Jurnal Perpajakan dan Keuangan Publik

Determinants of Grant Absorption in Indonesia: Fiscal Capacity, Management Experience, and Regional Heterogeneity

Farisa Noviyanti[1]

[1]Directorate General of Fiscal Balance, Ministry of Finance of Indonesia

How to cite: Noviyanti, F. (2026). *Determinants of grant absorption in Indonesia: fiscal capacity, management experience, and regional heterogeneity*. *Jurnal Perpajakan dan Keuangan Publik*.

Histori Artikel
Received: 12 January 2026
Revised: 21 April 2026
Accepted: 3 May 2026

Keywords:
Budget Absorption, Grants, Administrative Experience, Local Fiscal Capacity, Local Government

Kata Kunci:
Penyerapan Anggaran, Hibah Daerah, Pengalaman Administratif, Kapasitas Fiskal Daerah, Pemerintah Daerah

ABSTRACT

This study examines how local fiscal capacity and previous grant management experience influence grant absorption performance in Indonesia. Grants are a crucial component of development funding with specific purposes and are executed through formal agreements. Because grants often require pre-financing, local fiscal capacity becomes an important determinant when proposing recipients, as stipulated in existing regulations. Using panel data from 546 regional governments for 2019–2023, this study applies fixed-effects and random-effects regressions with clustered standard errors. The analysis first tests aggregate grant absorption and then examines differences by funding source: foreign loans (FL), foreign grants (FG), and domestic revenues (DR). Results show heterogeneous effects: fiscal capacity negatively affects FL absorption but positively affects FG, while neither overall grants nor DR grants are significantly influenced. Prior grant management experience improves FL absorption but has no significant effect on FG or DR. The interaction between fiscal capacity and experience is marginally positive for FL but strongly negative for FG, indicating distinct moderation patterns across funding types. Audit quality shows no direct relationship with absorption, while geographic disparities persist, with Java outperforming eastern regions. These findings highlight the need for tailored grant absorption strategies that consider both funding characteristics and regional capacity gaps.

ABSTRAK

Penelitian ini mengkaji pengaruh kapasitas fiskal daerah dan pengalaman pengelolaan hibah sebelumnya terhadap kinerja penyerapan hibah di Indonesia. Hibah daerah merupakan komponen penting dalam pendanaan pembangunan daerah yang dialokasikan dengan tujuan tertentu dan dilaksanakan melalui perjanjian. Mempertimbangkan karakteristik hibah yang cenderung memerlukan pendanaan pendahuluan (*pre-financing*), kapasitas fiskal daerah menjadi faktor penentu penting dalam pengajuan penerima hibah sebagaimana diatur dalam regulasi yang berlaku. Penelitian ini menggunakan data panel 546 pemerintah daerah pada periode 2019–2023 dan menerapkan regresi *fixed effects* dan *random effects* dengan *clustered standard errors*. Analisis dilakukan secara agregat, kemudian diuji perbedaan berdasarkan sumber pendanaan: pinjaman luar negeri (FL), hibah luar negeri (FG), dan pendapatan dalam negeri (DR). Hasil menunjukkan efek yang beragam: kapasitas fiskal berpengaruh negatif terhadap penyerapan hibah FL namun positif terhadap FG, sementara tidak signifikan pada hibah agregat dan DR. Pengalaman mengelola hibah meningkatkan penyerapan FL, tetapi tidak berpengaruh pada FG dan DR. Interaksi kapasitas fiskal dan pengalaman bersifat positif marjinal pada FL namun negatif kuat pada FG, menunjukkan pola moderasi yang berbeda. Kualitas audit tidak berhubungan dengan penyerapan, sementara disparitas geografis terlihat jelas, dengan wilayah Jawa

