

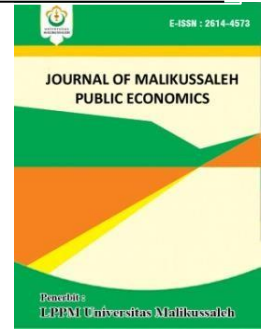
THE EFFECTIVENESS OF POLICIES ON VILLAGE FUND, SOCIAL ASSISTANCE AND CAPITAL EXPENDITURE ON POVERTY ALLEVIATION IN ACEH PROVINCE

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ARTICLE INFORMATION

ABSTRACT

Keywords:

Village Funds, Social Assistance Funds, Capital Expenditure, The Poverty Rate

Village funds, social assistance funds, and capital expenditure are important instruments in regional development that play a role in poverty alleviation efforts. This study aims to analyze the effect of village funds, social assistance funds, and capital expenditure on the poverty rate in Aceh Province. The data used in this study is panel data, covering the period from 2017 to 2024. The data were obtained from the Central Bureau of Statistics (BPS) of Aceh Province and the Directorate General of Fiscal Balance (DJPK) of the Indonesian Ministry of Finance. The analytical method employed is panel data regression, with the Random Effects Model (REM) selected as the most appropriate model. The results show that village funds have a negative and significant effect on the poverty rate in Aceh Province. Social assistance funds have a negative and significant effect on the poverty rate. Meanwhile, capital expenditure has a positive and significant effect on the poverty rate in Aceh Province. Based on these findings, it is recommended that the provincial and district/city governments in Aceh manage village funds, social assistance funds, and capital expenditures more effectively to reduce poverty in the region.

1. INTRODUCTION

Poverty is a persistent problem in every country, both developed and developing. Poverty alleviation efforts are a crucial focus, as central and regional governments have implemented various programs and policies to reduce the number of poor people.

The high poverty rate is related to the management of local revenue and the distribution of government assistance provided to the community. Therefore, well-planned fund distribution is an

important key in efforts to reduce poverty rates in a region (Amami & Asmara, 2022).

Indonesia, as a developing country, still faces challenges in economic development, particularly the high poverty rate. According to the Central Statistics Agency (2024), the number of poor people in Indonesia by 2024, the poverty rate is expected to reach 24.06 million people, or 8.57% of Indonesia's total population.

In Aceh Province, the poverty rate is higher than the national average, particularly in rural and remote

areas, due to limited access to basic services, education, and employment (BPS Provinsi Aceh, 2024). Aceh is one of the autonomous regions that holds an important position, function, and role in national development in Indonesia. Aceh Province consists of 23 districts/cities, each of which has the authority to manage fund receipts and expenditures independently (Sari & Ichsan, 2020).

Poverty in Aceh Province is caused by structural and cultural factors. Structural factors include limited infrastructure and regional inequality. Cultural factors include traditional lifestyles, restrictions on women's roles, and limited access to equitable education, which hinder skills development and job competitiveness (Bappeda Aceh, 2023).

Impacts of the protracted conflict between the Free Aceh Movement (GAM) and the government have also exacerbated poverty. This conflict has caused infrastructure damage, loss of livelihoods, and limited community mobility. Although the 2005 Helsinki Peace Agreement marked the beginning of recovery, its impacts are still felt today, particularly low social trust that hinders inclusive and sustainable development (Solihin, 2023).

The poverty level in Aceh Province for the period 2017 to 2024 can be seen in Figure 1.

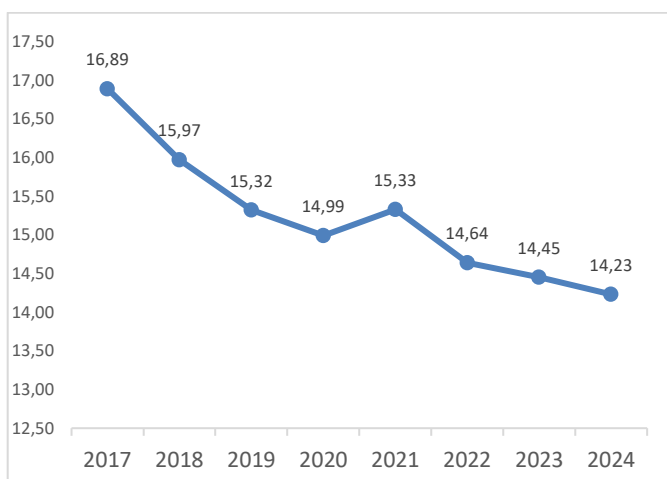


Figure 1 Poverty Level in Aceh Province 2017-2024 (Percent)

Source: BPS Aceh Province, 2025

Figure 1 shows the poverty rate in Aceh Province which experienced a downward trend from 2017 to 2024. The poverty rate in Aceh Province in 2017 decreased from 16.89 % become 14.23% in 2024. This decline is influenced by economic stability, increased access to basic services, post-pandemic recovery, and Covid-19, the role of Micro, Small and Medium Enterprises (MSMEs), as well as investment and infrastructure development (BPS Provinsi Aceh, 2024).

In 2024, the five regions with the highest poverty rates in Aceh Province were Aceh Singkil (19.06%), Pidie (18.59%), Gayo Lues (18.30%), Pidie Jaya (18.28%), and Bener Meriah (18.18%), due to their remote geographic location and limited access to education, health, and infrastructure. Meanwhile, the five regions with the lowest poverty rates were Banda Aceh (6.95%), Langsa (10.33%), Lhokseumawe (10.44%), Southeast Aceh (11.99%), and South Aceh (12.02%), which have adequate infrastructure and a growing industrial and trade sector. This data reflects the poverty gap between urban and rural areas in Aceh Province (DJPK, 2024).

