-section with a probability of 0.0000, while the time effect had a statistical value of 0.479885 with a probability of 0.3157. In the combined test (both), a statistical value of 3.666283 with a probability of 0.0001 was obtained. These results again confirm the existence of significant interprovincial individual effects in the model.

In the Honda Standardized Test, a statistical value of 10.74085 was obtained for the cross-section with a probability of 0.0000, while the time effect had a statistical value of 0.883187 with a probability of 0.1886. The same result was also seen in the King-Wu Standardized Test, where the statistical value of the cross-section was 10.74085 with a probability of 0.0000, while the time effect had a probability of 0.1886. The very small cross-section probability value shows that the existence of individual effects between provinces is very significant in the research model.

In addition, Gourieroux et al.'s method yielded a statistical value of 105.8741 with a probability of 0.0000 on both tests, further strengthening the decision to reject the null hypothesis and accept the existence of random effects in the panel data.

Overall, the results of the Lagrange Multiplier Test show that almost all test methods give a probability value below 0.05 for the cross-section effect, while the probability for the time effect is above 0.05. This indicates that the variation that occurs is more due to differences in characteristics between provinces than differences between times during the 2021–2025 research period.

Analysis of Hypothesis T-Test Results

The capital expenditure variable has a probability and an t-Statistic value of 0.378. (significance) of 0.7053 (>0.05), it is concluded that the economic growth variable is not significantly impacted by the capital expenditure variable. The social spending variable has a probability and a t-statistic value of -0.389. (significance) of 0.6972 (>0.05), it can be concluded that the economic growth variable is not significantly impacted by the social spending variable.

Regression Equation Analysis

Economic Growth= 5.11747926697+0.00010749043445 Capital Expenditure - 0.000239590104938 Social Expenditure + [Cx=R]

The constant value obtained is 5.11747926697, so it means that if the independent variable increases by one unit on average, then the dependent variable will also increase by 5.11747926697.

The value of the regression coefficient of the capital expenditure variable has a positive value (+) of 0.00010749043445, this shows that every increase in capital expenditure by 1 unit will increase economic growth by 0.00010749043445.

The value of the regression coefficient of the variable capital expenditure has a negative value (-) of 0.000239590104938, this shows that every increase in capital expenditure by 1 unit will reduce economic growth by 0.000239590104938.

Analysis of F Test Results (Simultaneous)

The results of the simultaneous test (F test) showed an F-statistic value of 0.111292 with a prob (F-statistic) of 0.894736 (>0.05), so it was drawn that the variables of capital expenditure and social spending simultaneously had no effect on economic growth in the data of 38 provinces for the 2021-2025 period in the Random Effect model.

Analysis of Determination Coefficient Test Results

Based on the estimated results, the Adjusted Rsquare value is -0.009494. This shows that the variables of capital expenditure and social expenditure have a very low ability to explain variations in economic growth, so that most of the variations in economic growth are influenced by other factors outside the research model.

1. Results of Analysis of the Influence of Capital Expenditure and Social Expenditure on Poverty

Chow Test Results

Table 4. Results of *the Chow Test* of Capital Expenditure and Social Expenditure on Poverty

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	5.180214	(37,150)	0.0000
Cross-section Chi-square	156.408763	37	0.0000

Cross-section fixed effects test equation:
Dependent Variable: KEMISKINAN
Method: Panel Least Squares
Date: 06/09/26 Time: 07:07
Sample: 2021 2025
Periods included: 5
Cross-sections included: 38
Total panel (balanced) observations: 190

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.60633	0.647156	16.38915	0.0000
BELANJAMODAL	-0.000536	0.000457	-1.173521	0.2421
BELANJASOSIAL	-0.000284	0.000904	-0.314362	0.7536

R-squared	0.023168	Mean dependent var	9.915684
Adjusted R-squared	0.012721	S.D. dependent var	6.221502
S.E. of regression	6.181804	Akaike info criterion	6.496761
Sum squared resid	7146.150	Schwarz criterion	6.548030
Log likelihood	-614.1923	Hannan-Quinn criter.	6.517529
F-statistic	2.217591	Durbin-Watson stat	0.482386
Prob(F-statistic)	0.111727		

The purpose of this study was to assess the impact of local government social and capital spending on poverty in Indonesia between 2021 and 2025. Based on the findings of the Chow (Redundant Fixed Effects Tests) test, the panel data regression method with the Fixed Effect Model approach was chosen for the investigation. With a probability value (Prob.) of 0.0000 and a statistical value of 5.180214 for Cross-section F, the Fixed Effect model is more appropriate than the Common Effect Model because it may capture considerable regional changes in attributes (as many as 38 cross-sections).