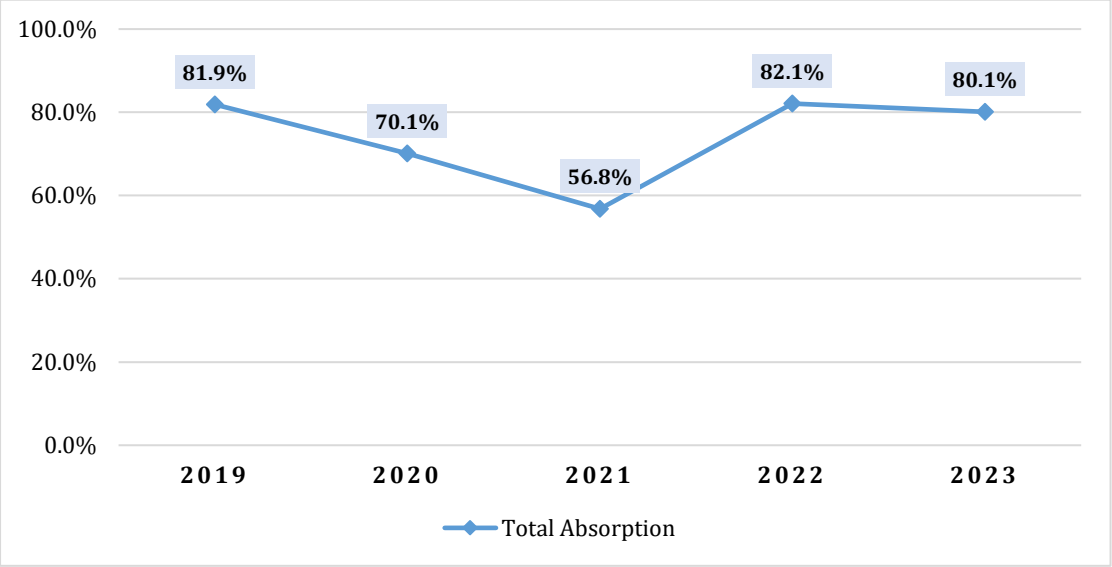
Email : farisa.noviyanti@kemenkeu.go.id

unggul dibandingkan dengan kawasan timur. Temuan ini menegaskan perlunya strategi penyerapan hibah yang disesuaikan dengan karakter pendanaan dan kapasitas daerah.

A. INTRODUCTION

Transfers to regions are an important instrument for supporting regional development and reducing fiscal gaps in Indonesia, with grants to regions constituting one form of such transfers. Under the fiscal decentralization framework, these grants are implemented through formal agreements and are increasingly linked to local government performance. Since the enactment of Law Number 1 of 2022 on Financial Relations between the Central and Local Governments, grants to regions have been integrated into the Special Allocation Fund and formally positioned as part of transfers to regions. This institutional change has increased the importance of evaluating how effectively local governments absorb and manage grant funds.

Grant absorption is particularly important because both planning and implementation arrangements suggest that local fiscal and administrative conditions matter. In the planning stage, local fiscal capacity may influence the selection of recipient regions, especially in grant schemes requiring pre-financing. In the implementation stage, disbursement is performance-based, requiring local governments to execute activities and incur expenditures before funds are transferred. These arrangements imply that variation in grant absorption may reflect differences in fiscal capacity, administrative readiness, and prior experience in managing grants. In this sense, budget absorption serves as an important indicator of local government commitment and capacity in utilizing public resources effectively, while also reflecting broader performance in achieving development objectives and supporting regional autonomy (Mardiasmo, 2021; Muthomi, 2021).



Source: Directorate General of Fiscal Balance (processed by the author)

Figure 1. The National Average of Grant Absorption 2019-2023

Between 2019 and 2023, the average national grant absorption rate was 74.2 percent, comprising 68.6 percent for foreign loans, 69.5 percent for grants from foreign donors, and 77.4 percent for grants from domestic revenues. Grant absorption never reached 90 percent at the national level during this period, with the lowest performance recorded in 2021 at 56.8 percent and the highest in 2022 at 82.1 percent. This pattern suggests that grant implementation still faces substantial constraints and may limit the effectiveness of intergovernmental transfers in accelerating regional development.