One of the variables that influences poverty is the Village Fund. The Village Fund is a budget sourced from the State Budget provided to villages through district/city governments to finance development, development, and empowerment of village communities. Martinez-Vazquez and McNab (2003) state that fiscal decentralization, particularly through the mechanism of channeling a budget allocation channeled by the central government to support local government finances can help reduce poverty.

The government has undertaken poverty alleviation efforts through various policies and community empowerment programs implemented by relevant ministries and institutions. Since 2015, village funds have become a central spending instrument for reducing rural poverty, in accordance with Law Number

6 of 2014, with a focus on infrastructure, the local economy, and village governance (Republik Indonesia, 2014).

Village funds in Aceh Province known as village funds sourced from the APBN and Regional Retribution, managed independently and transparently by the Aceh government, involving Tuha Peut and village deliberations, with distribution that takes into account community aspirations, local needs, Islamic sharia values, and Acehese customs (Helmi & Khoirunurrofik, 2023).

In Aceh Province, village funds are used more for physical development than for community economic empowerment. Physical projects are preferred because they are easier to implement, although their impact on economic well-being is less than optimal (Muliza, 2020).

This is in line with Beyk's (2022) research, which shows that village funds in Aceh Besar Regency are largely used for physical projects because they are easier to implement, although their impact on economic welfare is less than optimal. However, empowerment programs such as business training and MSME development are more effective in reducing poverty and increasing village independence. The allocation of village funds in Aceh Province during the period 2017 to 2024 is shown in Figure 2.

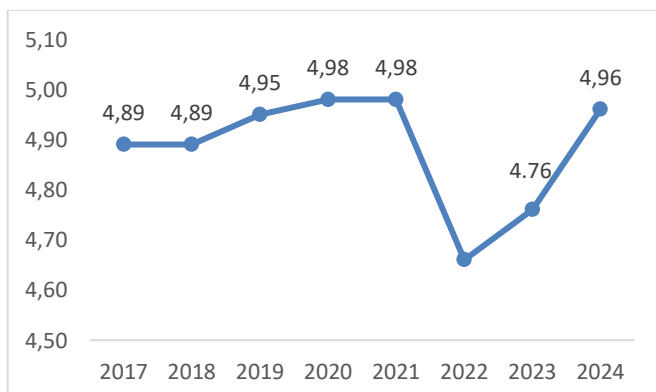


Figure 2 Village Funds in Aceh Province 2017-2024 (Trillion Rupiah)

Source: Directorate General of Fiscal Balance (DJPK), 2025

Figure 2 shows that the allocation of village funds in Aceh Province from 2017 to 2024 tends to increase, except in 2022. Village funds amounted to IDR 4,89 trillion in 2017, increasing to IDR 4,95 trillion in 2019, which was focused on infrastructure development and strengthening the village economy, then increasing to IDR 4,98 trillion in 2020 and 2021 for handling Covid-19. In 2022, it decreased to IDR 4,66 trillion due to efficiency and budget reallocation, then increased again to IDR 4,76 trillion in 2023 and IDR 4,96 trillion in 2024 in line with the increase in national allocation (DJPK, 2024).

In 2024, the five regions receiving the highest village funds were North Aceh (Rp650,15 billion), Pidie (Rp538,34 billion), Bireuen (Rp462,26 billion), Aceh Besar (Rp440,93 billion), and East Aceh (Rp395,02 billion), due to the large number of villages and the large area. The five regions receiving the lowest village funds were Sabang (Rp15,64 billion), Langsa (Rp58,84 billion), Lhokseumawe (Rp62,40 billion), Subulussalam (Rp69,06 billion), and Banda Aceh (Rp77,09 billion), due to these areas being administrative cities with fewer villages (DJPK, 2024).

Apart from village funds, social assistance also plays a role in reducing poverty. According to Barrientos and Hulme (2008), they stated that cash assistance both conditional and unconditional, have been shown to be effective in reducing extreme poverty, increasing food consumption, and encouraging long-term asset ownership.

In its efforts to reduce poverty, the government has committed to reducing it by optimizing social assistance programs for the underprivileged. According to Alamanda (2020), the government distributes social assistance in the form of cash, goods, and services with the aim of protecting poor communities from various social risks while simultaneously improving their quality of life.

Social assistance in Aceh Province has unique characteristics due to the influence of its history of conflict, special autonomy, and Islamic values. This program is largely funded by the Aceh Revenue and Expenditure Budget and is intended for vulnerable groups such as the poor, orphans, the elderly, and disaster victims. Distribution is carried out through the Aceh Social Service, often in collaboration with Baitul Mal, reflecting the integration of government assistance and Islamic values (Dinas Sosial Provinsi Aceh, 2022). The allocation of social assistance in Aceh Province during the period 2017 to 2024 is shown in figure 3.

