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An Analysis of the Impact of Fiscal Decentralization on Regional Economic Performance in East Java Province, 2015–2025

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ABSTRACT

This study examines the effect of fiscal decentralization on the Gross Regional Domestic Product (GRDP) in East Java Province during the period 2015–2025. This study employs a quantitative research design with an explanatory approach. The data were analyzed using panel data regression with the Fixed Effects Model (FEM). The results indicate that, partially, Village Funds and Local Own-Source Revenue have a positive and significant effect on the Gross Regional Domestic Product in East Java Province during the 2015–2025 period. Meanwhile, Transfers to Regional Governments and Capital Expenditure do not have a significant partial effect on the Gross Regional Domestic Product. Simultaneously, Transfers to Regional Governments, Village Funds, Local Own-Source Revenue, and Capital Expenditure explain 78.22 percent of the variation in the Gross Regional Domestic Product, while the remaining 21.78 percent is influenced by other variables not included in this study.

Keywords: transfers to regional governments, village funds, local own-source revenue, capital expenditure, gross regional domestic product

INTRODUCTION (Times New Roman, 10pt, Bold)

Decentralization has become a common practice in public governance across many countries, including both federal and unitary states. Mogues and Olofinbiyi (2020) define decentralization as the full or partial delegation of responsibilities from the central government to subnational governments, based on the expectation that local governments can better utilize local information and their productive capacities to achieve shared policy objectives. Veenendaal (2025) argues that decentralization is driven by the need to formulate policies that are more responsive to local conditions, improve governmental efficiency and effectiveness, and strengthen democratic representation, accountability, and transparency.

According to Camoes (2020), decentralization comprises three dimensions: political, administrative, and fiscal decentralization. Political decentralization refers to the transfer of political authority from the central government to local governments, particularly in public decision-making and policy formulation through democratic mechanisms at the local level. Administrative decentralization focuses on the implementation and management of governmental functions, particularly the delivery of public services. Fiscal decentralization involves the transfer of financial management authority from the central government to local governments.

Fiscal decentralization is widely regarded as a mechanism for improving the efficiency of public resource allocation, fostering policy innovation, strengthening public accountability, and promoting healthy intergovernmental competition in the provision of public services. The successful implementation of fiscal decentralization depends on the institutional design of the policy framework, particularly with respect to intergovernmental fiscal transfer arrangements and the delegation of authority to subnational governments. The core components of fiscal decentralization include the assignment of revenue-raising and expenditure responsibilities, the intergovernmental fiscal transfer system, and the capacity of local governments to mobilize own-source revenue (Bahasoan et al., 2025).

Fiscal decentralization is widely recognized as an important instrument for promoting economic growth. Both expenditure and revenue decentralization have been found to exert a significant positive effect on gross domestic product (GDP) per capita in both developed and developing countries (Camoes, 2020). However, Bird and Vaillancourt (2000) argue that realizing the potential benefits of fiscal decentralization requires a set of institutional preconditions that are rarely present in developing countries, including strong administrative capacity and local government officials who are responsive and accountable for the scope of their fiscal authority.

Studies conducted by Murti et al. (2023), Awaludin and Wibowo (2023), Marpaung et al. (2024), Devi et al. (2024), Pramono et al. (2024), and Diva (2025) consistently demonstrate that Local Own Source Revenue (Pendapatan Asli Daerah, PAD) has a positive and statistically significant effect on both Gross Regional Domestic Product (GRDP) and GRDP per capita. Devi et al. (2024) found that the General Allocation Fund (Dana Alokasi Umum, DAU) exerts a positive and significant effect on GRDP, while Pramono et al. (2024) reported a similarly positive and significant effect on GRDP per capita. In contrast, Murti et al. (2023) found that the General Allocation Fund has no significant effect on GRDP. The Special Allocation Fund (Dana Alokasi Khusus, DAK) was found to have a positive and significant effect on GRDP in the studies by Murti et al. (2023) and Diva (2025), as well as on GRDP per capita in the study by Pramono et al. (2024). However, Devi et al. (2024) reported that the Special Allocation Fund has no significant effect on GRDP. Similarly, the Revenue Sharing Fund (Dana Bagi Hasil, DBH) was found to positively and significantly affect GRDP in the studies by Devi et al. (2024) and Diva (2025), although Pramono et al. (2024) found no significant effect on GRDP per capita.

Different approaches were adopted by Awaludin et al. (2023) and Marpaung et al. (2024). Awaludin et al. (2023) included the Village Fund (Dana Desa) as an independent variable. Their findings indicate that the Village Fund has a negative and statistically significant effect on poverty while exerting a positive and significant effect on GRDP. Meanwhile, Marpaung et al. (2024) incorporated the Balancing Fund (Dana Perimbangan), which comprises the General Allocation Fund and the Special Allocation Fund. Their results indicate that the Balancing Fund has no significant effect on GRDP.