Previous research has examined the relationship between local fiscal capacity and government borrowing. Lewis (2003) investigated how Indonesian local governments' ability to borrow money and pay it back was related to their local fiscal capability. The study's key finding is that local governments typically borrow far more than their fiscal capacity to repay, and repayment issues are mostly driven by a lack of motivation to honour debt commitments, along with the central government's tolerance for such behaviour. Surya (2016) also investigated the relationship between fiscal capability and loan repayment performance in Indonesian local governments. The study found that the local government's financial capabilities have a major impact on how well local government loans are repaid. Regions with larger fiscal capacity usually perform better in terms of loan repayment since they have a stronger financial situation.

Another important factor regarding grant absorption is local governments' operational readiness to manage grant-funded activities. In addition to fiscal considerations and prior performance, grant implementation also depends on whether local governments meet the technical and administrative requirements set by relevant ministries or institutions. This readiness can be achieved by repeated exposure to procedures, which frequently leads to institutional learning (Cunico et al., 2022). Thus, this study captures grant management experience as defined by the number of years local governments have received grants, which serves as a proxy for administrative capacity to undertake and administer grant-funded programs. This study also includes two critical control variables to help explain these discrepancies. First, the quality of local government financial reporting is proxied by audit performance, which is evaluated using the audit opinion of local government financial reports. Second, regional location is used as a control variable to account for persistent structural differences among Indonesia's regions.

Against this background, this study aims to address the following research issues in light of the background research:

a. How does local fiscal capacity influence the overall absorption performance of grants to regions?

b. Does prior grant management experience improve a local government's grant absorption performance?

c. Is there an interaction effect between local fiscal capacity and grant management experience that enhances grant absorption?

d. To what extent does audit quality influence the absorption performance of grants to regions?

e. Are there significant regional disparities in grant absorption after accounting for local fiscal capacity, grant management experience, and audit performance?

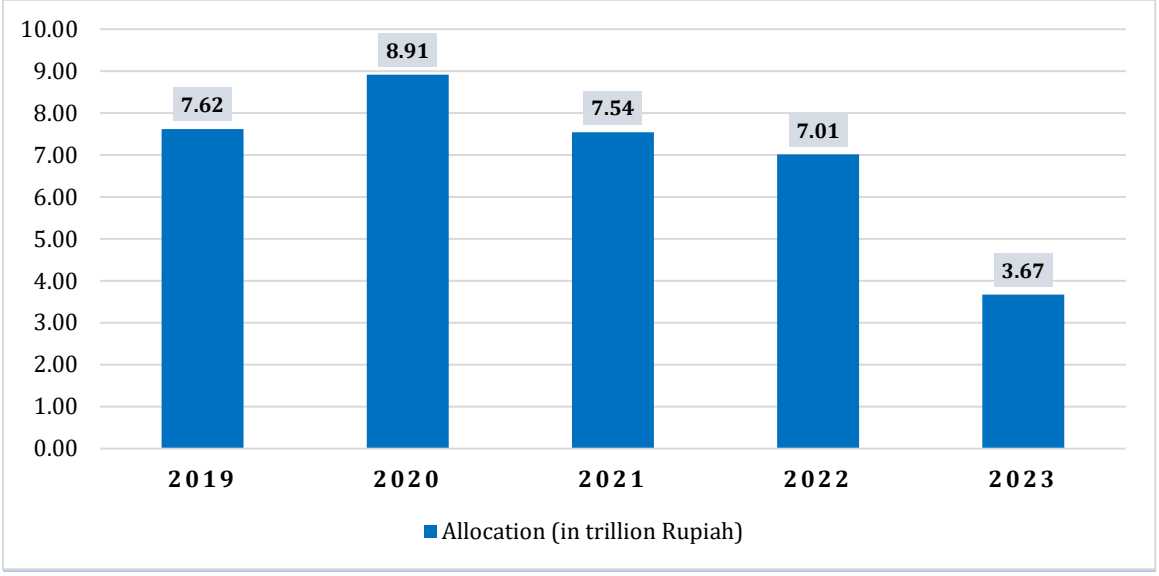
f. Does the effect of fiscal capacity differ across different types of grants (foreign loan grants, foreign grants, and domestic revenue grants)?