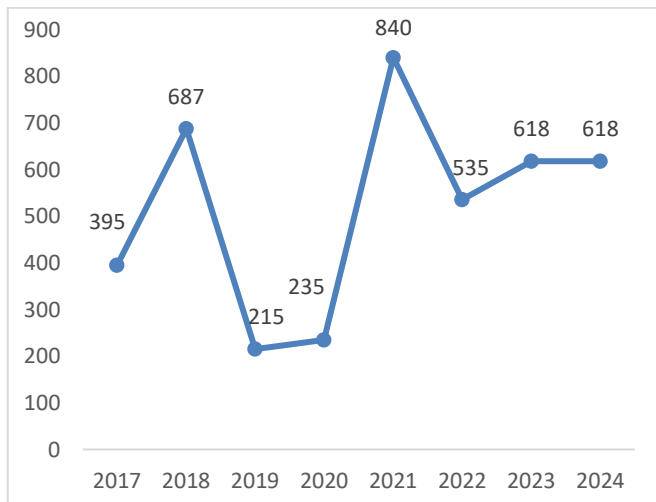


Figure 3 Social Assistance in Aceh Province 2017-2024 (Billion Rupiah)

Source: Directorate General of Fiscal Balance (DJPK), 2025

Figure 3 shows that social assistance in Aceh Province fluctuated from 2017 to 2024. In 2017, it was recorded at IDR 395 billion, increasing to IDR 687 billion in 2018 due to the expansion of social assistance programs. In 2019, it decreased drastically to IDR 215 billion due to changes in the distribution mechanism. In 2020, it increased to IDR 235 billion due to the COVID-19 pandemic, then jumped to IDR 840 billion in 2021 due to the distribution of Cash Social Assistance (BST) and assistance for Micro, Small, and Medium Enterprises (MSMEs). In 2022, it decreased again to IDR 535 billion as the pandemic subsided.

However, in 2023 and 2024, it rose again to IDR 618 billion to maintain purchasing power and mitigate the impact of inflation (DJPK, 2024).

In 2024, the five regions receiving the highest social assistance were Central Aceh (Rp 44,20 billion), Pidie (Rp 34,81 billion), North Aceh (Rp 34,66 billion), Bireuen (Rp 31,77 billion), and Lhokseumawe (Rp 23,85 billion), due to high poverty and the number of vulnerable populations in these areas. The five regions with the lowest allocations were Southeast Aceh (Rp 450 million), Banda Aceh (Rp 3,670 billion), Gayo Lues (Rp 6,360 billion), Sabang (Rp 6,580 billion) and Subulussalam (Rp 6,630 billion), due to these regions not being included in the main priorities of central policy and having different development priorities (DJPK, 2024).

In addition to social assistance, expenditure capital also plays a crucial role in poverty reduction. According to Barro (1990), investments in health, education, and infrastructure can help increase productivity and slow down the growth of an unequal economy. If economic growth is fair or inclusive, this could help reduce poverty.

Capital spending on roads, bridges, and public facilities has the potential to increase market access, economic mobility, and employment. Investment also stimulates economic activity and national income, thereby reducing poverty and promoting equitable development (Putro et al., 2018). Therefore, poverty is expected to decrease with increased capital spending, resulting in more equitable development.

Capital expenditure in Aceh Province is generally focused on infrastructure development and public services, such as roads and buildings, as well as post-conflict reconstruction activities. However, this portion remains smaller than spending on personnel and goods/services. There is disparity in allocation between regions, with efficiency varying depending on fiscal

capacity, regional revenues, and budget management, thus affecting the effectiveness of development in Aceh Province (Chandra et al., 2022).

Figure 4 presents the development of capital expenditure in Aceh Province period 2017-2024.

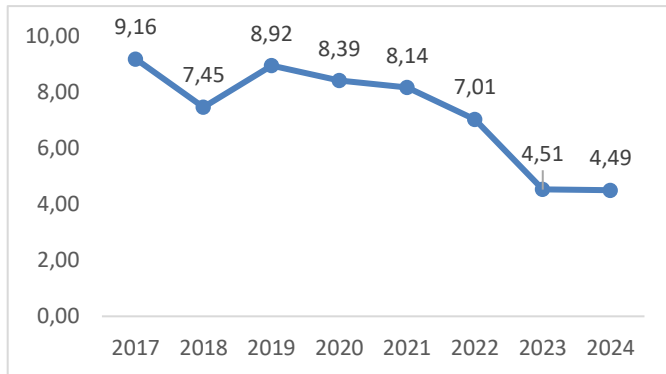


Figure 4 Capital Expenditure in Aceh Province 2017-2024 (Trillion Rupiah)

Source: Directorate General of Fiscal Balance (DJPK), 2025

Figure 4 shows capital expenditure in Aceh Province in 2017 to 2024. A downward trend is likely. Capital expenditures in 2017 were recorded at IDR 9,16 trillion, declining to IDR 7,45 trillion in 2018 due to shifts in development priorities and increasing to IDR 8,92 trillion in 2019, in line with the focus on infrastructure development. In 2020, they decreased to IDR 8,39 trillion, then again to IDR 8,14 trillion in 2021 due to the Covid-19 pandemic, which shifted budget priorities to the health sector. In 2022, capital expenditures fell to IDR 7,01 trillion due to post-pandemic adjustments and economic recovery efforts. Sharp declines occurred in 2023 and 2024, to IDR 4,51 trillion, due to policy changes or other fiscal challenges (DJPK, 2024).

In 2024, the regions receiving the highest capital expenditure allocations in Aceh Province were South Aceh (Rp246,30 billion), West Aceh (Rp215,63 billion), Bireuen (Rp211,12 billion), Aceh Tamiang (Rp208,52 billion), and North Aceh (Rp190,58 billion) due to the large Special Allocation Fund (DAK) and the utilization of

surplus funds. The regions with the lowest allocations were Sabang (Rp73,66 billion), Aceh Singkil (Rp78,18 billion), Simeulue (Rp80,24 billion), Southeast Aceh (Rp86,20 billion), and Lhokseumawe (Rp86,97 billion) due to adequate infrastructure. This disparity reflects differences in fiscal capacity and development priorities between regions (DJPK, 2024).