Based on the results of the *estimated test equation*, the variable of capital expenditure (Capital Expenditure) has a negative coefficient of -0.000536, but the effect is not statistically significant (p-value = 0.2421 > 0.05). This indicates that the allocation of capital expenditure of local governments has not had a significant impact on the poverty level in Indonesia in the period studied. Meanwhile, the variable of social expenditure (Social Expenditure) shows a coefficient of -0.000284, which is also not statistically significant (p-value = 0.7536 > 0.05). Thus, social expenditure does not have a significant impact on the reduction of poverty rates in the period and region studied.

Hausman *Test Results*

Table 5. Results of *the Hausman Test* of Capital Expenditure and Social Expenditure on Poverty

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	4.088884	2	0.1295

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
BELANJAMODAL	0.000874	0.000000	0.000000	0.0459
BELANJASOSIAL	0.001119	-0.000615	0.000002	0.1576

When analyzing panel data, the Hausman test is used to choose the best estimation model between the Random Effect Model (REM) and the Fixed Effect Model (FEM). A Chi-Square Statistic value of 4.088884 and a probability value (Prob.) of 0.1295 were found based on the test findings (Correlated Random Effects-Hausman Test). The statistical conclusion is that Ha is accepted since the probability value is higher than the significance level of 5% (0.1295 > 0.05). This shows that there are no specific error differences between models, so the *Random Effect Model* (REM) model is considered to be more appropriate and efficient to use in this analysis compared to *the Fixed Effect Model* (FEM). This condition indicates that the individual characteristics or effects between regions in the model do not correlate with independent variables.

The *cross-section random effects test comparisons* for each variable showed that:

1. Capital Expenditure Variable (Capital Expenditure): Its coefficient is 0.000000 in the Random model and 0.000874 in the Fixed model, with a probability value of 0.0459 in the coefficient difference. This suggests

that changes in the estimation procedure below the significance level of 5% have a significant impact on the variation in the coefficient of the capital expenditure variable.

2. The Social Expenditure Variable (Social Shopping) has a probability value of 0.1576, a Fixed coefficient of 0.001119, and a Random coefficient of -0.000615. A probability value greater than 0.05 indicates that the difference in coefficient between models is not statistically significant for the social spending variable.

In general, although there is a variation in sensitivity at the level of individual variables, the results of Hausman's simultaneous testing through *the global Chi-Square* value confirm that *the Random Effect Model* (REM) is the most precise, efficient, and objective model to explain the influence of capital expenditure and social expenditure on regional economic growth in Indonesia in this study period.

ussle Uzi *LaGrange Multiplayer*

Table 6. Results of the Lagrange Test of Capital Expenditure and Social Expenditure on Poverty

Lagrange Multiplier Tests for Random Effects
Null hypotheses: No effects
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	71.11503 (0.0000)	0.281061 (0.5960)	71.39609 (0.0000)
Honda	8.432973 (0.0000)	-0.530152 (0.7020)	5.588138 (0.0000)
King-Wu	8.432973 (0.0000)	-0.530152 (0.7020)	2.130391 (0.0166)
Standardized Honda	8.855787 (0.0000)	-0.242274 (0.5957)	1.542859 (0.0614)
Standardized King-Wu	8.855787 (0.0000)	-0.242274 (0.5957)	-0.613511 (0.7302)
Gourieroux, et al.	--	--	71.11503 (0.0000)

When analyzing panel data, the Lagrange Multiplier (LM) test is used to assess which model—the Random Effect Model (REM) or the Common Effect Model (CEM)—is better. There is no influence of individual variation (random effect) in the panel data, according to the test's zero (H0) hypothesis. The model using a random effect method is more appropriate if the zero hypothesis is rejected (probability value < 0.05).

The Breusch-Pagan method produced a statistical value of 71.11503 for the cross-section dimension with a probability value (p-value) of 0.0000 based on the test results in the table. Likewise, the sum of the two values produced a probability value of 0.0000 and a statistical value of 71.39609. The zero hypothesis is severely rejected because the probability value is much below the significance

level of 5%. This indicates that the regression model must account for individual impacts or random characteristics between areas.