To the author's knowledge, prior research has yet to specifically examine the link between local fiscal capacity, experience, and the absorption of local grants under regional constraints. Even so, some regulations emphasize how local fiscal capacity and prior performance shape local grant policies. Thus, this study aims to bridge knowledge gaps and provide evidence-based policy recommendations for a more effective notion of local grants policy. These recommendations may serve as a starting point for enhancements at every stage of preparation and implementation.

B. LITERATURE REVIEW

1. Grants to Regions

The utilization of the grant program in regions plays an important role in supporting the achievement of national priorities in the local context, including through the provision of essential public services in the fields of transportation, construction of drinking water facilities, sanitation management, irrigation, agriculture, and local roads. Grants to regions serve as a key component in funding the management of local government responsibilities within the broader financial relations framework between the central and local governments.



Source: Directorate General of Fiscal Balance (processed by the author)

Figure 2. Development of Grant Allocation to Regions 2019-2023

The source of grants may come from foreign loans, foreign grants, and domestic revenues. Grants to regions from foreign loans and grants are multi-year or can be implemented continuously for several years of program implementation following

the Loan Agreement or Grant Agreement. Activities funded by grants to regions that come from foreign loans and grants are carried out to support national development programs. In contrast, activities from domestic revenues are prioritized to support essential public services in the regions and the context of post-disaster management. The development of grant allocations to regions for the 2019-2023 period can be seen in Graph 2. Every year, the allocation of grants to regions is dynamic due to the existence of local grant programs that have ended, the acceleration of the implementation of activities for grants sourced from abroad, and the addition of grant allocations for post-disaster recovery (Ministry of Finance, 2024).

Key features of grants to regions include their specific allocation, the participation of technical ministries/agencies as the executing agencies, and their execution through a formal agreement with the local government. Additionally, due to the disbursement characteristics, the performance of grant realization to regions is partly influenced by the pre-financing scheme in the local budgeting process. Government Regulation Number 2 of 2012 on Local Government Grants, which established the pre-financing mechanism for local governments, marked the beginning of the introduction of performance-based grant disbursement. In addition, the regulation also outlines the procedure for proposing local governments as grant recipients from technical ministries/agencies to the Minister of Finance.

Furthermore, regarding regional capabilities, Government Regulation Number 10 of 2011 concerning Procedures for Procuring Foreign Loans and Receiving Grants requires the Minister of Home Affairs to review proposals for loans and grants passed to regional governments. The proposal of local governments as grant recipients is not only based on local fiscal capacity but also involves discretion from donors and the government to designate certain regions as grant recipients (Herdiyana, 2019). On the other hand, according to Regulation of the Minister of National Development Planning (Bappenas) Number 4 of 2011 on the Procedures for Planning, Proposal Submission, Assessment, Monitoring, and Evaluation of Activities Funded by Foreign Loans and Grants, it is stipulated that technical ministries/agencies may propose activities that are partially or entirely planned to be granted to local governments, with priority given to those with low fiscal capacity (Bappenas, 2018).

2. Budget Absorption

The budget represents a commitment from budget stakeholders (executives) to the authority holder (legislative). The executive's performance will be evaluated based on the achievement of budget targets and budget implementation, defined as budget absorption (Mardiasmo, 2021). Budget absorption refers to allocating funds based on the targeted expenditure for a project that will significantly impact citizens. Good budgetary absorption levels would contribute to economic growth (Muthomi, 2021). Practically, some variables have a substantial impact on the high rate of absorption in local governments in Indonesia, such as human resource capacity (Pratiwi et al., 2023), the quality of planning (Turachman et al., 2018),

performance-based budgeting (Friyani & Hernando, 2019), and local government commitment (Ariadi et al., 2023).