To date, various studies have focused on the relationship between village funds, social assistance, and capital expenditures and poverty levels, which are then analyzed alongside several other variables. Research by Agusta and Khoirunurrofik (2024) shows that village development spending has a negative and significant effect on the number of poor families in Indonesia. Ritonga et al. (2021) show that village funds have a negative and significant effect on poverty levels in North Sumatra. Furthermore, research by Azmi (2020) shows that the distribution of village funds in 23 districts/cities Aceh Province has not succeeded in reducing poverty rates.

Research by Asnawi and Irfan (2022) shows that social assistance is able to reduce poverty rates in Aceh Province. Similar results were also shown by Rarun et al. (2018) who proved that there was a negative relationship with a significant influence of social assistance spending on poverty in North Sulawesi. On the other hand, research by Agustin and Sumarsono (2022) shows that social assistance does not have a significant influence on the poverty level in East Java Province.

Amami and Asmara's (2022) research found that capital expenditure was able to reduce poverty levels in Ngawi Regency. Sigit and Kosasih (2020) research showed that capital expenditure had a negative and significant effect on poverty levels in regencies/cities in Indonesia. In contrast to these findings, Rahmawati (2024) concluded that capital expenditure showed a positive direction and had a significant effect on poverty

levels in Central Java.

Based on the background, the author is interested in conducting research with the title “Effectiveness of Policy Village Funds, Social Assistance, and Capital Expenditure on Poverty Alleviation in Aceh Province”.

2. LITERATURE REVIEW

Poverty Level

Sen (2021) defines poverty as a condition where a person is unable to achieve basic functions, such as living healthily, getting a decent education, having a decent job, and participating in social life. The problem of poverty has always been a challenge faced by various regions.

Poverty alleviation efforts are a crucial focus, as central and regional governments have implemented various programs and policies to reduce the number of poor people. Poverty levels are measured using the poverty line, which is the average minimum monthly expenditure per capita to cover food and non-food needs (BPS, 2024).

The Vicious Cycle of Poverty theory, introduced by Ragnar Nurkse in 1953, explains that poverty is a rotating circle with no beginning or end. Each factor in it is interconnected and reinforces each other, so that conditions of poverty are recurring and difficult to break (Nurkse, 1953).

Policy Implementation

Policies are actions taken by the government to address a public problem and achieve a specific goal. According to Howlett (2019), policy implementation is a crucial stage in the public policy cycle that connects policy formulation with policy outcomes. Policy implementation aims to translate policy into concrete actions so that its goals and impacts can be achieved effectively and efficiently. A policy is considered successful if its

implementation aligns with its goals, is efficient, responsive to community needs, and provides equitable benefits to all parties (Howlett, 2019).

Village Fund Policy

The Village Fund policy in Indonesia began to be implemented in 2015 based on Law Number 6 of 2014 concerning Villages. These funds are sourced from the State Budget (APBN) and aim to support village development, empowerment, and governance (Republik Indonesia, 2014).

Over time, this policy has evolved. During the COVID-19 pandemic, Village Funds were used for Village Direct Cash Assistance (BLT) to help affected communities. After the pandemic, the focus shifted to the village economy, food security, and stunting reduction. Through Law Number 1 of 2022 concerning Regional Development Planning (HKPD), Village Funds are now included in the Transfer to Regions and Villages (TKDD) scheme, with a performance-based approach (Pemerintah Republik Indonesia, 2022).

Martinez-Vazquez and McNab (2003), stated in the theory of fiscal decentralization that fiscal decentralization, especially through the mechanism of channeling a budget allocation channeled by the central government to support regional government finances, can reduce poverty.

Village funds are funds sourced from the State Revenue and Expenditure Budget (APBN) and distributed to each village through the Regional Revenue and Expenditure Budget (APBD) at the district/city level, to finance government administration villages, village infrastructure development programs, fostering communities, and increasing village resident empowerment (Kemenkeu, 2022).

Social Assistance Policy

Indonesia's social assistance policy aims to protect the poor and vulnerable from social and economic risks.

Key programs include the Family Hope Program (PKH), Non-Cash Food Assistance (BPNT), and Direct Cash Assistance (BLT). The government also issued Presidential Instruction No. 4 of 2025 to ensure targeted social assistance distribution through the use of the National Single Social and Economic Data. This policy is managed by the Ministry of Social Affairs and supported by a substantial annual budget allocation (Kemensos, 2022).

The Theory of Social Transfer put forward by Barrientos and Hulme (2008), states that cash assistance Both conditional and unconditional, have been shown to be effective in reducing extreme poverty, increasing food consumption, and can encourage long-term asset ownership.

Social assistance is a program organized by the regional government with the main aim of increasing the welfare of the community, both as a group, or individuals, by providing money or goods within a certain period of time to parties who meet certain criteria (Kemenkeu, 2023).

Capital Expenditure Policy

Capital expenditure policy is an important part of fiscal decentralization, empowering local governments to manage investment and infrastructure development. Decentralization allows capital expenditures to be tailored to local needs, increasing the efficiency and effectiveness of fund use and encouraging regional economic growth. This policy also strengthens regional autonomy in planning development according to regional priorities (Martinez -Vazquez & McNab, 2003).

According to the endogenous growth theory proposed by Barro (1990), investment in key areas such as infrastructure, education, and health can help increase productivity and drive long-term economic growth. If economic growth is equitable,

it can help reduce poverty.

According to the Minister of Finance Regulation Number 62 of 2023 concerning budget classification Capital expenditure is expenditure made to purchase or add fixed assets or other assets that provide economic benefits for more than one year and whose value exceeds the minimum asset capitalization limit set by the government (Kemenkeu, 2023).

