

THE INFLUENCE OF REGIONAL TRANSFER FUNDS AND LOCAL OWN-SOURCE REVENUE ON POVERTY RATES IN CENTRAL JAVA PROVINCE 2021-2024

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Abstract

Poverty remains a major challenge for development in Indonesia. One such region is Central Java Province, which continues to have a high poverty rate. This study aims to analyze the impact of regional transfer funds and local own-source revenue on poverty rates in Central Java Province for the 2021–2024 period. The independent variables used in this study are the General Allocation Fund, the Special Allocation Fund, and Local Original Revenue. Additionally, control variables include the Gross Regional Domestic Product (GRDP), with poverty rates serving as the dependent variable. The analysis method employed is panel data regression. The results of this study indicate that the General Allocation Fund, the Special Allocation Fund, and the Gross Domestic Regional Product (GDRP) have a negative and significant effect on the poverty rate. Meanwhile, Local Own-Source Revenue has a positive and significant effect on the poverty rate. These findings underscore the importance of optimizing the management of transfer funds and enhancing the effectiveness of Local Own-Source Revenue utilization to support inclusive and sustainable development in poverty alleviation efforts in Central Java Province. The results of this study are expected to assist the government in formulating strategic development plans that can eradicate poverty and improve community welfare.

Keywords: General Allocation Fund, Special Allocation Fund, Local Own-Source Revenue, Poverty Rate, GDRP.

INTRODUCTION

Poverty remains a major challenge to economic development in Indonesia. Poverty is a multidimensional issue that encompasses limited access to income, education, healthcare, and opportunities to participate in social and economic activities. Therefore, the government must play a role, as the state bears the responsibility to address poverty and optimally develop the capabilities of its people. One of the efforts the government can undertake to address poverty is through the distribution of transfer funds from the central government to local governments, such as the General Allocation Fund and the Special Allocation Fund. Additionally, local governments can contribute by increasing their Local Own-Source Revenue to help eradicate poverty. Indonesia, comprising many provinces, has varying levels of poverty. Central Java is one of the regions with a high poverty rate on the island of Java.

Table 1. Percentage of the Poor Population by Province on the Island of Java, 2021–2024

Province	Percentage of the Poor Population (%)				
	2021	2022	2023	2024	Average
DKI Jakarta	4,72	4,69	4,44	4,30	4,53
Jawa Barat	8,40	8,06	7,62	7,46	7,88
Jawa Tengah	11,79	10,93	10,77	10,47	10,99
DI Yogyakarta	12,80	11,34	11,04	10,83	11,50
Jawa Timur	11,40	10,38	10,35	9,79	10,48

Banten	6,66	6,16	6,17	5,84	6,20
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Source : Badan Pusat Statistik, 2024

Based on Table 1, Central Java Province has the second-highest poverty rate on the island of Java. This demonstrates the need for government efforts to address poverty in Central Java Province. Furthermore, Central Java Province is among the provinces receiving the largest transfer funds from the central and regional governments, with a relatively high Local Own-Source Revenue (PAD). According to data from the Directorate General of Taxes and Finance (DJPK) at the Ministry of Finance, Central Java Province received 8.3 billion rupiah in transfer funds from the central government in 2023. Meanwhile, its PAD in 2024 reached 17.6 billion rupiah.

This indicates that the large fiscal inflows to the regions, both from central transfers and local revenue, have not been able to significantly and evenly reduce poverty in Central Java Province. Previous studies have analyzed various factors influencing poverty.

Bachtiar & Sa'adah (2025) research examined the influence of PAD, DAU, and village funds on poverty levels in Maluku Province. Kurniawati et al. (2024) examined the influence of DAU and DAK on poverty levels in Aceh Province. Furthermore, Sihite et al. (2025) examined the influence of DAU, DAK, and GRDP on poverty levels in North Sumatra Province.

Unlike previous research, this study presents a novelty by focusing on a different location, namely Central Java Province. Furthermore, the period used is also novel. This study aims to analyze the influence of General Allocation Funds (DAU), Special Allocation Funds (DAK), and Local Own-Source Revenue (PAD) on poverty levels in 35 regencies/cities in Central Java Province for the 2021–2024 period. This research is expected to provide consideration and evaluation material for the Central Java Provincial Government in formulating regional financial management policies.