Other testing techniques on the cross-section dimension also consistently support these conclusions, specifically:

1. The Honda test yields a significant probability value of 0.0000 and a statistical value of 8.432973.
2. The King-Wu test yields the same high degree of significance (p-value = 0.0000) and statistical value of 8.432973.

Honda Standardized and King-Wu Standardized Tests: Both produced a statistical value of 8.855787 with a probability value of 0.0000, which further strengthens the evidence for the existence of a real individual effect.

Meanwhile, the probability value of *the time effect* for all test methods (such as *Breusch-Pagan* with p-value = 0.5960 and *Honda* and *King-Wu* with p-value = 0.7020) was well above 0.05. This indicates that there was no significant *time effect* in this panel model, so the data variation was more predominantly influenced by spatial or cross-section characteristics.

The Lagrange Multiplier test results generally indicate that the Random Effect Model (REM) is far more practical and valid than the Common Effect Model (CEM) for explaining the impact of capital expenditure and social expenditure on regional economic growth in Indonesia. It has been demonstrated that the structure of observation data during the period 2021–2025 is significantly influenced by the specific effects of characteristics between regions.

DISCUSSION

The Influence of Capital Expenditure and Social Spending on Economic Growth

It was discovered that neither capital spending nor partial social expenditure had a significant impact on economic growth in 38 Indonesian provinces for the years 2021–2025 based on the findings of the panel data regression estimation using the Random Effect Model (REM). Although the t-statistical value was only 0.378 with a probability of 0.7053 (> 0.05), the capital expenditure variable exhibited a positive regression coefficient of 0.000107. This demonstrates that over the observation period, local governments' increased distribution of capital expenditures has not been able to significantly boost immediate regional economic growth.These findings are not in line with the results of Serly et al.'s research focusing on Bitung City, where it was found that capital expenditure directly has a positive and significant effect on economic growth. This inconsistency is also contrary to Harrod-Domar's economic growth theory which states that capital formation is a key factor in stimulating the regional economy through the provision of public infrastructure that facilitates the distribution of goods and services. However, the results of this study are in line with the findings of Kumala (2018) and Moedy and Ling (2024) which indicate that the acceleration of government spending often experiences a time lag or is inelastic to macroeconomic growth if the budget absorption capacity at the regional level is still low and has not reached an optimal economic scale.

The social expenditure variable, on the other hand, surpasses the 0.05 barrier with a negative regression coefficient of -0.000239, a t-statistic of -0.389,

and a significance level of 0.6972. These results show that social spending has no statistically significant effect on Indonesian provinces' economic growth. This outcome is in line with macroeconomic theory, which sees social spending mainly as a fiscal tool for redistributing income and preserving vulnerable groups' purchasing power rather than immediately boosting real sector productivity. This finding is supported by Priambodo and Hidayat (2024), who explained that individual secondary expenditure components generally have a relatively weak effect on GDP indicators. However, the result differs from the argument presented by Purwanti and Nurhidayati (2025), who emphasized that well-structured public expenditure, particularly effectively allocated social protection funds, can promote inclusive economic development by strengthening human capital over the long term. Furthermore, the simultaneous F-test produces a probability value of 0.894736, which is greater than 0.05, indicating that capital expenditure and social expenditure jointly have no statistically significant effect on economic growth. The Adjusted R-squared value of -0.009494 further demonstrates that the explanatory power of these two government expenditure variables is extremely limited. Consequently, differences in economic growth across the 38 provinces are likely to be more strongly associated with factors beyond the model, including fluctuations in private investment and productivity within the real sector.

The Effect of Capital Expenditure and Social Expenditure on Poverty

The second model's test findings demonstrated that, between 2021 and 2025, local governments' social and capital expenditures had no discernible impact on Indonesia's poverty rate. The variable capital expenditure had a t-statistical value of 0.001 with a probability of 0.9992 (> 0.05) according to the Random Effect Model (REM) estimate results. This conclusion contradicts the findings of a study by Serly et al., which shown that capital expenditures significantly reduce poverty by raising the standard of public services. This discrepancy is thought to arise because the study's scope encompasses a national scale with diverse regional characteristics. At the macro level, infrastructure projects financed by capital expenditures are frequently capital-intensive rather than labor-intensive, meaning that local workers below the poverty line are not affected by the multiplier effect. However, the findings of this study are consistent with the reality examined by Rambe et al. (2024), which claims that pro-poor spending efficiency remains uneven throughout Indonesian provinces, so that the size of the physical budget does not guarantee an equitable reduction in poverty if it is not directed to the fundamental sector.