Conceptual Framework

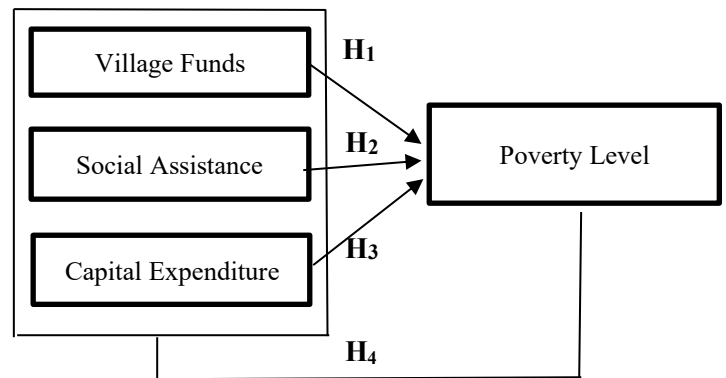


Figure 5 Conceptual Framework

Figure 5 shows the relationship between the independent variables consisting of village funds, social assistance, and capital expenditure and the dependent variable, namely the poverty level.

Hypothesis

The research hypothesis is as follows:

- H1: Village Fund Policy has a negative and significant impact on poverty levels in Aceh Province.
- H2: Social assistance policy has a negative and significant impact on the poverty level in Aceh Province.
- H3: Capital expenditure policy has a negative and significant effect on poverty in Aceh Province.
- H4: Village fund policies, social assistance, and capital expenditure have a negative and significant impact on poverty levels in Aceh Province.

3. RESEARCH METHODS

Researcher Objects and Locations

Object in this research is the poverty level as the

dependent variable, while the independent variable This includes village funds, social assistance, and capital expenditures. This research was conducted in Aceh Province, which encompasses 18 districts and 5 cities.

Data Types and Sources

This study utilizes secondary data in the form of panel data, a combination of time series and cross-sectional data. The time series data covers the period 2017-2024, while the cross-sectional data covers 23 districts/cities in Aceh Province. The total data analyzed reached 184. The source of data on poverty levels came from the Statistics (BPS) of Aceh Province, while data related to village funds, social assistance, and capital expenditures were obtained from the Directorate General of Fiscal Balance (DJPK).

Data Analysis Methods

This study uses panel data regression analysis techniques, namely a combination of time series data and cross-regional data to improve data quality and quantity (Gujarati & Porter, 2009). Model panel data regression equation:

$$Y_{it} = \beta_0 + \beta_1 x_{1it} + \beta_2 x_{2it} + \beta_3 x_{3it} + \epsilon_{it} \quad (3.1)$$

Model in study this is:

$$TK_{it} = \beta_0 + \beta_1 \text{LOG}(DD_{it}) + \beta_2 \text{LOG}(BS_{it}) + \beta_3 \text{LOG}(BM_{it}) + \epsilon_{it} \quad (3.2)$$

Where:

TK = Poverty Level

β_0 = Constant/Intercept

$\beta_1, \beta_2, \beta_3$ = Regression Coefficient

DD = Village Fund

BS = Social Assistance

BM = Capital Expenditure

LOG = Logarithm

ϵ = Error Terms

i = 23 districts/cities in Aceh Province

t = Year 2017-2024

Model Regression Data Panel

There are three main models in panel data analysis, namely: Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM) (Gujarati, 2003).

Common Effect Model (CEM)

A model that disregards individual differences, known as the Common Effect Model, is constructed by combining all time series and cross-sectional data into a single pooled dataset. According to Gujarati (2003), OLS is one of the most widely used techniques for estimating parameter values in linear regression equations. In general, the equation for the Common Effect Model can be expressed as follows:

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \epsilon_{it} \quad (3.3)$$

Fixed Effect Model

Fixed effect model assumes that each individual or entity has a unique intercept, but the regression coefficient remains constant. To accommodate differences in intercepts between for individuals, dummy variables are used, so this approach is often referred to as Least Square Dummy Variables (LSDV) (Gujarati, 2003). The FEM equation can be explained as follows:

$$Y_{it} = \alpha_i + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \epsilon_{it} \quad (3.4)$$

Random Effect Model

REM assumes that the variation between cross-section units is considered as a random component. (random) which has no correlation with the independent variables in the model (Gujarati, 2003). The REM equation is formulated as follows:

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \mu_{it} + \epsilon_{it} \quad (3.5)$$

Election Model Data Panel

Chow Test

The Chow test is used to determine whether the FEM or REM model is more appropriate for panel data analysis. As explained by Gujarati (2003):

H_0 : Common Effect Model

H_1 : Fixed Effect Model

The null hypothesis (H_0) will be rejected if the probability value is below the significance level α , so the FEM model is considered more appropriate. Conversely, if the probability exceeds α , the alternative hypothesis (H_1) is rejected and the CEM model is used.

Hausman test

Gujarati and Porter (2009) concluded that the Hausman Test is a statistical method used to determine the most appropriate estimation model in panel data analysis, whether a fixed effect model or a random effect model. The hypothesis formulated is:

H_1 : Fixed Effect Model

H_0 : Random Effect Model

If the probability value is less than α at a 5% significance level, the null hypothesis (H_0) is rejected, indicating that the Fixed Effect Model (FEM) is the appropriate model to use.