LITERATURE REVIEW AND HYPOTHESIS FORMULATION

This research is based on Sen (1999) Capability Approach theory, which states that poverty is not only seen from a lack of income but is seen from an individual's ability to manage their resources to achieve the desired living conditions. In the context of fiscal decentralization, one of the government's efforts to address the problem of poverty is through the distribution of budgets for development, both from the central government and budgets obtained from the regions themselves. Effective fiscal decentralization is one that is able to increase the efficiency of resource allocation, strengthen the accountability of regional governments to the community, and increase economic growth (Santika et al., 2025).

Furthermore, Pigou (1920) theory of public goods procurement explains that public welfare will improve when the government can increase its budget allocation for the provision of public goods and services. Therefore, regional transfers and local revenues can be a way to alleviate poverty through various development projects and the provision of public goods.

Sihite et al., (2025) found that the General Allocation Fund (DAU) has a significant negative effect on poverty rates. Through the DAU, local governments are expected to increase public spending in sectors directly related to public welfare, such as education, health, and basic infrastructure.

H1: General Allocation Funds have a negative effect on poverty rates in Central Java Province for the 2021–2024 period.

Conversely, Triyulianto et al. (2024) found that Special Allocation Funds (DAK) also have a negative effect on poverty rates. DAK allocations focused on priority sectors can contribute to improving the quality of life for the community and reducing poverty rates.

H2: The Special Allocation Fund (DAK) has a negative effect on poverty rates in Central Java Province for the 2021–2024 period.

Furthermore, Nany et al. (2022) found that Local Own-Source Revenue (PAD) has a negative effect on poverty rates. High PAD indicates that the region possesses strong economic capacity.

Through this strong economic capacity, community welfare can be realized, and poverty will decrease.

H3: Local Own-Source Revenue has a negative effect on poverty rates in Central Java Province for the 2021–2024.

Gross Domestic Regional Product (GDRP), used as a control variable, reflects economic growth in a region, where theoretically PDRB has a negative effect on poverty rates.

H4: Gross Domestik Regional Product has a negative effect on poverty rates in Central Java Province for the 2021-2024.

RESEARCH METHODS

This study employs a quantitative approach using associative statistical techniques, in which the researcher will analyze the data using statistical methods and interpret the results to explain the findings of the data analysis. This technique elucidates the relationship between the dependent variable and the independent variables.

This study was conducted in Central Java Province, with regencies and cities serving as the units of analysis. The study utilized secondary data in the form of panel data, which combines cross-sectional data (from 35 regencies and cities in Central Java Province) and time-series data (2021–2024) obtained from the Directorate General of Fiscal Balance (DJPK) and the Central Statistics Agency (BPS).

The data analysis technique used in this study is multiple linear regression analysis, conducted using the Eviews 13 software. Estimations were performed using three approaches: the Common Effects Model (CEM), the Fixed Effects Model (FEM), and the Random Effects Model (REM). The most appropriate model was selected based on the Chow test, the Hausman test, and the Lagrange multiplier test.

Several classical assumption tests were also conducted, such as tests for multicollinearity and heteroscedasticity. In addition, a normality test was performed to determine whether the data were normally distributed. Once the model passes the classical assumption tests, further analysis can be performed by calculating the coefficient of determination (R^2) and conducting hypothesis tests such as the F-test and t-test. The regression model in this study can be formulated as follows:

$$TK_{it} = \alpha + \beta_1 DAU_{it} + \beta_2 DAK_{it} + \beta_3 PAD_{it} + \beta_4 PDRB_{it} + e_{it}$$

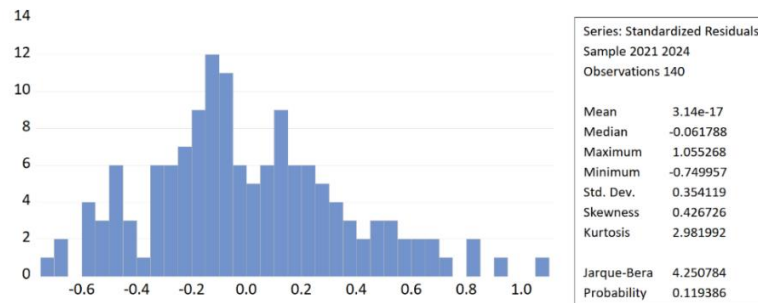
Description:

TK	= Poverty Rate
DAU	= General Allocation Fund
DAK	= Special Allocation Fund
PAD	= Local Own-Source Revenue
PDRB	= Gross Regional Domestic Product
α	= Constanta
$\beta_1 \beta_2 \beta_3 \beta_4$	= Regression Coefficient
e	= error term
i	= Regencies/Cities in Central Java Province
t	= 2021-2024

This model is used to determine the extent to which independent variables influence the dependent variable, both individually and collectively, during the study period.