Regarding the performance of grants to regions, the absorption levels formulated by the comparison between the allocated grants and the transfer realization to local governments in one fiscal year were influenced by the preparation of pre-financing schemes in the local budget and delays in implementing activities in the regions due to technical and natural factors (Ministry of Finance, 2024). Low local financial capacity and independence include suboptimal local governments in channeling various sources of local revenues, and a high reliance on revenues from central government transfers may make it challenging to implement pre-financing mechanisms (Aristanto, 2020).

3. Local Fiscal Capacity

In general, local fiscal capacity refers to the ability of a local government to generate revenue from its available resources to fund public goods and services (Simanjuntak, 2003). Lewis (2003) defines fiscal capacity as the local government's operating surplus that is available to make loan payments. Fiscal capacity is formulated as the local government's routine revenue minus the local government's routine expenditure, which is available to repay loans and other expenditures designated for their allocation. Measuring fiscal capacity is essential for determining transfer distribution to regions and ensuring equitable resource allocation (Martinez-Vazquez & Jameson Boex, 1997).

The Minister of Finance periodically determines the local fiscal capacity index. The results of calculating the financial capacity of local governments in Indonesia are then grouped based on the local fiscal capacity index into the fiscal capacity map. The fiscal capacity map is divided into five groups: regions with very high, high, medium, low, and very low fiscal capacity. The concept of the local fiscal capacity index as an instrument for consideration in the context of receiving grants was first introduced in 2003 through the Decree of the Minister of Finance Number 35 of 2003 concerning the Planning, Implementation, Administration, and Monitoring of the Forwarding of Foreign Loans from the government to the Regions. In the Minister of Finance Decree, the fiscal capacity index determines the portion of loans granted to regions, where regions with low capacity will receive larger grants.

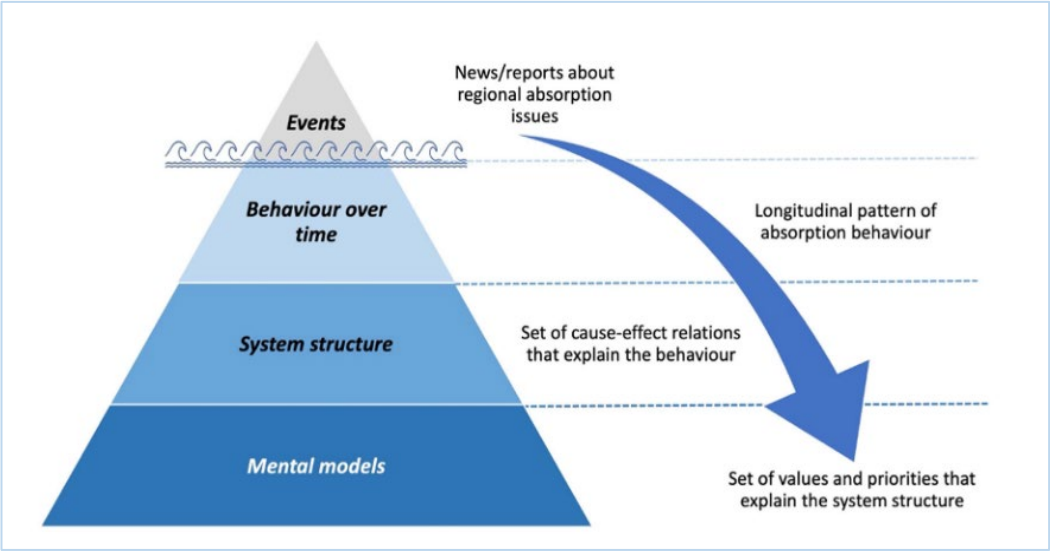
Furthermore, the Decree of the Minister of Finance Number 538 of 2003 began to regulate the use of grants prioritized for regions with many poor people. The fiscal capacity index was used to determine the portion of the grant amount until the stipulation of Government Regulation Number 2 of 2012 concerning Local Grants, which mandated that fiscal capacity be used by technical ministries/institutions to propose candidate regions to receive grants, both for grants sourced from domestic revenues and from foreign loans and grants. In addition, the design of local grant transfer began to introduce pre-financing through performance-based transfer. Since then, the scope of the use of local fiscal capacity has increased, where it not only mandates explicitly local fiscal capacity to consider grants originating from foreign