On the other side, the social spending variable produced a negative coefficient of -0.000615 with a t-statistical value of -0.632 and a probability of 0.5281 (> 0.05). Although the direction of the relationship is in accordance with the theory that increasing social spending tends to reduce poverty rates, the effect is proven to be statistically insignificant. The finding of insignificance of social spending is in line with the argument of Rany (2021) who found that temporary and consumptive increases in social assistance funds often fail to reduce structural poverty rates if they are not accompanied by targeting accuracy and sustainable economic empowerment programs. However, the results of this

study are not in line with the findings of Fitri and Amri (2025) using the analysis of Dynamic GMM and Jolianis (2014) which empirically prove that the allocation of government expenditure for the social protection sector and welfare guarantee transfer funds have a significant contribution in reducing poverty rates at the regional level. Simultaneously, the Prob(F-statistic) value of 0.787342 (> 0.05) and the Adjusted R-squared of -0.008114 provide a strong indication that the alleviation of macro poverty in Indonesia cannot be partially solved by simply increasing the nominal regional budget ceiling, but requires synergy in structuring the quality of implementation, integrating valid poverty data, and improving other fundamental supporting factors.

CONCLUSION

Through a regression analysis of panel data on 38 provinces in Indonesia for the period 2021–2025 using the *Random Effect Model* (REM) approach, this study concludes that the allocation of capital expenditure and social expenditure of local governments, either partially or simultaneously, does not have a significant influence on economic growth or macro poverty alleviation. These results confirm that an increase in the quantity or size of the fiscal budget in the regions does not necessarily guarantee inclusive development outcomes. This is influenced by obstacles to budget effectiveness, the lack of accuracy of program targets, and the large dominance of external fundamental factors outside government spending, such as the dynamics of private investment, the quality of human resources, and the productivity of regional workforce. Therefore, regional fiscal policy reform in the future must be shifted from being originally only oriented to the amount of budget absorption (*ceiling oriented*) to focusing on quality, *pro-poor spending*, and real impact on improving people's welfare in a sustainable manner.

ADVICE

The implementation of fiscal policy in the future is recommended to immediately shift the budgeting orientation from the original one that was just pursuing nominal absorption targets (*ceiling oriented*) to focusing on the quality and real impact of spending in the field (*outcome oriented*). The local and central governments need to design an allocation scheme that requires capital expenditure to be directed to labor-intensive secondary basic infrastructure projects to absorb local labor and provide a direct *multiplier effect* on poor household incomes. Meanwhile, in the social sector, local governments must periodically improve the validity of poverty data to avoid the risk of targeting *accuracy*, as well as change the assistance formula from cash-consumptive to productive assistance programs that are integrated with vocational training and assistance for MSMEs. Finally, for future researchers, it is recommended to expand the scope of research by adding other strategic variables such as the Human Development Index (HDI) or the level of bureaucratic efficiency, and combining them with a *mixed-methods* approach in order to map the sociological impact of the budget on vulnerable groups more completely.

REFERENCES

Ananda, R. R., & Rizkina, M. (2026). The effect of local government expenditure and economic growth on the poverty rate in North Sumatra Province. Jurnal Akuntansi, Manajemen dan Bisnis Digital. Universitas Dehasen Bengkulu.

Badan Pusat Statistik. (2022). Produk Domestik Regional Bruto Provinsi-Provinsi di Indonesia Menurut Lapangan Usaha 2017–2021. Jakarta: BPS

Badan Pusat Statistik. (2023). Produk Domestik Regional Bruto Provinsi-Provinsi di Indonesia Menurut Lapangan Usaha 2018–2022. Jakarta: BPS.

Badan Pusat Statistik. (2024). Produk Domestik Regional Bruto Provinsi-Provinsi di Indonesia Menurut Lapangan Usaha 2019–2023. Jakarta: BPS.

Badan Pusat Statistik. (2025). Produk Domestik Regional Bruto Provinsi-Provinsi di Indonesia Menurut Lapangan Usaha 2020–2024. Jakarta: BPS.

Badan Pusat Statistik. (2026). Produk Domestik Regional Bruto Provinsi-Provinsi di Indonesia Menurut Lapangan Usaha 2021–2025. Jakarta: BPS.

Badan Pusat Statistik. (2022). Profil Kemiskinan di Indonesia 2021. Jakarta: Badan Pusat Statistik.

Badan Pusat Statistik. (2023). Profil Kemiskinan di Indonesia 2022. Jakarta: Badan Pusat Statistik.