Based on the foregoing review, it can be concluded that Local Own Source Revenue consistently exerts a positive and statistically significant effect on both GRDP and GRDP per capita. By contrast, the effects of the General Allocation Fund, Special Allocation Fund, Revenue Sharing Fund, and capital expenditure on GRDP and GRDP per capita remain mixed and inconclusive across empirical studies. Moreover, a notable research gap exists regarding studies that combine the General Allocation Fund, Special Allocation Fund, and Revenue Sharing Fund into a single explanatory variable. This gap is noteworthy because all autonomous local governments in Indonesia receive transfers through these three funding schemes. Furthermore, empirical studies that incorporate the Village Fund as a fiscal decentralization variable remain limited, representing another important research gap. This limitation is particularly relevant given that Indonesia's fiscal decentralization framework formally recognizes Regional Transfers and Village Funds (TKDD) (Transfer ke Daerah dan Dana Desa, TKDD) as an integrated fiscal transfer mechanism.

This study seeks to address these research gaps by combining the General Allocation Fund, Special Allocation Fund, and Revenue Sharing Fund received by autonomous local governments (regencies and municipalities) into a single explanatory variable. The Village Fund is treated as a separate variable because it is allocated directly to villages rather than to local governments. The study focuses on East Java Province, which serves as the New Gateway to Nusantara in line with the development of Indonesia's new capital city, Nusantara (IKN Nusantara) in East Kalimantan Province. The analysis covers all regencies in East Java (29 regencies) and the Municipality of Batu, all of which receive Village Fund allocations.

Detailed information on Regional Transfers, Village Funds, Local Own Source Revenue, and capital expenditure for all regencies and municipalities in East Java Province during the 2015–2025 period is presented in Table 1.

Table 1. Total Regional Transfers (TKD), Village Funds (DD), Local Own Source Revenue (PAD), and Capital Expenditure of Regencies/Municipalities in East Java Province, 2015–2025 (Billion Indonesian Rupiah)

Year	TKD	DD	PAD	Capital Expenditure
2015	42.042,70	2.214,01	14.578,77	16.420,92
2016	56.840,22	4.969,12	15.412,89	18.390,77
2017	56.908,02	6.334,51	19.938,94	17.134,36
2018	61.101,46	6.331,31	18.555,28	15.731,80
2019	63.739,05	7.441,92	20.017,56	18.348,97
2020	59.741,45	7.568,27	19.091,93	12.569,90
2021	62.845,47	7.653,82	22.006,08	12.952,17
2022	64.867,94	7.752,52	22.195,87	16.038,61
2023	63.338,30	8.168,01	21.937,21	15.626,49
2024	70.883,18	8.262,20	26.376,67	14.626,49
2025	74.529,05	7.477,18	47.108,99	13.736,41
Jumlah	676.886,84	74.172,88	247.220,19	171.210,20

Source: Directorate General of Fiscal Balance, Ministry of Finance of the Republic of Indonesia

During the 2015–2025 period, the total Regional Transfers received by regencies and municipalities across East Java Province from the central government amounted to **IDR 676,886.84 billion.** Over the same period, total **Village Fund** allocations reached **IDR 74,172.88 billion,** Local Own Source Revenue totaled **IDR 247,220.19 billion,** and **Capital Expenditure** amounted to **IDR 171,210.20 billion**. In 2020, coinciding with the outbreak of the COVID-19 pandemic, Regional **Transfers,** Local Own Source Revenue, and **Capital Expenditure** all declined. In contrast, **Village Fund** allocations continued to increase despite the pandemic. However, in 2025, the total **Village Fund** allocated to villages throughout East Java Province decreased.

Regional Transfers and Village Funds remain the primary components of the revenue structure of regional and village governments. Local Own Source Revenue reflects the capacity of regional governments to generate revenue independently. Capital Expenditure represents the fiscal capacity of regional governments to provide public services and support economic development. The effectiveness of these variables in promoting regional economic development requires empirical examination. Regional economic performance can be measured using Gross Regional Domestic Product (GRDP). Based on these considerations, the research questions of this study are as follows:

a. How do Regional Transfers (Revenue Sharing Funds, General Allocation Funds, and Special Allocation Funds) affect the Gross Regional Domestic Product in East Java Province?
b. How do Village Funds affect the Gross Regional Domestic Product in East Java Province?
c. How does Local Own Source Revenue affect the Gross Regional Domestic Product in East Java Province?
d. How does Capital Expenditure affect the Gross Regional Domestic Product in East Java Province?
e. How do Regional Transfers (Revenue Sharing Funds, General Allocation Funds, and Special Allocation Funds), Village Funds, Local Own Source Revenue, and Capital Expenditure jointly affect the Gross Regional Domestic Product in East Java Province?

THEORETICAL FRAMEWORK AND HYPOTHESES (Times New Roman, 10pt, Bold)

Fiscal Decentralization

According to Camoes (2020), fiscal decentralization constitutes a fundamental component of the broader decentralization framework. To enable local governments to perform their public service functions effectively, they must be supported by adequate financial resources. Fiscal decentralization is based on the **money follows function** principle, which implies that the transfer of responsibilities from the central government to local governments must be accompanied by sufficient financial resources to support the execution of those responsibilities.