RESULTS AND DISCUSSION

Normality Test



Source : Processed secondary data

Figure 1. Result of Normality Test

Based on Figure 1, it can be seen that the Jarque-Bera probability value is 0.119386 (>0.05); therefore, it can be concluded that the data in this study are normally distributed.

Multicollinearity Test

Table 2. Results of the Multicollinearity Test

	DAU	DAK	PAD	PDRB
DAU	1,0000	0,7904	0,3646	0,4511
DAK	0,7904	1,0000	0,1967	0,2917
PAD	0,3646	0,1967	1,0000	0,8731
PDRB	0,4511	0,2917	0,8731	1,0000

Source : Processed secondary data

Based on Table 2, the results show that the correlation coefficients between the independent variables are mostly below the criterion threshold (<0.85). However, the correlation between the PAD and PDRB variables is 0.8731, which exceeds the criterion threshold (>0.85). Overall, this research model remains free from multicollinearity issues despite indications of multicollinearity in the PAD and PDRB variables. However this can be ignored, Widarjono (2025) also states that if a model contains multicollinearity, it can be ignored or left unaddressed because multicollinearity only causes difficulty in obtaining estimators with small standard errors, but still produces BLUE estimators since the BLUE estimator property does not require the assumption of no correlation among variables.

Heteroscedasticity Test

Table 3. Results of the Heteroscedasticity Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0,3865	0,1698	2,2762	0,0249
DAU	-0,0004	0,0002	-1,5962	0,1136
DAK	-0,0001	9,68E-05	-1,0843	0,2808
PAD	8,96E-05	0,0001	0,5881	0,5577

PDRB	3,71E-06	4,24E-06	0,8740	0,3842
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Source : Processed secondary data

Based on Table 3, the p-values for all independent variables were greater than 0.05. Therefore, it can be concluded that the regression model in this study is free from heteroscedasticity.

Panel Data Regression Analysis

After conducting estimations using the Chow test and the Hausman test, it was determined that the most appropriate regression model for this study is the Fixed Effects Model (FEM). The following are the results of the Fixed Effects Model regression analysis:

Table 4. Panel Data Regression Estimates Using the FEM Model

Variable	Coefficient	Std.Error	t-Statistic	p-value
C	18,2011	0,8387	21,7016	0,0000
DAU	-0,0073	0,0012	-5,9075	0,0000
DAK	-0,0009	0,0004	-1,9799	0,0504
PAD	0,0025	0,0007	3,3542	0,0011
PDRB	-5,10E-05	2,09E-05	-2,4326	0,0167
R-Square				0,9886
Adjusted R-Square				0,9844
F-Statistic				231,9302
Prob (F-statistic)				0,0000
Durbin-Watson stat				2,3091

Source : Processed secondary data

Based on Table 4, the resulting regression equation is as follows:

$$\widehat{TK}_{it} = 18,2011 - 0,0073DAU_{it} - 0,0009DAK_{it} + 0,0025PAD_{it} - 5,10E - 05PDRB_{it}$$

Based on the regression model equation, the results of the analysis can be interpreted as follows:

a. General Allocation Fund (DAU)

The results of the analysis show that the regression coefficient for the DAU variable is -0,0073. This means that DAU has a negative effect on the percentage of the poor population in Central Java Province. This implies that if DAU increases by 1%, the percentage of the poor population in each regency and city within Central Java Province will decrease by 0,0073%.

b. Special Allocation Fund (DAK)

The results of the analysis show that the regression coefficient for the DAK variable is -0,0009. This means that DAK has a negative effect on the percentage of the poor population in Central Java Province. This implies that if DAK increases by 1%, the percentage of the poor population in each regency/city within Central Java Province will decrease by -0,0009%.

c. Local Own-Source Revenue (PAD)

The results of the analysis show that the regression coefficient for the PAD variable is 0,0025. This means that PAD has a positive effect on the percentage of the poor population in Central Java Province. This implies that if PAD increases by 1%, the percentage of the poor population in each regency/city within Central Java Province will increase by 0,0025%.

d. Gross Regional Domestic Product (PDRB)

The results of the analysis show that the regression coefficient for the GRDP variable is $-5,10E-05$. This means that GRDP has a negative effect on the percentage of the poor population in Central Java Province. This implies that if GRDP increases by 1%, the percentage of the poor population in each regency and city within Central Java Province will decrease by 0,000051%.