Badan Pusat Statistik. (2024). Profil Kemiskinan di Indonesia 2023. Jakarta: Badan Pusat Statistik.

Badan Pusat Statistik. (2025). Profil Kemiskinan di Indonesia 2024. Jakarta: Badan Pusat Statistik.

Badan Pusat Statistik. (2026). Profil Kemiskinan di Indonesia 2025. Jakarta: Badan Pusat Statistik.

Direktorat Jenderal Perimbangan Keuangan. (2022). Data Realisasi APBD Provinsi dan Kabupaten/Kota Tahun Anggaran 2021. Jakarta: Kementerian Keuangan Republik Indonesia.

Direktorat Jenderal Perimbangan Keuangan. (2023). Data Realisasi APBD Provinsi dan Kabupaten/Kota Tahun Anggaran 2022. Jakarta: Kementerian Keuangan Republik Indonesia.

Direktorat Jenderal Perimbangan Keuangan. (2024). Data Realisasi APBD Provinsi dan Kabupaten/Kota Tahun Anggaran 2023. Jakarta: Kementerian Keuangan Republik Indonesia.

Direktorat Jenderal Perimbangan Keuangan. (2025). Data Realisasi APBD Provinsi dan Kabupaten/Kota Tahun Anggaran 2024. Jakarta: Kementerian Keuangan Republik Indonesia.

Direktorat Jenderal Perimbangan Keuangan. (2026). Data Realisasi APBD Provinsi dan Kabupaten/Kota Tahun Anggaran 2025. Jakarta: Kementerian Keuangan Republik Indonesia.

Fitri, C. D., & Amri, K. (2025). Does government spending reduce poverty in local economies? A dynamic GMM analysis. Jurnal Ekonomi Pembangunan, 23(1), 61–70. https://doi.org/10.29259/jep.v23i1.23360

Ghozali, I. (2021). Aplikasi analisis multivariate dengan program IBM SPSS dan EViews. Semarang: Badan Penerbit Universitas Diponegoro.

Jolianis. (2014). Pengaruh Pengeluaran Pemerintah Sektor Pendidikan, Kesehatan dan Perlindungan Sosial Terhadap Tingkat Kemiskinan di

Provinsi Sumatera Barat. Jurnal Ekonomi dan Pembangunan, 22(2), 145–156.
Kumala, R. (2018). Analisis Time Lag Dampak Belanja Modal Pemerintah Daerah Terhadap Pertumbuhan Ekonomi Regional. Jurnal Keuangan dan Perbankan, 15(3), 210–223.
Moedy, B. K., & Ling, M. (2024). Dampak akselerasi belanja terhadap pertumbuhan ekonomi. Indonesian Treasury Review: Jurnal Perbendaharaan, Keuangan Negara dan Kebijakan Publik, 9(2), 125–140. https://itrev.kemenkeu.go.id/index.php/ITRev/article/view/884
Pasa, S. R., dkk. (2024). Pengaruh Belanja Modal dan Belanja Sosial Terhadap Pertumbuhan Ekonomi dan Kemiskinan di Kota Bitung. Jurnal Pembangunan Ekonomi dan Keuangan Daerah, 25(1), 45–60.
Priambodo, A. P., & Hidayat, N. W. (2024). Pengaruh PAD, DAU, DBH, dan belanja modal terhadap PDRB dan kemiskinan di Kabupaten Sidoarjo. Jurnal Manajemen Keuangan Publik.
Purwanti, D., & Nurhidayati. (2025). The influence of local government spending and village funds on inclusive economic development in Indonesia. Indonesian Treasury Review: Jurnal Perbendaharaan, Keuangan Negara dan Kebijakan Publik, 10(1), 80–93. https://doi.org/10.33105/itrev.v10i1.843
Purwanti, S., & Nurhidayati, E. (2025). Optimalisasi Pengeluaran Publik dan Dampaknya Terhadap Penguatan Human Capital di Indonesia. Jurnal Kebijakan Fiskal dan Makro, 10(2), 134–149.
Rambe, R. A., Anitasari, M., & Febriani, R. E. (2024). Local government pro-poor growth spending efficiency and their determinants in Indonesia. Educational Administration: Theory and Practice.
Sugiyono. (2022). Metode penelitian kuantitatif, kualitatif, dan R&D. Bandung: Alfabeta.
Widarjono, A. (2020). Ekonometrika: Pengantar dan aplikasinya disertai panduan EViews. Yogyakarta: UPP STIM YKPN.