Fiscal decentralization in Indonesia is implemented, among other mechanisms, through Regional Transfers and Village Funds, whereby the central government allocates financial resources to regional governments and villages. The legal basis for Regional Transfers and Village Funds is Law Number 1 of 2022 concerning Financial Relations between the Central Government and Regional Governments (Hardiana, 2023; Isti'anah & Utomo, 2023). Regional Transfers comprise the Revenue Sharing Fund (Dana Bagi Hasil/DBH), the General Allocation Fund (Dana Alokasi Umum/DAU), and the Special Allocation Fund (Dana Alokasi Khusus/DAK) (Ministry of Finance, 2025).

The Village Fund is an allocation from the State Budget (Anggaran Pendapatan dan Belanja Negara/APBN) that is transferred directly to villages to accelerate rural development, improve the welfare of rural communities, and reduce disparities between rural and urban areas. The utilization of Village Funds is primarily directed toward rural infrastructure development, community empowerment, and local economic development. Since 2015, Village Funds have been distributed to all villages across Indonesia (Ministry of Finance, 2025).

Regional Own Source Revenue (Pendapatan Asli Daerah/PAD) refers to revenues generated from regional taxes and levies, as well as non-tax sources such as profits from Regionally Owned Enterprises (Badan Usaha Milik Daerah/BUMD), investment returns, and the utilization of natural resources. Regional Own-Source Revenue is derived from a region's own economic potential and is collected in accordance with the prevailing laws and regulations (Nasir, 2019).

Capital Expenditure refers to government spending incurred for the acquisition, procurement, or construction of tangible fixed assets with an expected useful life exceeding 12 months (Sulaeman & Silvia, 2019). Such expenditures generate economic benefits over future periods throughout the useful life of the related assets (Defitri, 2020).

Fiscal Federalism Theory

Fiscal Federalism Theory is fundamentally concerned with analyzing the functions of the public sector and the optimal allocation of financial resources across different levels of government within a country (Bird, 1999). Governments perform three primary fiscal functions: allocation, distribution, and stabilization. The stabilization and distribution functions are generally considered more effectively administered by the central government because they are closely related to macroeconomic policy and income redistribution. In contrast, the allocation function is more appropriately assigned to local governments, as they possess superior information regarding the preferences and needs of local communities (Musgrave, 1959; Oates, 1972).

Fiscal Federalism Theory also emphasizes the importance of tax assignment and intergovernmental transfers. Tax assignment refers to the division of taxing authority between central and subnational governments. Meanwhile, fiscal transfers are designed to address both vertical fiscal imbalances, which arise between different levels of government, and horizontal fiscal imbalances, which occur among subnational jurisdictions (Kenyon, 2018).

The development of Fiscal Federalism Theory has extended beyond its original normative framework, commonly referred to as the first generation theory, to encompass the Second Generation Theory of Fiscal Federalism. This newer perspective incorporates institutional, political, and behavioral dimensions into the analysis of intergovernmental fiscal relations. It focuses on issues such as the principal agent relationship between the central government as the delegating authority and subnational governments as the recipients of delegated responsibilities, the emergence of soft budget constraints resulting from weak fiscal discipline, and the fiscal incentives that shape the behavior of subnational governments. This theoretical advancement emerged in response to the limitations of the classical framework, which was regarded as overly idealized and insufficient to explain the complexities of real-world intergovernmental fiscal interactions (Oates, 2005; Weingast, 2009).

Tiebout Theory

Tiebout's theory posits that individuals behave as rational consumers of public services, selecting their place of residence based on the combination of taxes and public services offered by a particular jurisdiction (Tiebout, 1956). A central concept in the Tiebout model is *voting with their feet*, whereby individuals choose their residential location by relocating to the jurisdiction that best matches their preferences for a specific mix of taxes, public services, and local infrastructure. Individuals who place greater value on high-quality public services tend to prefer jurisdictions with higher tax rates, whereas others may opt for jurisdictions with lower taxes despite receiving more limited public services. In this framework, population mobility serves as the primary mechanism for achieving allocative efficiency by enabling a sorting process across local jurisdictions (Canales et al., 2023; Banzhaf & Walsh, 2008).

The principal implication of Tiebout's theory is that fiscal decentralization can enhance efficiency through interjurisdictional competition. Local governments are incentivized to adjust their tax and expenditure policies in response to residents' preferences. Consequently, a decentralized fiscal system can generate a more efficient allocation of resources than a highly centralized system (Tresch, 2014).

Principal Agent Theory

Principal Agent Theory provides a relevant conceptual framework for explaining the relationship between the central government and local governments within a fiscal decentralization system. The central government acts as the principal, delegating fiscal authority, public service responsibilities, and financial resources to local governments as the agents. This delegation process is frequently constrained by information asymmetry, as the central government has limited access to complete and accurate information regarding resource management and policy implementation at the local level. These monitoring limitations may give rise to agency problems because local governments do not always act in full accordance with the objectives and interests of the central government. Consequently, such conditions may lead to budget misappropriation, inefficient public expenditure, corrupt practices, and low levels of accountability and transparency in local public financial management (Haribowo, 2019; Alfada, 2019; Hummel & Kusumasari, 2025).

