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Analysis of The Effects of GRDP, Local Revenue, General Allocation Fund, And Special Allocation Fund on Capital Expenditure and its Implications for Poverty in Regencies and Cities of West Nusa Tenggara Province

Winda Maulia[1], Muaidy Yasin[2], M. Firmansyah[3]
[1,2,3]Faculty Economic and Business University of Mataram

ABSTRACT: This study aims to analyze the effect of Gross Regional Domestic Product (GRDP), Regional Original Income (PAD), General Allocation Fund (DAU), and Special Allocation Fund (DAK) on capital expenditure in Regencies and Cities of West Nusa Tenggara Province and measure the impact of capital expenditure on poverty levels in regencies/cities of West Nusa Tenggara Province in 2019-2023. This study is a quantitative study using secondary data obtained from the Central Statistics Agency (BPS) and the Regional Financial and Asset Management Agency (BPKAD). The method used in this study is Partial Least Square (PLS). The results of the study show that the increase in Gross Regional Domestic Product (GRDP) has an effect on reducing the number of poverty in the Regency and City of NTB Province significantly in the period from 2019 to 2023. The increase in Regional Original Income (PAD), General Allocation Fund (DAU), and Special Allocation Fund (DAK) affects the increase in Capital Expenditure in the Regency and City of NTB Province in the period from 2019 to 2023. Meanwhile, the increase in Capital Expenditure "has a" positive effect and on the significant number of Poverty in the Regency and City of NTB Province in the period from 2019 to 2023, which means that the increase in capital expenditure actually contributes to increasing the poverty rate in the region.

KEYWORDS: GRDP, PAD, DAU, DAK, Capital Expenditure, and Poverty

I. INTRODUCTION

Regional economic development is one of the main strategies to improve public welfare and support equitable national development. Since the implementation of regional autonomy policies through Law No. 32 of 2004, which was later refined by Law No. 23 of 2014 concerning Regional Government, each local government has been granted the authority to independently regulate and manage governmental affairs and finances. In this context, the Regional Revenue and Expenditure Budget (APBD) serves as a key instrument in realizing regional development, including efforts to provide infrastructure and public services through capital expenditure. Capital expenditure plays a crucial role as a long-term investment by local governments to support economic growth, expand access to basic services, and reduce poverty.

However, according to data from the Central Bureau of Statistics (BPS) of West Nusa Tenggara (NTB) in 2023, the average capital expenditure allocation in regencies and cities across NTB Province accounted for only 19.90% of the total APBD. This figure remains relatively low, especially when compared to the region's development needs and socioeconomic challenges—one of the most pressing being poverty. The poverty rate in NTB was recorded at 13.85% in 2023, which is higher than the national average. This condition indicates inefficiencies in budget management, particularly in utilizing capital expenditure as an instrument to improve public welfare. Meanwhile, the fiscal capacity of the region, as reflected in variables such as Gross Regional Domestic Product (GRDP), Locally-Generated Revenue (PAD), General Allocation Fund (DAU), and Special Allocation Fund (DAK), is suspected to significantly influence the region's ability to allocate capital expenditure.

The emerging problem is the low effectiveness of capital expenditure utilization in most regencies and cities in NTB Province, which potentially hinders the acceleration of development and poverty alleviation. Furthermore, there has been no comprehensive study examining the relationship between fiscal capacity and capital expenditure and its impact on poverty simultaneously. Previous research has primarily focused on the partial influence of PAD, DAU, and DAK on capital expenditure without incorporating poverty as an affected variable. Thus, a research gap remains to be filled through a more comprehensive and contextual analysis, particularly in regions like NTB that possess great potential but still face issues of inequality and poverty.

This study is expected to contribute theoretically by developing an empirical model on the influence of fiscal capacity variables on capital expenditure and its implications for poverty at the regional level. From a practical standpoint, the findings of this research may serve as a foundation for local governments in formulating more effective and poverty-oriented financial management policies. Strengthening planning and budget allocation based on local potential and needs will encourage more productive and efficient use of the APBD.

The objective of this research is to analyze the influence of GRDP, PAD, DAU, and DAK on capital expenditure in regencies and cities within West Nusa Tenggara Province, as well as to examine the implications of capital expenditure on the poverty rate in the region. Accordingly, this study aims to provide relevant policy recommendations for optimizing capital expenditure as an instrument to achieve inclusive and sustainable regional development.

II. LITERATURE REVIEW

Gross Regional Domestic Product (GRDP)

Gross Regional Domestic Product (GRDP) is an economic indicator published by the Central Bureau of Statistics (BPS) that calculates the total added value from all production activities of goods and services within a specific region over a certain period, typically on an annual basis. There are two methods for measuring GRDP: first, GRDP at current prices, which calculates production value using actual prices of each year; and second, GRDP at constant prices, which uses the prices from a specific base year as a reference. In economic analysis, GRDP at current prices is used to analyze structural changes in the economy, while GRDP at constant prices is used to measure economic growth rates over time (BPS, 2022).