Lagrange Multiplier Test

Lagrange Multiplier test aims to determine the most appropriate panel data regression method to decide whether the appropriate model is Common Effect or Random Effect (Gujarati, 2003). The LM test was conducted using the Breusch-Pagan approach with the following hypothesis:

H_0 : Random Effect Model

H_1 : Common Effect Model

If the Breusch-Pagan probability in the Both

column < 0.05 , then the most appropriate model is REM. If the Breusch-Pagan probability value in the Both column > 0.05 , then the most appropriate model is the CEM model.

Classification Assumption Test

Normality Test

Normality test using Jarque-Bera aims to test whether the regression model has a normal data distribution or not. In classical assumptions, normality assumes that the probability distribution of residuals has a mean of zero, is uncorrelated, and has a constant variance (Gujarati, 2003).

Multicollinearity Test

Multicollinearity testing is conducted to assess whether there is a significant correlation among the independent variables, either individually or collectively, within the analysis being performed. To detect multicollinearity, the Covariance and Correlation matrices are used by examining the correlation coefficients between the independent variables. If the partial correlation between variables exceeds 0.80, this indicates the potential for multicollinearity, while a value below 0.80 indicates no such indication (Gujarati & Porter, 2009).

Test Autocorrelation

Autocorrelation is the relationship between residuals from one observation and another observation. (Gujarati, 2003). To detect the presence of autocorrelation in the regression model, a test was conducted using the Durbin-Watson statistic (DW). If the probability value is less than 0.05 then there is autocorrelation, conversely if the probability value is greater than 0.05 then there is no autocorrelation.

Heteroscedasticity Test

The heteroscedasticity test is conducted to identify differences in residual variance from one observation to

another using the Glejser test. If the test value for the independent variable is > 0.05 , then the model is declared not to experience heteroscedasticity (Gujarati, 2003).

Statistical Test

Partial Test (t-Test)

The t-test is used to assess the influence of each independent variable individually on the dependent variable while assuming that other variables in the model remain constant. If the calculated t-value exceeds the t-table value, then H_0 is rejected and H_a is accepted, indicating that the variable significantly affects the dependent variable. Conversely, if the calculated t-value is smaller than the t-table value, H_0 is accepted and H_a is rejected, meaning the variable does not have a significant effect on the dependent variable. Thus, by comparing the calculated t-value with the t-table value, it can be determined whether an independent variable significantly influences the dependent variable or not (Gujarati, 2003).

Simultaneous Test (F-Test)

The F-test is used to examine the simultaneous influence of all independent variables on the dependent variable. If the calculated F-value is smaller than the F-table value, H_0 is accepted and H_a is rejected, indicating that collectively the independent variables do not have a significant effect on the dependent variable. Conversely, if the calculated F-value is greater than the F-table value, H_0 is rejected and H_a is accepted, meaning that all independent variables together significantly influence the dependent variable (Gujarati, 2003).

Coefficient of Determination Test (R^2)

The Adjusted R-Squared coefficient is used to assess how much influence independent

variables on the dependent variable in a model. The value of this coefficient of determination is between 0 and 1. The closer the value is to 0, the weaker the relationship between the independent and dependent variables. Conversely, the closer the value is to 1, the stronger the relationship between the two variables (Gujarati, 2003).

4. RESULTS AND DISCUSSION

The Chow test, Hausman test, and Lagrange Multiplier (LM) test were conducted to determine the most appropriate model to use in panel data regression analysis, whether it be the Common Effect Model, Fixed Effect Model, or Random Effect Model. The results of the Chow test, Hausman test, and Lagrange Multiplier test are presented as follows:

Table 1 Chow Test Results

Effects Test	Statistics	df	Prob.
Cross-section F	123,405156	(22,158)	0.0000
Cross-section Chi-square	533.689589	22	0.0000

Source: Data Processing Results, 2025

The results of the Chow test indicate that the probability value for the Cross-section F is 0.0000. Since this probability value is smaller than the significance level ($0.0000 < 0.05$), H_0 is rejected and H_1 is accepted, indicating that the appropriate model is the Fixed Effect Model (FEM). After rejecting H_0 in the Chow test, the next step is to perform the Hausman test.

Table 2 Hausman Test Results

Test Summary	Chi-Sq. Statistic	Chi-Sq. df	Prob.
Random cross-section	1.273838	3	0.7354

Source : Data Processing Results, 2025

Probability values for Cross-section The random value was recorded at 0.7354 . The probability value of $0.7354 > 0.05$, so H_0 is accepted and H_1 is rejected, which shows that the most appropriate model

to use is the Random Effect Model (REM).

Table 3 Lagrange Multiplier Test

Null (no rand. effect) Alternative	One-sided cross-section	Period One-sided	Both
Breusch-Pagan	552,3539 (0.0000)	0.346094 (0.5563)	552,7000 (0.0000)

Source: Data Processing Results, 2025

Based on the table, the Lagrange Multiplier test shows that the probability value in the Both column is below the 5% significance level (0.0000 < 0.05), so the most appropriate model to use is random affect model.

Classical Assumption Test

After REM is determined as the most appropriate model, the next step is to conduct tests against classical assumptions. These tests include the Normality Test, Multicollinearity Test, and Heteroscedasticity Test. Gujarati (2003) explains that not all classical assumption tests are mandatory for panel data regression. Autocorrelation tests were not applied in this study because this method is only relevant for time series data analysis. The heteroscedasticity test does not need to be used because this test is only needed if the best model selected is FEM and CEM.