The phenomenon of soft budget constraints in fiscal decentralization can also be explained through Principal Agent Theory. As agents, local governments may have incentives to pursue fiscally undisciplined behavior when they anticipate financial assistance or bailouts from the central government. Such expectations weaken budgetary discipline and increase the risk of fiscal inefficiency. Therefore, the design of fiscal policies should incorporate appropriate incentive structures and robust accountability mechanisms to ensure that the behavior of local governments remains aligned with the objectives and interests of the principal (Rodden, Eskeland, & Litvack, 2003).

Endogenous Growth Theory

Endogenous Growth Theory explains that the sources of long-term economic growth are determined by internal factors, such as investment in human capital, innovation, and knowledge accumulation. Accordingly, economic growth is not viewed as a process that occurs naturally; rather, it can be directly influenced by economic policies (Romer, 1990; Jones, 2021).

A central characteristic of Endogenous Growth Theory is the presence of increasing returns to scale arising from knowledge accumulation. Knowledge is a non-rival good, meaning that its use by one individual does not diminish its availability or benefits to others. This characteristic generates knowledge spillover effects, which accelerate economic growth. In other words, investments in education, innovation, and technology produce benefits not only for individuals but also for the economy as a whole (Jones, 2021).

More recently, the concept of Semi Endogenous Growth Theory has emerged, integrating both endogenous and exogenous approaches to economic growth. Under this framework, economic growth continues to be driven by internal factors, particularly innovation, while also depending on external factors such as population growth and the scale of the economy. This model suggests that long-run economic growth results from the complex interaction between economic and demographic factors (Jones, 2021; Cozzi, 2023).

Endogenous Growth Theory carries important policy implications by emphasizing the active role of government in promoting sustainable economic growth. Public investment in education, infrastructure, and innovation can enhance long term economic performance. Consequently, fiscal policy and development policy constitute strategic instruments for fostering sustained economic growth (Romer, 1990; Wardhani, 2024).

METHODS

Research Design and Data Sources

This study employs a quantitative research design with an explanatory approach. Quantitative research is an approach that utilizes numerical data as the basis for analysis, with the data processed using statistical techniques (Sugiyono, 2019). An explanatory research approach is designed to test hypotheses and to examine the direction, magnitude, and statistical significance of the relationships among the variables under investigation (Singarimbun & Effendi, 2006).

The study relies on secondary data, defined as data or information that have been previously collected and compiled by other institutions. The data were obtained from the Central Statistics Agency (Badan Pusat Statistik), the Directorate General of Fiscal Balance of the Ministry of Finance of the Republic of Indonesia, as well as other relevant literature and documentary sources.

Research Framework

This study is conceptually grounded in the premise that regional economic performance, as measured by **Gross Regional Domestic Product (GRDP),** is influenced by regional fiscal capacity and the effectiveness of local public financial management. Regional fiscal capacity is reflected in Regional **Transfers**, the **Village Funds, Own Source Revenue,** and **Capital Expenditure.** The conceptual framework illustrating the relationships among these variables is presented in the following figure:

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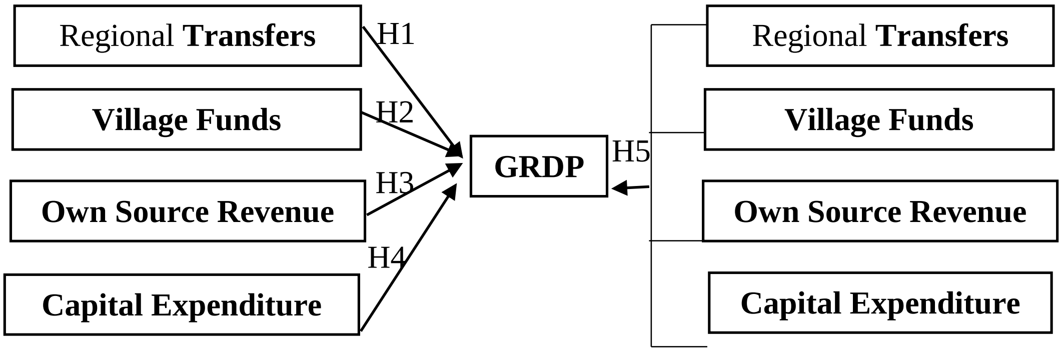

Figure 1. Conceptual Framework

Research Variables

Fiscal decentralization, as the independent variable, was measured using Regional **Transfers, Village Funds, Local Own Source Revenue,** and **Capital Expenditure**. Regional economic performance, as the dependent variable, was measured by **Gross Regional Domestic Product (GRDP) at constant prices**.