loans but also in the context of proposing local governments as grant recipients, assessing proposed local loans, determining the amount of matching funds, and other matters regulated explicitly in laws and regulations. Finally, in 2017, the formula for calculating local fiscal capacity no longer considered the number of poor people.

In its development, the regulation of the Minister of Finance concerning the Local Fiscal Capacity Map from 2018 to 2022, the policy for the use of local fiscal capacity shifted from proposing regions receiving grants to determining regions receiving grants, where the authority to use fiscal capacity shifted from the technical ministry/institution to the Ministry of Finance. Furthermore, considering the stipulation of Government Regulation Number 37 of 2023 concerning the Management of Transfers to Regions, the policy for the use of fiscal capacity shifted again from determining regions to considering the proposal of regions receiving grants by the ministry/technical institution. Since 2023, the local fiscal capacity map can propose regions receiving grants from domestic revenues and foreign loans or foreign grants to implement grants through financing (pre-financing).

4. Grant Management Experience

Local governments are anticipated to improve their administrative capacity in handling transfer funds as a result of gaining experience and obtaining technical assistance. Thus, it would result in more effective implementation and coordination through consistent involvement with grant-funded programs (Cunico et al., 2022). Administrative capacity refers to the ability and skill of both central and local authorities to determine programs and projects, prepare appropriate plans on time, collaborate with key partners, handle administrative and reporting requirements, and properly finance and oversee implementation while minimizing irregularities (Boeckhout et al., 2002).



Source: Cunico et al. (2022), adapted from Meadows (2009)

Figure 3. The Succession of Layers of Absorption Behavior

According to Cunico et al. (2022)'s conceptual framework of a succession of layers, which was modified from Meadows (2009), as illustrated in Figure 1, the event is a component of a recurring pattern that develops over time. The absorption behaviors are viewed as the result of a specific system structure, which is thought of as a collection of operational relations, feedback, and delays that have a cause-and-effect relationship. Given this paradigm, grant management experience could be relevant in the context of local governments, which frequently have a range of resources and technical capabilities. Thus, the quality of managerial local government capacity needs to be improved to increase performance (Choi, 2021).

This study also introduces an interaction term between fiscal capacity and grant management experience to examine whether high local fiscal capacity would strengthen the benefit of administrative experience in enhancing grant absorption. One study by Setiawan et al. (2022) discovered that the interaction of these variables has a considerable favourable influence. The way the factors interact is beneficial and enhances the success of local government in providing public services.