Normality Test

The results of the normality test using the Jarque-Bera method are presented in the following figure:

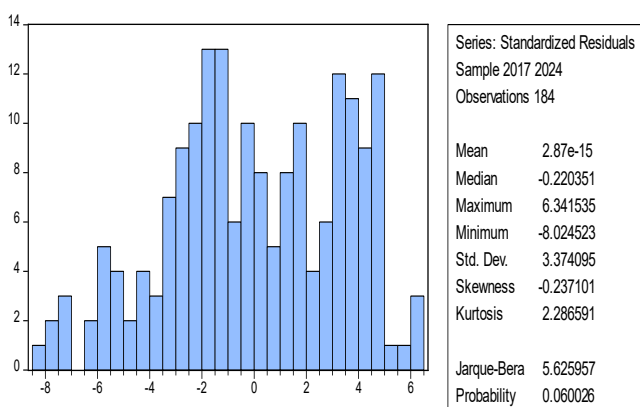


Figure 6 Normality Test Results

Source: Data Processing Results, 2025

The Jarque-Bera value was 5.625957 with a probability of 0.060026, which exceeded the 5% significance level. These results indicate that the data used in this study were normally distributed.

Test Multicollinearity

The results of the multicollinearity test in this study are as follows.

Table 4 Multicollinearity Test

Covariance Correlation	TK	LOG(DD)	LOG(BS)	LOG(BM)
TK	11.98459 1.000000			
LOG(DD)	-0.203810 -0.066821	0.776256 1.000000		
LOG(BS)	0.010514 0.002734	0.047476 0.048516	1.233619 1.000000	
LOG(BM)	0.284775 0.178988	0.157929 0.390025	-0.049539 -0.097048	0.211218 1.000000

Source: Data Processing Results, 2025

Based on table 4, the results of the analysis using the correlation matrix indicate that symptoms of multicollinearity do not appear. All correlation values between independent variables are below 0.80, so this model is free from indications of multicollinearity.

Analysis Data Panel

The model selected in this study is the Random Effect Model. The following are the results of the Random Effect Model, which is the selected model:

Table 5 Results Random Effect

Variable	Coefficient	Std. error	t-statistic	Prob.
C	14.69127	11.69225	1.256497	0.2106
LOG(DD)	-0.998314	0.426737	-2.339416	0.0204
LOG(BS)	-0.234651	0.079274	-2.959990	0.0035
LOG(BM)	1.237989	0.172983	7.156724	0.0000

Source: Data Processing Results, 2025

The panel data regression equation formed using the Random Effect Model approach based on table 5 are as follows:

$$TK_{it} = 14.69127 - 0.998314 \text{LOG}(\text{DD}_{it}) - 0.234651 \text{LOG}(\text{BS}_{it}) + 1.237989 \text{LOG}(\text{BM}_{it})$$

The constant value obtained is 14.69, meaning that when village funds, social assistance, and capital

expenditure in Aceh Province are valued at 0, the poverty rate in Aceh Province is 14.69%.

Village Fund coefficient value (DD) of -0.99, meaning that when village funds in Aceh Province increase by 1%, it will reduce the poverty rate in Aceh Province by 0.0099% (0.99×0.01).

Social Assistance (BS) coefficient value of -0.23, means that when social assistance in Aceh Province increases by 1%, it will reduce the poverty rate in Aceh Province by 0.0023% (0.23×0.01).

Capital Expenditure (BM) coefficient value of 1.23, means that when capital expenditure in Aceh Province increases by 1%, it will increase the poverty rate in Aceh Province by 0.0123% (1.23×0.01).

Statistical Test

Partial Test (t-Test)

In this study, the t-table is calculated as $(n - k) = 184 - 4 = 180$. At α 1%, 2.603 was obtained and at α 5%, 1.973 was obtained. The following are the results of the t-test in this study.

Table 6 Partial Test Results

Variable	t-Statistic	t-Table	Alpha	Prob	Note
LOG(DD)	-2.339416	1.973	0.05	0.0204	Significant
LOG(BS)	-2.959990	2.603	0.01	0.0035	Significant
LOG(BM)	7.156724	2.603	0.01	0.0000	Significant

Source: Data Processing Results, 2025

Based on the results of the t-test for the Village Fund variable, the calculated t-value was obtained at $|-2.339| >$ from the t-table 1.973 ($\alpha=0.05$) and a significance value of $0.0204 <$ of 0.05. This shows that the Village Fund variable has a negative and significant influence on the Poverty Level variable at the 5% (0.05) level.

The results of the t-test for the Social Assistance variable show a calculated t-value of $|-2.960| >$ from the t-table of 2.604 ($\alpha = 0.01$) with a significance value of $0.0035 <$ 0.01. This

indicates that the Social Assistance variable has a negative and significant influence on the poverty level variable at the 1% (0.01) level.

T-test results The Capital Expenditure variable obtained a t-table of $7.157 >$ from t-table 2.604 ($\alpha=0.01$), with a significance value of $0.0000 <$ 0.01. This indicates that the Capital Expenditure variable has a positive and significant effect on the Poverty Level variable at the 1% (0.01) level.

Simultaneous Test (F-Test)

The results of the F-test of this study are shown as follows:

Table 7 Simultaneous Test Results

F-Statistic	F-Table	Alpha	Probability	Information
25.97481	3.89	0.01	0.000000	Significant

Source: Data Processing Results, 2025

Based on the results of the simultaneous F-test, the calculation $(k-1)$ was obtained $(nk) = (4-1) (184-4) = (3) (180)$ with a significance level of $\alpha = 1\%$ (0.01) produces an F-table of 3.89. With the F-statistic reaching 25.97481 which is greater than the F-table of 3.89, meaning that simultaneously the variables of village funds, social assistance, and capital expenditure have a positive and significant effect on the poverty level in Aceh Province. This is reinforced by the probability value of $0.000000 <$ 0.01.