The operational definitions of the variables employed in this study are as follows:

a. **X_1: Regional Transfers (TKD);** This variable refers to the annual amount of fiscal transfers received by each regency and municipality in East Java Province during the 2015–2025 period from the central government. These transfers comprise **Revenue Sharing Funds (DBH), General Allocation Funds (DAU),** and **Special Allocation Funds (DAK)**, including both physical and non-physical components.

b. **X_2: Village Fund;** This variable represents the annual Village Funds allocation received by regencies and municipalities in East Java Province that are designated as Village Fund recipients during the 2015–2025 period.

c. **X_3: Local Own Source Revenue (PAD);** This variable refers to the total revenue generated by each regency and municipality in East Java Province during the 2015–2025 period from local taxes and service charges, as well as non tax revenues, including profits from regionally owned enterprises (BUMDs), investment returns, and income derived from the utilization of regional natural resources.

d. **X_4: Capital Expenditure;** This variable refers to the annual realized government expenditure incurred by each regency and municipality in East Java Province during the 2015–2025 period for the acquisition, procurement, or construction of tangible fixed assets with an economic useful life exceeding 12 months.

e. **Gross Regional Domestic Product (GRDP).** The dependent variable is measured using **Gross Regional Domestic Product (GRDP) at constant 2010 prices** for each regency and municipality in East Java Province during the 2015–2025 period.

Research Model

The mathematical model employed in this study is specified as follows:

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \epsilon_{it}$$

Notation:

Y_{it} = Gross Regional Domestic Product (GRDP)

X_{1it} = Regional Transfers

X_{2it} = Village Funds

X_{3it} = Local Own Source Revenue

X_{4it} = Capital Expenditure

α = Constant (Intercept)

β = Regression Coefficient

i = Cross Sectional Unit

t = Time Period

ϵ_{it} = Error Term (Disturbance Term)

Data Analysis Method

This study employs **panel data regression analysis** as the primary analytical method. Panel data combine **cross sectional** and **time series** dimensions within a single dataset. The principal advantage of panel data lies in their ability to control for **unobserved heterogeneity,** increase the number of observations to produce more efficient parameter estimates, and reduce the potential bias arising from omitted or unobservable variables (Baltagi, 2021). In this study, the cross-sectional dimension consists of data from **30 regencies and municipalities** in East Java Province, while the time-series dimension covers the **2015–2025** observation period.

Panel Data Regression Model Selection

According to Baltagi (2021), panel data analysis employs three basic regression models: the **Pooled Ordinary Least Squares (Pooled OLS) or Common Effects Model (CEM)**, the **Fixed Effects Model (FEM)**, and the **Random Effects Model (REM)**. The appropriate model is selected through a series of specification tests, namely the **Chow test**, the **Lagrange Multiplier (LM) test**, and the **Hausman test**.

Classical Assumption Tests

Baltagi (2021) argues that the classical assumption tests required in panel data regression are the **autocorrelation test** and the **heteroskedasticity test**. The autocorrelation test is conducted to detect the presence of serial correlation in the error terms across time within the same cross sectional unit.

The heteroskedasticity test is performed to examine whether the variance of the error terms remains constant across all observations. If these classical assumptions are violated, the estimation is adjusted using **robust standard errors** to obtain valid statistical inference.

Partial Significance Test (t-test)

The **partial significance test (t-test)** is employed to examine the individual effect of each independent variable on the dependent variable in the panel data regression model. This test focuses on assessing the separate contribution of each explanatory variable while holding the other variables constant (Wooldridge, 2010).

Simultaneous Significance Test (F-test)

The **simultaneous significance test (F-test)** is a statistical procedure used to assess whether the independent variables jointly exert a statistically significant effect on the dependent variable in the panel data regression model. The F-test plays a crucial role in evaluating the overall explanatory power of the estimated model by determining whether the set of explanatory variables collectively explains the variation in the dependent variable (Gujarati & Porter, 2009).

Coefficient of Determination (R-squared)

The **coefficient of determination (R-squared)** represents the proportion of the variation in the dependent variable that can be explained by the independent variables included in the regression model. It serves as a statistical measure of the model's explanatory power, indicating the extent to which the independent variables account for the observed variation in the dependent variable (Baltagi, 2021).

Hypotheses

Based on the research objectives, the hypotheses formulated in this study are as follows:

a. Regional Transfers (Revenue Sharing Fund, General Allocation Fund, and Special Allocation Fund) have a significant effect on the **Gross Regional Domestic Product (GRDP)** of East Java Province.

b. Village **Funds** have a significant effect on the **Gross Regional Domestic Product (GRDP)** of East Java Province.

c. Local **Own Source Revenue** has a significant effect on the **Gross Regional Domestic Product (GRDP)** of East Java Province.

d. Capital **Expenditure** has a significant effect on the **Gross Regional Domestic Product (GRDP)** of East Java Province.

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RESULTS AND DISCUSSION

Model Selection Test

The results of the panel data model selection procedures, including the **Chow test**, **Lagrange Multiplier (LM) test**, and **Hausman test**, are presented in **Table 2**.