5. Regional Constraints as Control Variables

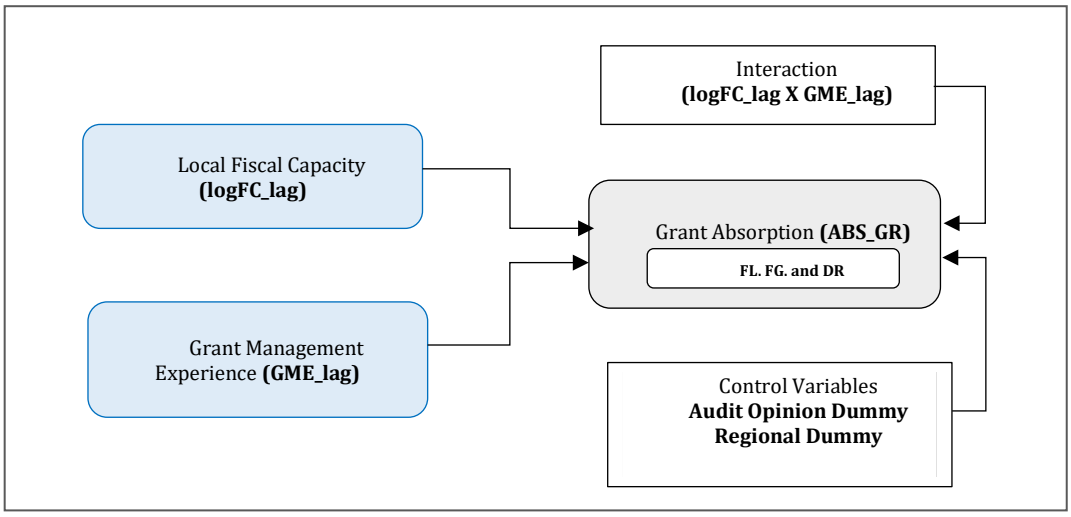
Audit performance is expressed in an opinion, which is a professional declaration from the Audit Board regarding the fairness of financial information given in financial statements. Law Number 15 of 2004 concerning Audit of State Financial Management and Accountability states that there are four categories of opinions: unqualified, qualified, adverse, and disclaimer. Audit performance indicates the level of accountability by presenting, reporting, and revealing all operations to the public (Mardiasmo, 2021). Indonesia's local governments must demonstrate that they have implemented their programs as effectively as possible. Implementation of these programs is represented in the financial accounts, particularly the budget realization report, which shows absorption. As a result, the audit opinion correlates positively with predicted performance (Sutopo et al., 2017). A consistent, unqualified opinion may indicate robust institutional processes that facilitate timely and correct project implementation (Adinata et al., 2023). Thus, audit performance is included as a control variable in this study to reduce the influence of administrative accountability.

On the other hand, local governments' geographic location is included to account for potential urban and regional variance between Java and non-Java areas. These discrepancies could impair a region's absorption rate by influencing its capacity to organize, carry out, and report grant-funded activities. For example, local governments in Java have considerably better financial conditions and more liquidity (Rusmin et al., 2014). In terms of borrowing capacity, Java's local governments also have the lowest rates of arrears (Lewis, 2003). It is hardly unexpected that local governments in Java outperform those located elsewhere. This finding is consistent with the reality that Java still dominates the country's economy (World Bank, 2025). Therefore, this study considers geographic location to isolate the effect of structural changes between regions.

C. RESEARCH METHOD

1. Research Design

This study adopted a quantitative verification technique based on panel data regression to examine the factors influencing grant absorption performance by Indonesian local governments. According to Baltagi (2008), panel data has advantages, such as controlling for unobserved heterogeneity and providing more meaningful data to analyse, making it appropriate for policy-oriented public finance research. Furthermore, the verification method is a research technique that seeks to determine the relationship between two or more variables to assess the validity of a hypothesis (Sugiyono, 2013). The quantitative method suggests a positivist paradigm, with a focus on explanation and prediction to validate current ideas using statistical analysis (Creswell & Creswell, 2017).



Source: Processed by the Author

Figure 4. Conceptual Framework

This study examined how local fiscal capacity and grant management experience influenced grant absorption. The analysis assessed total grant absorption and fund sources—foreign loans (FL), foreign grants (FG), and domestic revenues (DR)—and included interaction, audit opinion, and regional dummy variables to isolate effects. Because there was a time lag between local fiscal capacity and regional administrative readiness, reflecting the use of experience in recipient selection, the study measured local fiscal capacity with a 1-year lag and applied lagged variables. Lagged fiscal capacity was log-transformed to reduce skewness. To prevent undefined logarithms and stabilize variance, a constant (0.01) was added before transformation since some regions had near-zero fiscal capacity.