Locally-Generated Revenue (PAD)

Locally-Generated Revenue (PAD) refers to revenue sourced from a region’s own potential, managed under local government regulations or applicable legal provisions. A region’s level of financial independence can be measured through PAD—where the greater the revenue collected, the higher the contribution of PAD to the region’s financial structure and its ability to finance local development (Amami & Asmara, 2022).

General Allocation Fund (DAU)

According to Christia and Ispriyarso (2019) in Priambodo and Hidayat (2024), the General Allocation Fund (DAU) is a fiscal decentralization instrument aimed at achieving financial equity. In other words, DAU is used by the central government to address fiscal disparities between the central and regional governments, as well as among regional governments. The amount of DAU is determined based on the financial gap (Adriawan et al., 2022), which refers to the budgetary needs that cannot yet be fulfilled by a region’s own financial resources (Priambodo & Hidayat, 2024).

Special Allocation Fund (DAK)

The Special Allocation Fund (DAK) consists of two categories: physical and non-physical. While non-physical DAK funds government programs such as healthcare, education, and other essential public services, physical DAK supports infrastructure development. The central government transfers funds to local governments through DAK and DAU, both forms of intergovernmental transfers, to enhance fiscal balance and cover decentralization-related costs. DAK is a specific-purpose transfer intended to fund particular programs or activities, while DAU is a general-purpose transfer meant to finance a region's overall needs. To assess the degree of local government dependence on central transfers, both DAU and DAK should be used as key indicators (Metekohy, S., Dharmawan, D., Ratnawita, R., Harahap, I., & Munizu, M., 2024).

Capital Expenditure

Capital expenditure is categorized after operational expenditures, which include employee spending, goods and services spending, interest payments, subsidies, grants, and social assistance. Capital expenditure refers to spending on long-term assets and is not considered routine expenditure. Effective allocation of capital expenditure can result in better public service delivery; therefore, proper management of local revenue sources by regional governments is essential (Marliana, R., Prasetyo, A. S., & Yulianto, P. D., 2022).

Poverty

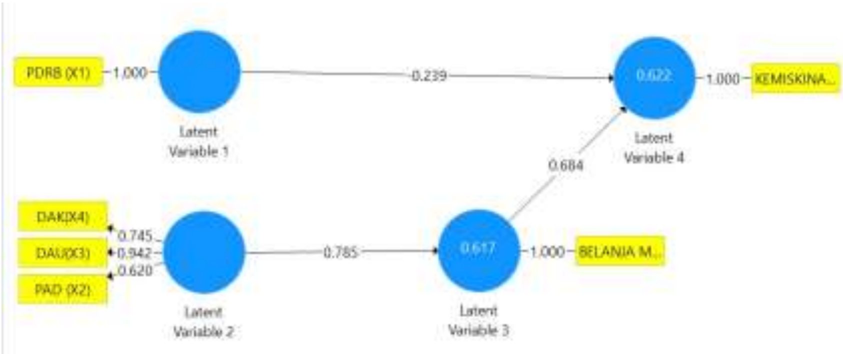
In this context, the relationship between GRDP, PAD, DAU, and DAK and capital expenditure becomes highly relevant to examine. Moreover, it is important to understand how capital expenditure managed by local governments can have a significant impact on poverty reduction. As a province with diverse economic potential—such as tourism, agriculture, and fisheries—West Nusa Tenggara requires effective budget management strategies to maximize these potentials.

III. METHODS

The approach used in this study is a quantitative approach. According to Siyoto et al. (2015), quantitative research is a scientific study conducted systematically on various components and phenomena, as well as their interrelationships. The research was conducted in West Nusa Tenggara Province, based on the consideration that this province still has a relatively high poverty rate compared to the national average. The documentation method used in this study involved the search and collection of data from the official websites of the Central Bureau of Statistics (BPS) of West Nusa Tenggara Province and the Regional Financial and Asset Management Agency (BPKAD). The data sources used in this research are secondary data, consisting of GRDP, PAD, DAU, DAK, Capital Expenditure, and Poverty data from the regencies and cities within West Nusa Tenggara Province for the years 2019–2023. The analysis method employed is the Partial Least Squares (PLS) approach. Partial Least Squares (PLS) is a technique within Structural Equation Modeling (SEM) that enables the direct analysis of latent variables, indicator variables, and measurement errors.