Table 2. Summary of Panel Data Model Selection Results

Testing Stage	Comparison Model	Rest Result	Selected Model
Uji Chow	CEM : FEM	Prob < 0,05	FEM
Uji Lagrange Multiplier	CEM : FEM	Prob < 0,05	REM
Uji Hausman	REM : FEM	Prob < 0,05	FEM

Source: Processed by the authors using Stata

Table 2 presents the results of the panel data model selection, indicating that the Fixed Effects Model (FEM) was identified as the most appropriate model for the analysis.

Classical Assumption Test

The results of the autocorrelation test using the Wooldridge method indicate an F-statistic of **286.126** with degrees of freedom **F(1, 29)** and a **Prob > F** value of **0.0000**. Since the probability value is below the 5% significance level ($\alpha = 0.05$), it can be concluded that autocorrelation is present in the panel regression model. To address this issue, **robust standard errors clustered at the individual level** were employed.

The results of the heteroskedasticity test using the Modified Wald test show a chi-square statistic of **14,535.78** with **30 degrees of freedom** and a **Prob > chi²** value of **0.0000**. As the probability value is lower than the 5% significance level ($\alpha = 0.05$), it can be concluded that heteroskedasticity exists across the cross-sectional units. To correct for heteroskedasticity, **robust standard errors clustered at the individual level** were applied.

Partial Significance Test (t-test)

The results of the partial significance test (t-test) are presented as follows:

Table 3. Results of the Panel Data Regression Analysis

Variable	Coefficient	Robust Std. Error	t-statistik	Prob
X_1	-1,57448	1,99766	-0,79	0,437
X_2	22,14616	8,44432	2,62	0,014
X_3	33,87308	7,51541	4,51	0,000
X_4	-2,87675	1,90055	-1,51	0,141
Constant	19.511,09	3234,842	6,03	0,000

Source: Processed by the authors using Stata

Based on **Table 3**, the panel data regression equation estimated using the **Fixed Effects Model (FEM)** can be formulated as follows:

$$Y_{it} = 19511{,}09 - 1{,}57448X_{1it} + 22{,}14616X_{2it} + 33{,}87308X_{3it} - 2{,}87675X_{4it} + \epsilon_{it}$$

Based on the panel data regression equation presented above, the following conclusions can be drawn:

a. **Variable X_1** has a negative coefficient of **−1.57448** with a probability value of **0.437**, which exceeds the **5% significance level** ($\alpha = 0.05$). This result indicates that **Regional Transfers** do not have a statistically significant partial effect on **Gross Regional Domestic Product (GRDP)**.

b. **Variable X_2** has a positive coefficient of **22.14616** with a probability value of **0.014**, which is below the **5% significance level** ($\alpha = 0.05$). This finding indicates that the **Village Funds** has a statistically significant and positive partial effect on **Gross Regional Domestic Product (GRDP)**.

c. **Variable** X_3 has a positive coefficient of **33.87308** with a probability value of **0.000**, which is below the **5% significance level** ($\alpha = 0.05$). This result indicates that **Local Own Source**

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Revenue has a statistically significant and positive partial effect on **Gross Regional Domestic Product (GRDP)**.

d. **Variable X_4** has a negative coefficient of **−2.87675** with a probability value of **0.141**, which exceeds the **5% significance level** ($\alpha = 0.05$). This finding indicates that **Capital Expenditure** does not have a statistically significant partial effect on **Gross Regional Domestic Product (GRDP)**.

Simultaneous Significance Test (F-test)

The results of the simultaneous significance test (F-test) indicate an F-statistic of 22.86 with a Prob > F value of 0.0000. Since the probability value of 0.0000 is lower than the 5% significance level ($\alpha = 0.05$), the null hypothesis (H_0) is rejected. Therefore, it can be concluded that the independent variables X_1, X_2, X_3, and X_4 jointly exert a statistically significant effect on the dependent variable Y. These findings demonstrate that the panel data regression model is statistically valid and appropriate for explaining the relationships among the variables examined in this study.

Coefficient of Determination (R-squared)

The within R-squared value of 0.6701 indicates that 67.01% of the variation in the dependent variable Y within each cross-sectional unit over time is explained by the independent variables included in the model. The between R-squared value of 0.8468 reflects the model's ability to explain variations across cross-sectional units. Meanwhile, the overall R-squared value of 0.7822 indicates that 78.22% of the variation in the dependent variable Y is explained by the independent variables included in the model, while the remaining 21.78% is attributable to other factors not incorporated into this study.

The Effect of Regional Transfers on Gross Regional Domestic Product

The results indicate that **Regional Transfers** have no statistically significant effect on **Gross Regional Domestic Product (GRDP)** in the Province of East Java during the 2015–2025 period. This finding is consistent with the study by Agastha and Rahman (2025), which reported that the **General Allocation Fund (DAU)** and the **Revenue Sharing Fund (DBH)** do not exert a significant influence on economic growth. Likewise, the study by Morokowu, Rotinsulu, and Engka (2020) found that the **Special Allocation Fund (DAK)** has no significant effect on economic growth.

