The Influence of Government Expenditure and Public Purchasing Power On Poverty in Indonesia

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Abstract

This study is motivated by the persistently high poverty rate in Indonesia despite the government's implementation of various fiscal interventions and programs aimed at strengthening household purchasing power. Poverty remains a national strategic issue as it reflects social inequality and limited public access to basic needs. The objective of this research is to analyze the influence of government expenditure and household purchasing power on the poverty level in Indonesia over a long-term period. The study employs a quantitative approach using secondary time-series data obtained from the Central Statistics Agency, and the analysis is conducted using a multiple linear regression model to examine both partial and simultaneous effects among the variables. The findings indicate that, partially, government expenditure and household purchasing power do not have a significant effect on poverty, although both variables show a negative relationship that reflects a tendency toward poverty reduction. However, simultaneously, the two variables are found to have a significant influence on poverty levels, indicating that they jointly play an important role in explaining the dynamics of poverty in Indonesia. These results suggest that a combination of fiscal policy measures and efforts to strengthen household purchasing power remains essential for reducing poverty.

Keywords: *Government Expenditure; Household Purchasing Power and Poverty.*

I. INTRODUCTION

Poverty is a persistent social and economic issue that remains a central concern in national development, particularly for developing countries such as Indonesia. This phenomenon not only reflects the inability of individuals or groups to meet basic needs but also indicates the presence of inequality and social vulnerability that must be addressed seriously. In this context, poverty is defined as a condition in which individuals are unable to fulfill their fundamental rights to a decent and dignified life, and it is characterized as a multidimensional problem encompassing inadequate living conditions, powerlessness, situational vulnerability, dependency, and social or geographical exclusion [1]. The issue of poverty remains significant in Indonesia, where the proportion of the national poor population continues to reflect the need for more comprehensive and sustainable poverty-reduction strategies [2].In socio-economic development, government expenditure serves as one of the key instruments for addressing inequality and improving public welfare. Fiscal policy through national and regional budgets plays an essential role in maintaining price stability, expanding employment opportunities, and strengthening economic growth [3]. Government spending directed toward education, health, social services, and community empowerment carries significant potential to reduce poverty levels [4].In addition to government expenditure, purchasing power constitutes a fundamental factor in welfare dynamics. Purchasing power reflects the ability of the population to acquire goods and services based on real income and prevailing price levels.

Low purchasing power can hinder access to basic necessities and heighten economic vulnerability [5]. The Indonesian government has implemented a range of policies to maintain and enhance purchasing power, including energy subsidies, social assistance, and economic empowerment programs such as conditional cash transfers, food assistance, and microcredit schemes, which play an important role in sustaining consumption among low-income households [6].In recent years, poverty trends in Indonesia have

shown fluctuating dynamics. Data indicate that although there has been a gradual decline, poverty remains a major challenge requiring an integrated policy approach involving central and local governments, the private sector, and civil society [2]. Rising government expenditure demonstrates a strong commitment to improving socio-economic conditions, yet its effectiveness in reducing poverty remains an empirically relevant issue.International studies emphasize that the relationship between government spending and poverty reduction is strongly influenced by allocation direction and implementation efficiency [7, 8]. Expenditure focused on pro-poor sectors tends to generate more significant impacts. Additional evidence shows that weakening purchasing power driven by price pressures and economic instability contributes to rising poverty, underscoring the importance of maintaining purchasing-power stability to mitigate poverty levels [9, 10].Based on these conditions, this study analyzes the influence of government expenditure and public purchasing power on poverty in Indonesia using a quantitative approach with time-series data. The research aims to provide empirical insights into the extent to which these variables explain poverty dynamics and contribute to the literature on fiscal-policy effectiveness and public welfare in Indonesia.

II.   METHODS

The analytical techniques employed in this study were selected based on their suitability for examining quantitative relationships among economic variables [11]. Because the objective is to assess the influence of government expenditure and public purchasing power on poverty levels, the statistical methods adopted must adequately capture the dynamics of time-series data while satisfying the assumptions required for model reliability. Accordingly, multiple linear regression was chosen as the primary analytical approach [12].The study utilizes secondary time-series data obtained from the Statistics Indonesia and other relevant economic publications. The observation period covers 1995 to 2024 [13]. Poverty serves as the dependent variable, while government expenditure and public purchasing power constitute the independent variables. A natural logarithm transformation was applied to selected variables to stabilize variance and enhance comparability across data scales [14].The empirical model was constructed using a multiple linear regression framework expressed as $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon_t$ [11].