IV. RESULTS AND DISCUSSION

Measurement Model Evaluation (Outer Model)



Picture 1. Model PLS Algorithm

Source: Data processed by the researcher using PLS-SEM (2025)

Based on the data processing results shown in the figure, all indicators have outer loading values that exceed the established minimum threshold of 0.50. The GRDP indicator (X1) has a loading value of 1.000 on the first latent construct, indicating that it is highly valid in measuring its construct. For the second latent construct, the indicators PAD (X2), DAU (X3), and DAK (X4) have loading values of 0.620, 0.942, and 0.745, respectively. All of these values are above the cutoff point, and therefore, the indicators can be considered valid. The third and fourth latent constructs are each measured by a single indicator, namely Capital Expenditure and Poverty, both of which have loading values of 1.000, indicating very high validity. Based on these results, all indicators in this model have met the requirement for convergent validity, which means that the indicators effectively represent the latent constructs they are intended to measure.

Table 1. Cross Loadins

	Latent Variabel 1	Latent Variabel 2	Laten Variabel 3	Latent Variabel 4
PDRB (X1)	1.000	-0.466	-0.294	-0.440
PAD (X2)	-0.316	0.620	0.535	0.683
DAU (X3)	-0.440	0.942	0.713	0.796
DAK (X4)	-0.322	0.745	0.574	0.446
BELANJA MODAL (Y1)	-0.294	0.785	1.000	0.755
KEMISKINAN (Y2)	-0.440	0.831	0.755	1.000

Source: Data processed by the researcher using PLS-SEM (2025)

All indicators in this model have met the criteria for discriminant validity based on the cross-loading values, indicating that each indicator has a strong ability to specifically measure its corresponding latent construct.

Table 2. Square Root Of Average Variance Extracted (AVE)

	***Average Variance Extracted* (AVE)**
PDRB (X1)	*1.000*
PAD (X2)	*0.609*
DAU (X3)	*1.000*
DAK (X4)	*1.000*

Source: *Data processed by the researcher using PLS-SEM (2025)*

All measured constructs have AVE values above the minimum threshold of 0.5. The constructs GRDP (X1), DAU (X3), and DAK (X4) each have an AVE value of 1.000, while the PAD (X2) construct has an AVE value of 0.609. All these values exceed the 0.5 cutoff, indicating that each construct has sufficient uniqueness and distinction from the other constructs. Therefore, it can be concluded that all constructs in this model have met the criteria for good discriminant validity based on the AVE approach.

Table 3. Composite Reability

	Composite Reability
PDRB (X1)	*1.000*
PAD (X2)	*0.819*
DAU (X3)	*1.000*
DAK (X4)	*1.000*

Source: *Data processed by the researcher using PLS-SEM (2025)*

All constructs in this model meet the composite reliability requirements; the indicators composing each latent variable consistently represent the measured concept and are suitable for further analysis.

Table 4. Cronbach's Alpha

	Cronbach's Alpha
PDRB (X1)	*1.000*
PAD (X2)	*0.657*
DAU (X3)	*1.000*
DAK (X4)	*1.000*

Source: *Data processed by the researcher using PLS-SEM (2025)*

All constructs in this model have met the internal reliability requirements. This means that the indicators used in this study consistently represent the measured latent variables, making the measurement results reliable and suitable for further analysis..

Structural Model (Inner Model)

Table 1. R Square

Predictor	R-Square	R-Square Adjusted
BELANJA MODAL (Y1)	0.617	0.609
KEMISKINAN (Y2)	0.622	0.606

Source: *Data processed by the researcher using PLS-SEM (2025)*

R-Square is a part of the inner model (structural model) testing in Partial Least Squares Structural Equation Modeling (PLS-SEM) analysis. This test aims to evaluate the extent to which the exogenous (independent) variables influence the endogenous (dependent) variables in the research model. The evaluation is conducted by examining the R-Square (R^2) and Adjusted R-Square values, which reflect the proportion of variance in the endogenous variables that can be explained by the exogenous constructs.

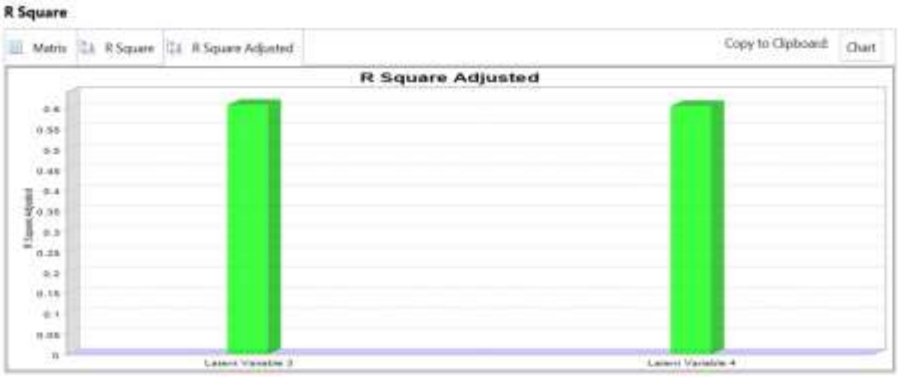


Table 2. Hypothesis Results

Predictor	Original Sample	T Statistics	P Values	Decision
PDRB (X1)→Kemiskinan (Y2)	-0.239	3.905	0.000	Signifikan
PAD(X2),DAU(X3),DAK(X4)→Belanja Modal (Y1)	0.785	20.313	0.000	Signifikan
Belanja Modal (Y1)→Kemiskinan (Y2)	0.684	8.234	0.000	Signifikan