Regional transfer funds, as a component of the fiscal equalization system, should not be regarded as the sole determinant of the success of fiscal decentralization in promoting regional economic development. **Fiscal Federalism Theory** argues that fiscal decentralization does not automatically enhance efficiency and social welfare unless it is accompanied by effective control mechanisms and strong accountability (Weingast, 2009). Fiscal decentralization is more likely to stimulate economic growth in regions characterized by robust government accountability, effective oversight systems, and adequate administrative capacity. Accordingly, the effectiveness of fiscal decentralization depends largely on institutional design, the balance of fiscal authority, and the quality of public governance in generating sustainable long-term economic growth (Baskaran et al., 2016).

Furthermore, fiscal decentralization should be supported by strong local government governance capacity, sound public financial management, transparency, efficient public expenditure, and bureaucratic accountability. These factors are essential to ensure that fiscal decentralization translates into improved development outcomes (Fadli, 2016).

The Effect of Village Funds on Gross Regional Domestic Product

The findings indicate that Village Funds have a positive and statistically significant effect on Gross Regional Domestic Product (GRDP) in East Java Province during the 2015–2025 period, with a coefficient of **22.14616**. This implies that a one-unit increase in Village Funds is associated with an increase of **22.14616** units in GRDP, holding all other variables constant.

These findings are consistent with those of Tangkumahat et al. (2017), who demonstrated that Village Funds positively contribute to improving local economic conditions. Similarly, Wasudewa and Iskandar (2023) found that Village Funds have a significant positive impact on regional economic growth and development.

Village governments constitute the lowest tier of government and are the closest administrative institutions to local communities. According to Oates (1999), Fiscal Federalism Theory posits that decentralization enables public policies to be tailored to local preferences, thereby enhancing the efficiency of resource allocation. This theoretical perspective is particularly relevant because village governments maintain the closest interaction with local residents. Local preferences can be more effectively identified through community-based deliberative forums, such as village assemblies, neighborhood meetings, RT/RW consultations, women's forums, youth forums, religious gatherings, and other participatory mechanisms commonly practiced in rural communities. This proximity also facilitates the timely communication of policy feedback, enabling local governments to respond more rapidly and improve the quality of public policies. Consequently, Village Funds strengthen local institutions and promote community participation in the development process. Participatory development planning through village and hamlet deliberation forums further enhances budget allocation efficiency by ensuring that development programs are more closely aligned with community needs.

Village Funds represent a fiscal policy instrument within the framework of fiscal decentralization aimed at accelerating rural development and reducing regional disparities. They function as a fiscal stimulus designed to promote local economic activity through improvements in rural infrastructure, community empowerment, and the strengthening of village economic capacity (Ministry of Finance, 2025).

Village Funds also contribute to the development of rural infrastructure, including roads, bridges, irrigation systems, and other public facilities. Such infrastructure reduces transaction costs, improves regional connectivity, and facilitates the distribution of goods and services. Endogenous Growth Theory emphasizes the importance of infrastructure investment in enhancing productivity and fostering long-term economic growth (Barro, 1990).

In addition, Village Funds are intended to empower rural communities. Community empowerment initiatives are implemented through cash-for-work programs, the development of microenterprises, and skills training tailored to local needs and economic potential. These training programs are increasingly adaptive to advances in information technology and constitute an important form of human capital investment. This is consistent with the central proposition of Endogenous Growth Theory, which argues that investments in education, innovation, and technology generate benefits not only for individuals but also for the economy as a whole by enhancing productivity and sustaining long-term economic growth (Jones, 2021).

The Effect of Local Own Source Revenue on Gross Regional Domestic Product

The findings indicate that **Local Own Source Revenue (Pendapatan Asli Daerah, PAD)** has a positive and statistically significant effect on **Gross Regional Domestic Product (GRDP)** in East Java Province during the 2015–2025 period, with an estimated coefficient of **33.87308**. This implies that a one-unit increase in Local Own-Source Revenue is associated with a **33.87308 unit increase** in Gross Regional Domestic Product, holding other factors constant. These findings are consistent with those reported by Morokowu et al. (2020), Aditya et al. (2024), as well as Agastha and Rahman (2025).

Local Own Source Revenue reflects the fiscal capacity and public spending authority of local governments. An increase in Local Own Source Revenue strengthens fiscal independence by reducing reliance on intergovernmental transfers from the central government, thereby providing local governments with greater flexibility in determining development priorities. According to Oates (1999), fiscal decentralization becomes more effective when local governments possess adequate own source revenues, enabling them to formulate policies that are better aligned with local needs and preferences.

Higher Local Own Source Revenue also enables local governments to expand development expenditure, particularly capital spending on infrastructure and public facilities. According to **Endogenous Growth Theory**, investment in infrastructure and public services enhances the productivity of production factors and accelerates economic growth. Consequently, greater Local Own Source Revenue increases the financial capacity of local governments to fund development programs that directly stimulate economic activity (Barro, 1990).