This model allows for the examination of both the partial and simultaneous effects of the independent variables on poverty. Given the time-series nature of the data, diagnostic evaluations of residual patterns were conducted to ensure the model's statistical adequacy [14].Classical assumption testing included normality tests (Kolmogorov–Smirnov and Shapiro–Wilk), multicollinearity detection (VIF and tolerance), autocorrelation assessment (Durbin–Watson), and heteroskedasticity evaluation (Glejser test). When violations were identified, corrective measures were applied, such as bootstrap resampling to address non-normal residuals, factor analysis to eliminate multicollinearity, and first-difference transformation to correct positive autocorrelation [14].Once the model satisfied all diagnostic criteria, hypothesis testing was performed. The t-test examined the partial effects of each independent variable, while the F-test assessed their joint significance. The Coefficient of Determination (R^2 and Adjusted R^2) was calculated to determine the proportion of variability in poverty explained collectively by government expenditure and public purchasing power [14].

III.   RESULT AND DISCUSSION

To adjust for differences in measurement units among variables, the research data were transformed using the natural logarithm (ln) for Government Expenditure and Public Purchasing Power, while the Poverty variable remained in percentage form because it is a measurable ratio. This transformation was intended to reduce variance heterogeneity and refine the relationship patterns among variables within the regression model [14].

Table 1. Normality Test Results Using One-Sample Kolmogorov–Smirnov Test

		Unstandardized Residual
N		30
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	2.48428255

Most Extreme	Absolute	.175
Differences	Positive	.158
	Negative	-.175
Test Statistic		.175
Asymp. Sig. (2-tailed)		.020[c]

The initial test results indicated an Asymp. Sig. (2-tailed) value of 0.020, which is lower than the significance level of 0.05. This means that the residuals of the initial regression model were not normally distributed, indicating a violation of the classical assumption of normality. Because the sample size approaches 30, the Shapiro–Wilk test was subsequently used. When residuals still showed non-normality, coefficient estimates were reported using bootstrap intervals to reduce dependence on the normality assumption.

Table 2. Normality Test Results Using Shapiro–Wilk

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.175	30	.020	.867	30	.001

a. Lilliefors Significance Correction

Based on the Shapiro–Wilk test, the significance value obtained was 0.001 (<0.05), indicating that the data were not normally distributed. Therefore, adjustments were made by applying the bootstrap method as a resampling technique to improve estimation stability.

Table 3. Regression Test Results After Bootstrap Application

	Coefficients[a]		Bootstrap for Coefficients[a]	
Model	B	Std. Error	B	Std. Error
1 (Constant)	83.813	36.621	83.813	64.310
Government Expenditure	-1.624	1.812	-1.624	3.001
Public Purchasing Power	-.904	1.649	-.904	2.478

a. Dependent Variable: Poverty

The results after bootstrap correction showed that the regression coefficients and their significance values did not change meaningfully compared to the initial output. This indicates that the estimated parameters remained stable and consistent despite the non-normality of residuals. Thus, the regression model can still be considered suitable for further analysis, as bootstrap estimation produces robust results under deviations from normality.

Table 4. Multicollinearity Test Results

Coefficients[a]		
	Collinearity Statistics	
Model	Tolerance	VIF
1 (Constant)		
Government Expenditure	.049	20.437
Public Purchasing Power	.049	20.437

The multicollinearity test results showed a VIF value of 20.437 (>10) and a tolerance value of 0.049 (<0.10) for both Government Expenditure and Public Purchasing Power, indicating a high degree of multicollinearity. To address this issue, factor analysis was applied to the two variables, producing a new factor variable: REGR factor score 1 for analysis 1 (FAC1_1). After re-running the regression using this factor, the VIF values dropped below 10, indicating that the model was free from multicollinearity problems.

Table 5. Multicollinearity Test Results Using Factor Score Variable

Coefficients[a]		
	Collinearity Statistics	
Model	Tolerance	VIF
1 (Constant)		
REGR factor score 1 for analysis 1	1.000	1.000

a. Dependent Variable: Poverty

The factor score variable showed a tolerance value of 1.000 and a VIF value of 1.000, confirming that no linear relationship existed between the independent variables in the revised model.