Coefficient of Determination Test (R^2)

The results of the coefficient of determination test in this study are:

Table 8 Results of the Determination Coefficient Test

R-squared	0.302121	Mean dependent var	1,316030
Adjusted R-Squared	0.290490	SD dependent var	1.006120

Source: Data Processing Results, 2025

Panel data regression estimation using the

Random Effect Model method produces an Adjusted R² value of 0.290490, which means that Village Funds, Social Assistance, and Capital Expenditure are able to explain approximately 29.05% of the variation in Poverty Levels, while 70.95% of the other variations are influenced by factors outside the variables of this study.

DISCUSSION

The Impact of Village Fund Policy on Poverty Levels

Based on the analysis, the village fund policy has a negative and significant effect on poverty levels in Aceh Province, indicating that an increase in village fund allocations contributes to poverty reduction. This finding supports the initial hypothesis that the village fund policy plays an important role in improving the economic welfare of rural communities through programs such as economic empowerment, development of productive infrastructure, and enhanced access to education and health services.

These results are consistent with the theory of fiscal decentralization proposed by Martinez-Vazquez and McNab (2003), which explains that fiscal decentralization particularly through the allocation of budgets distributed by the central government to support regional finances can help reduce poverty rates, provided that local governments have sufficient capacity to manage these funds effectively and efficiently.

Furthermore, the findings of this study are in line with those of Ritonga et al. (2021), who found that village funds had a negative and significant impact on economic growth and poverty in North Sumatra during 2015–2018. This is also consistent with Agusta and Khoirunurrofik (2024), who demonstrated that expenditure focused on village

development had a negative and significant influence on poverty reduction in Indonesia from 2019 to 2021.

However, these results contrast with the findings of Azmi et al. (2020), which revealed that during the 2015–2018 period, village funds were not effective in reducing poverty across 23 districts and cities in Aceh Province.

The Impact of Social Assistance Policies on Poverty Levels

The analysis results indicate that social assistance policies have a negative and significant effect on poverty levels in Aceh Province, implying that an increase in social assistance allocations leads to a reduction in poverty. This finding supports the initial hypothesis, which posited that social assistance policies have a negative and significant impact on poverty levels. In other words, increasing social assistance allocations effectively helps to reduce poverty in Aceh Province.

These results are consistent with the theory proposed by Barrientos and Hulme (2008), which states that both conditional and unconditional cash assistance programs have proven effective in reducing extreme poverty, increasing food consumption, and promoting long-term asset accumulation.

Furthermore, the findings of this study are in line with Asnawi and Irfan (2022), who found that social assistance successfully reduced poverty rates in Aceh Province from 2015 to 2020. Similarly, Rarun et al. (2018) reported that social assistance had a negative and significant effect on poverty levels in North Sulawesi during the 2005–2016 period.

However, these results differ from the study by Agustin and Sumarsono (2022), which concluded that the effectiveness of social assistance distribution had no significant impact on poverty alleviation in East Java Province from 2018 to 2020. Nonetheless, the overall effectiveness of social assistance programs remains highly dependent on accurate targeting and consistent

distribution.

The Influence of Capital Expenditure Policy on Poverty Levels

The analysis reveals that capital spending policy has a positive and significant effect on poverty levels in Aceh Province, indicating that an increase in capital spending is associated with a rise in poverty. This suggests that capital expenditures in Aceh typically allocated for physical infrastructure such as buildings and roads have not directly addressed the needs of low-income communities and have produced limited tangible benefits. The ineffectiveness of these expenditures can be attributed to weak planning and oversight, as well as low levels of community participation.

These findings are inconsistent with Barro's theory (1990), which posits that investment in critical sectors such as infrastructure, education, and health can enhance productivity and contribute to poverty reduction.

However, the results of this study are consistent with the findings of Rahmawati et al. (2024), who reported that capital expenditure had a positive and significant effect on poverty in Central Java Province during the 2017–2022 period. Similarly, Musthofa (2024) found a positive and significant relationship between capital expenditure and poverty levels in Medan City from 2013 to 2021.

Conversely, these results differ from the study of Wicaksono (2022), which concluded that capital expenditure had a negative and significant effect on poverty in districts and cities across Bali Province during the 2016–2020 period.

5. CLOSING

Conclusion

Based on the analysis that has been carried out,

the following conclusion can be drawn:

1. The Village Fund policy has a negative and significant effect on poverty levels in Aceh Province, indicating that an increase in village fund allocations contributes to a reduction in poverty levels within the province.
2. Social assistance policy has a significant negative impact on poverty levels in Aceh Province. This means that increasing the allocation of social assistance will reduce poverty levels in Aceh Province.
3. The capital expenditure policy has a positive and significant effect on poverty levels in Aceh Province, meaning that an increase in capital spending is associated with a rise in poverty within the province.
4. Simultaneously, village fund policies, social assistance, and capital expenditure have been shown to have a significant impact on poverty levels in Aceh Province.

Suggestion

Based on the research findings and conclusions, the author proposes several recommendations as follows:

1. Regional governments and village officials need to increase the allocation and utilization of village funds in a transparent and targeted manner, especially for community empowerment, micro-enterprises, and village infrastructure.
2. Regional governments are advised to increase effectiveness, expand coverage, target accuracy, as well as transparency and accountability in the distribution of social assistance.
3. Capital expenditure should be directed towards productive activities that can create jobs and increase the income of poor people.
4. For further research, it is recommended to add variables such as unemployment rate, education level, and HDI for a more comprehensive poverty

analysis in Aceh Province.

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