Coefficient of Determination (R^2)

Based on the estimates obtained using the Fixed Effects Model, the Adjusted R^2 value is 0.9844. This means that variations in the DAU, DAK, PAD, and PDRB variables account for 98,44% of the variation in the poverty rate, while the remaining 1,56% is explained by other variables outside the model.

F-test

Based on the estimates, the probability (F-statistic) was found to be 0.0000 (<0.05). It can be concluded that the variables DAU, DAK, PAD, and PDRB collectively influence the poverty rate.

t-test

Based on the results of the fixed-effects regression analysis in Table 4, the t-test with a significance level of 0.05 and a critical t-value of 1,978 can be interpreted as follows:

a. General Allocation Fund (DAU)

The t-statistic value is $-5,9075 > 1,978$, with a p-value of 0,0000 ($<0,05$), which means that H1 is accepted. This implies that the DAU variable has a negative effect on poverty.

b. Special Allocation Fund (DAK)

The t-statistic value is $-1,9799 > 1,978$, with a p-value of 0,0504 ($<0,05$), which means that H1 is accepted. This implies that the DAK variable has a negative effect on poverty.

c. Local Own-Source Revenue (PAD)

The t-statistic value is $3,3542 > 1,978$, with a p-value of 0,0011 ($<0,05$), which means that H1 is rejected. This indicates that the DAK variable has a positive effect on poverty.

d. Gross Regional Domestic Product (PDRB)

The t-statistic value is $-2,4326 > 1,978$, with a p-value of 0,0167 ($<0,05$), which means that H1 is accepted. This implies that the GRDP variable has a negative effect on poverty.

The variables General Allocation Fund (DAU), Special Allocation Fund (DAK), Local Own-Source Revenue (PAD), and Gross Regional Domestic Product (GRDP) collectively influence poverty levels in Central Java Province during the 2021–2024 period. The DAU variable has a negative effect on poverty levels, which is consistent with the research by Sihite et al., (2025) and Bachtiar & Sa'adah (2025) who state that DAU has a negative effect on poverty levels. This is because DAU plays a crucial role in enhancing regional fiscal capacity, thereby enabling larger allocations of funds for poverty alleviation programs and promoting equitable development across regions.

Additionally, the Special Allocation Fund (DAK) has a negative impact on poverty in Central Java Province from 2021 to 2024. This aligns with the research by Triyulianto et al., (2024), which states the same. This is because through the DAK, several programs can be implemented, such as infrastructure development and operational assistance for regions aimed at addressing poverty issues and improving community welfare.

The local own-source revenue (PAD) variable in this study has a positive effect on poverty levels in Central Java Province from 2021 to 2024. This may occur because increases in local revenue are typically derived from local taxes and fees imposed on the public thus, if the burden of local levies increases, it will actually intensify economic pressure, particularly on lower-income communities. Furthermore, the impact of fiscal indicators does not occur immediately rather, their effects take time to be felt by the public through various policies and development initiatives

(Nurdin & Dini, 2024). This aligns with the research by Hatim & Hijrasil (2024), which states that PAD has a positive effect on poverty levels in North Maluku because the increase in PAD has not yet been fully utilized effectively to reduce poverty due to North Maluku's ongoing structural challenges.

Meanwhile, the control variable Gross Domestic Regional Product (GDRP) has a negative effect on poverty rates in Central Java Province from 2021 to 2024. This aligns with the research by Mahendra & Fitanto (2024), which states that GDRP has a negative effect on poverty levels when a region experiences high economic growth, it is followed by a reduction in inequality, so poverty in that region will also decrease.

CONCLUSION

Based on this study, regarding the factors influencing poverty rates in Central Java Province during the 2021–2024 period. It can be concluded that collectively, the variables of general allocation funds (DAU), special allocation funds (DAK), local own-source revenue (PAD), and regional gross domestic product (PDRB) as control variables influence poverty levels in Central Java Province during the 2021–2024 period. Furthermore, when analyzed individually, the DAU, DAK, and GRDP variables have a negative effect on poverty levels. Meanwhile, the PAD variable has a positive effect on poverty levels.

The implications of this study are that it is expected to provide input for the government including the central government, provincial government, and regency/city governments in efforts to address regional poverty issues through the optimization of fiscal budget utilization, such as DAU, DAK, and PAD to ensure they are more effective and targeted, as well as to promote economic growth to achieve community welfare.

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