Nevertheless, the magnitude of the contribution of Local Own Source Revenue to regional economic performance depends on both the quality of its management and the composition of its revenue sources. When Local Own Source Revenue is dominated by less productive revenue sources or is managed inefficiently, its contribution to economic growth may be limited. Therefore, efforts to optimize Local Own Source Revenue should be accompanied by improvements in the quality of public expenditure and local public financial management. Within the framework of fiscal decentralization, granting local governments greater authority to mobilize and manage their own revenue sources constitutes a policy whose effectiveness depends on institutional design, the balance of fiscal authority, and the quality of governance in generating sustained long term economic growth (Baskaran et al., 2016).

The Effect of Capital Expenditure on Gross Regional Domestic Product

The results indicate that Capital Expenditure has no statistically significant effect on Gross Regional Domestic Product (GRDP) in the Province of East Java during the 2015–2025 period. This finding is consistent with the results reported by Majid et al. (2025).

Capital Expenditure constitutes a key component of local government budgets, as it is allocated to finance the acquisition and development of fixed assets, including infrastructure, public facilities, and economic facilities. Capital Expenditure directed toward infrastructure development, such as roads, ports, and irrigation networks, has the potential to improve production and distribution efficiency. According to Endogenous Growth Theory, public investment in infrastructure is a key determinant of total factor productivity growth (Barro, 1990). Adequate infrastructure reduces logistics costs and facilitates economic activities, thereby creating conditions conducive to long-term economic growth.

According to Defitri (2020), Capital Expenditure generates economic benefits over future periods in accordance with the useful economic life of the assets acquired. Nevertheless, the economic impact of Capital Expenditure is not always immediately observable. Infrastructure projects generally require considerable time before their economic benefits are fully realized. Consequently, in the short run, Capital Expenditure may not exert a statistically significant effect on economic growth and may even appear to have no measurable impact (Oates, 1999).

The Simultaneous Effect of Regional Transfers, Village Funds, Local Own Source Revenue, and Capital Expenditure on Gross Regional Domestic Product

The estimation results indicate a constant value of **19,511.09**. This implies that, holding all other independent variables constant at zero, the **Gross Regional Domestic Product (GRDP)** of East Java Province is estimated at **IDR 19,511.09 billion**.

The results further show an overall coefficient of determination (**R^2**) of **0.7822**. This indicates that **Regional Transfers, Village Funds, Local Own Source Revenue, and Capital Expenditure** jointly explain **78.22%** of the variation in the **Gross Regional Domestic Product (GRDP)** of East Java Province, while the remaining **21.78%** is attributable to other factors not included in the present study. These findings are consistent with those reported by **Pramono et al. (2024)**, who found that fiscal decentralization has a statistically significant effect on **per capita Gross Regional Domestic Product**.

From the perspective of **Fiscal Federalism Theory**, fiscal decentralization is expected to promote economic growth by improving the efficiency of resource allocation, aligning local government policies more closely with citizens' preferences, and fostering interjurisdictional competition among local governments (Oates, 2005). However, the effects of fiscal decentralization are inherently context-specific and cannot be generalized, as they depend on the quality of institutional arrangements and governance practices (Baskaran et al., 2016). Therefore, the findings suggest that the effectiveness of fiscal decentralization is largely determined by the quality of local institutions and governance.

CONCLUSION

Based on the research objectives, findings, and discussion, the following conclusions are drawn:

a. **Regional Transfers** have no statistically significant partial effect on **Gross Regional Domestic Product (GRDP)** in the Province of East Java during the 2015–2025 period.
b. **Village Funds** have a positive and statistically significant partial effect on GRDP in the Province of East Java during the 2015–2025 period, with a coefficient of **22.14616**. This indicates that a one-unit increase in Village Funds is associated with a **22.14616 unit** increase in GRDP, ceteris paribus.
c. Local **Own Source Revenue** has a positive and statistically significant partial effect on GRDP in the Province of East Java during the 2015–2025 period, with a coefficient of **33.87308**. This implies that a one-unit increase in Own-Source Revenue is associated with a **33.87308 unit** increase in GRDP, holding other variables constant.
d. Capital **Expenditure** has no statistically significant partial effect on GRDP in the Province of East Java during the 2015–2025 period.
e. Collectively, **Regional Transfers, Village Funds, Local Own Source Revenue, and Capital Expenditure** exert a significant effect on GRDP in the Province of East Java during the 2015–2025 period. These variables jointly explain **78.22%** of the variation in GRDP, while the remaining **21.78%** is attributable to other factors not included in this study.

Based on the conclusions, findings, and discussion, the following recommendations are proposed:

a. **Village governments** should ensure that Village Funds are allocated effectively and efficiently to support community empowerment and village based economic development while aligning their implementation with both regional and national development priorities and encouraging active community participation.
b. **Local governments** should enhance the quality of public financial management by prioritizing productive expenditures that can stimulate regional economic growth.
c. **Local governments** should strengthen fiscal independence by optimizing Local Own Source Revenue, thereby reducing fiscal dependence on intergovernmental transfers from the central government.
d. **The central government** should strengthen its supervision and capacity building efforts for both local and village governments in public financial management, with particular emphasis on promoting fiscal independence and ensuring alignment with national development priorities.

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