Source: *Data processed by the researcher using PLS-SEM (2025)*

a. The research results reflected in Table 7 show that all the relationships between variables are statistically significant. First, an increase in GRDP (X1) is negatively related to poverty (Y2) with a coefficient of –0.239; this means that as regional economic activity grows and regional output increases, employment opportunities and community income also rise, leading to a tendency for poverty to decrease. The T-value of 3.905, which is greater than 1.96, and a P-value of 0.000 confirm that this effect is not due to chance. Previous studies also reported a probability value for real GRDP of 0.0000, indicating that H0 is rejected. Furthermore, the coefficient for real GRDP was –0.193201, meaning that real GRDP has a negative impact on poverty, and if real GRDP increases by 1%, poverty will decrease by 0.193201% (Feriyanto et al., 2020).

b. Next, the combination of local government revenue sources, namely PAD (X2), DAU (X3), and DAK (X4), has a strong and positive effect on capital expenditure (Y1) with a coefficient of 0.785. The very high T-statistic (20.313) and P-value of 0.000 confirm that the larger the funds received by the region, the greater the allocation for investment in infrastructure development and other public assets. This aligns with fiscal logic: capital expenditure is often financed by locally generated revenue and central government transfers to support long-term economic growth. Previous studies also showed that simultaneously, legitimate PAD, DAU, and DAK have a positive and significant influence on capital expenditure. This indicates that higher receipts of legitimate PAD, DAU, and DAK increase capital expenditure (Siahaan & Yahya, 2022). Optimal Local Own-Source Revenue (PAD) and the degree of regional autonomy in fulfilling capital expenditure through the utilization of PAD, DAU, and DAK can provide better public service facilities for the local community (Metekohy et al., 2024).

c. However, an interesting finding emerges in the third path: capital expenditure (Y1) is positively associated with poverty (Y2) at 0.684 and is statistically significant (T = 8.234; P = 0.000). Theoretically, capital expenditure should reduce poverty through increased productivity and public services. This result indicates the possibility of a time lag before the benefits of investment are felt by the poor, or issues related to effectiveness, such as mis-targeted infrastructure projects, cost overruns, or uneven distribution of benefits. Therefore, although regions have been able to increase capital expenditure thanks to PAD, DAU, and DAK, the allocation strategy needs to be evaluated to ensure it truly promotes poverty reduction rather than the opposite. Previous research also showed that capital expenditure tends to have a positive and significant effect on poverty in North Sumatra, meaning that increased capital expenditure actually contributes to a rise in poverty levels in that area (Hanisah, 2024).

IV. CONCLUSION

An increase in Gross Regional Domestic Product (GRDP) significantly reduces the level of poverty in the Regencies and Cities of West Nusa Tenggara Province during the period from 2019 to 2023. The increase in GRDP (X1) is negatively related to poverty (Y2) with a coefficient of –0.239; this means that as regional economic activity grows and regional output rises, employment opportunities and community income also increase, causing poverty levels to tend to decrease. The increase in Local Own-Source Revenue (PAD), General Allocation Fund (DAU), and Special Allocation Fund (DAK) influences the rise in Capital

Expenditure in the Regencies and Cities of West Nusa Tenggara Province during the period from 2019 to 2023. The combination of local government revenue sources, namely PAD (X2), DAU (X3), and DAK (X4), has a strong and positive effect on capital expenditure (Y1) with a coefficient of 0.785. The very high T-statistic (20.313) and P-value of 0.000 confirm that the larger the funds received by the region, the greater the allocation for investment in infrastructure development and other public assets. This aligns with fiscal logic: capital expenditure is often financed by locally generated revenue and central government transfers to encourage long-term economic growth. However, an interesting finding appears in the third path: Capital Expenditure (Y1) is positively associated with Poverty (Y2) at 0.684 and is statistically significant (T = 8.234; P = 0.000). Theoretically, capital expenditure should reduce poverty through increased productivity and public services. This result indicates the possibility of a time lag before the benefits of investment are felt by the poor or issues related to effectiveness, such as mis-targeted infrastructure projects, cost overruns, or uneven distribution of benefits. Therefore, although regions have been able to increase capital expenditure thanks to PAD, DAU, and DAK, the allocation strategy needs to be evaluated to ensure it truly promotes poverty reduction rather than the opposite.

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