Table 6. Autocorrelation Test Results

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.781[a]	.609	.581	2.57465	.749

a. Predictors: (Constant), Public Purchasing Power, Government Expenditure

b. Dependent Variable: Poverty

The initial Durbin–Watson (DW) statistic was 0.749, indicating strong positive autocorrelation in the model. To correct this issue, a residual lag variable (res$_1$) was created to capture time-based dependencies on prior residual values.

Table 7. Autocorrelation Test Results After Adjustment (First Difference Method)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.417[a]	.174	.111	1.90592	1.443

a. Predictors: (Constant), DIFF(LnX2,1), DIFF(LnX1,1)

b. Dependent Variable: DIFF(Y,1)

After applying the first-difference transformation (DIFF), the Durbin–Watson value increased from 0.749 to 1.443. This result indicates a significant reduction in positive autocorrelation, and the revised model no longer demonstrates problematic serial correlation (DW value approaching 2).

Table 8. Glejser Heteroskedasticity Test Results

Coefficients[a]

Model	t	Sig.
1 (Constant)	.000	1.000
Government Expenditure	.000	1.000
Public Purchasing Power	.000	1.000

a. Dependent Variable: Unstandardized Residual

The test showed significance values greater than 0.05 for both independent variables, indicating no significant influence of the independent variables on the absolute residuals.

Table 9. Regression Coefficients and t-test Results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	83.813	36.621		2.289	.030
Government Expenditure	-1.624	1.812	-.487	-.896	.378
Public Purchasing Power	-.904	1.649	-.298	-.548	.588

a. Dependent Variable: Poverty

The regression model obtained is:

Poverty = 83.813 − 1.624(Government Expenditure) − 0.904(Public Purchasing Power)

The constant value of 83.813 indicates that when both independent variables are set to zero, the predicted poverty rate is 83.813%. Both Government Expenditure and Public Purchasing Power show negative coefficients, meaning increases in these variables tend to reduce poverty. However, t-test results show that neither variable has a statistically significant effect on poverty, as both p-values exceed 0.05. Government Expenditure produced a coefficient of −1.624 with a t-value of −0.896 (Sig. = 0.378), while Public Purchasing Power produced a coefficient of −0.904 with a t-value of −0.548 (Sig. = 0.588). Since both significance values exceed 0.05, the variables do not have a statistically significant partial effect on poverty, even though both show a theoretically expected negative relationship.

Table 10. F-test Results

ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	279.277	2	139.638	21.065	.000[b]
Residual	178.978	27	6.629		
Total	458.255	29			

a. Dependent Variable: Poverty

b. Predictors: (Constant), Public Purchasing Power, Government Expenditure

The F-statistic of 21.065 with a significance level of 0.000 (<0.05) indicates that Government Expenditure and Public Purchasing Power jointly have a significant effect on poverty. This means that although each variable is not significant individually, together they significantly explain changes in poverty levels.

Table 11. Coefficient of Determination Results

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.781[a]	.609	.581	2.57465

a. Predictors: (Constant), Public Purchasing Power, Government Expenditure

b. Dependent Variable: Public

The R² value of 0.609 and Adjusted R² of 0.581 show that 60.9% of the variation in poverty can be explained by the two independent variables combined. The remaining 39.1% is influenced by other factors not included in the model.Regression results indicate that Government Expenditure does not significantly influence poverty in a partial test, although the negative coefficient supports the theory that increased public spending should reduce poverty. This pattern is consistent with findings demonstrating that government spending can lower poverty levels when supported by effective allocation and policy efficiency [7, 8].Public Purchasing Power also exhibits a negative but statistically insignificant effect on poverty. Prior studies emphasize that purchasing power plays an important role in poverty reduction, particularly in economic conditions characterized by inflationary pressures and rising energy costs that diminish household welfare [9, 10]. Although both variables show insignificant effects when tested individually, the simultaneous test reveals a significant combined influence on poverty. This outcome aligns with evidence showing that public expenditure, when managed effectively, contributes to poverty reduction through improved access to social services and support for inclusive economic growth [15, 16].

IV. CONCLUSION

Based on the analysis results, neither government expenditure nor public purchasing power shows a significant partial effect on poverty levels, although the direction of their relationship aligns with economic theory stating that increases in public spending and purchasing power can reduce poverty. However, when examined simultaneously, both variables are found to have a significant effect on poverty. This indicates that their influence becomes stronger when they operate together, where effective government expenditure can reinforce public purchasing power, ultimately contributing to poverty reduction.

V. ACKNOWLEDGMENTS

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