Based on the conceptual framework shown in Figure 4, this study selected the variable specification as follows:

a. Dependent Variable: Grant Absorption Rate (ABS_GR)

ABS is measured as the ratio of realized grants to regions compared to the allocated amount in a given fiscal year. A separate calculation of the variable was made for each grant source (FL, FG, and DR).

b. Independent Variables

1) Lagged Fiscal Capacity (logFC_lag)

LogFC_lag refers to the local fiscal capacity index, lagged by one year, and transformed into a natural logarithm. The natural log of FC_lag with +0.01 was added to avoid log(0). This index measures a local government's financial strength and its capacity to co-finance and oversee grant implementation.

2) Lagged Grant Management Experience (GME_lag)

GME_lag is a proxy for institutional learning and operational readiness with grant procedures. It was calculated as the total number of years a region had previously received a grant, with a one-year lag.

3) Interaction Term (logFC_lag x GME_lag)

An interaction term functions as a moderating effect. It was defined to determine whether local fiscal capability improves the influence of grant management experience on absorption performance.

c. Control Variables

1) Audit Opinion Dummy (LKPD_dummy)

LKPD_dummy served as a proxy for governance quality and financial accountability. It was a dummy variable, coded 1 if the region received an unqualified audit opinion in the previous year, and 0 otherwise.

2) Regional Dummy (REG_dummy)

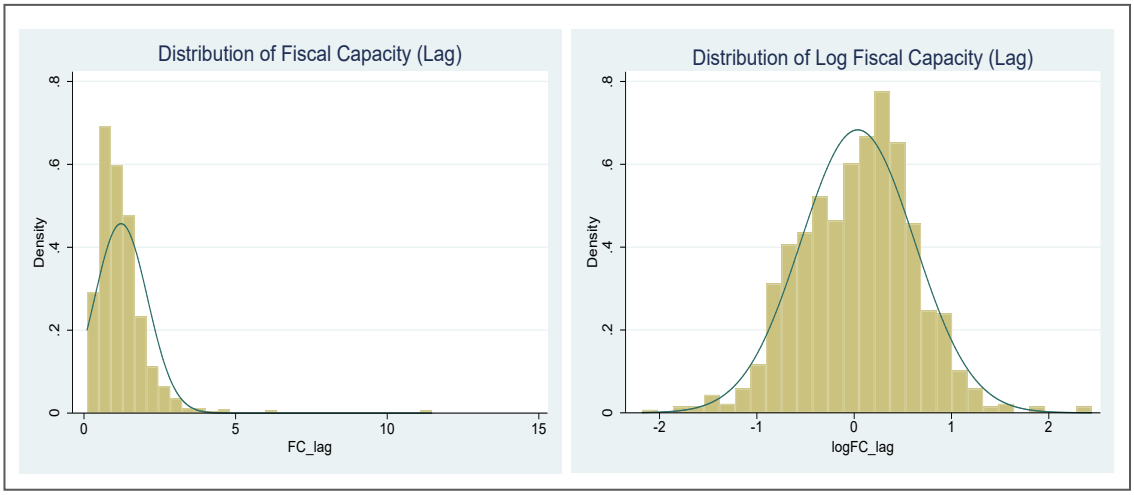
REG_dummy represented structural and geographic heterogeneity in Indonesia based on the six major regions of the country (Java, Sumatra, Kalimantan, Sulawesi, Bali-Nusa Tenggara, and Papua-Maluku). Sumatra was set as a baseline to be a reference for interpreting differences in other regions.

2. Population Data and Sample

The analysis used panel data from 2019 to 2023 covering 546 Indonesian local governments. This study relied on secondary data from the Directorate General of Fiscal Balance, Ministry of Finance, which provided information including 1) a local fiscal capacity index sourced from the Local Fiscal Capacity Map published by the Ministry of Finance periodically; 2) data on the allocation and realization of grants absorption per source of funds (foreign loans, foreign grants, and domestic revenues); and 3) audit performance data in the form of audit opinions on local government financial reports from the Audit Board.

The study employed a purposive sampling strategy by selecting observations that met specific criteria. First, given that grant allocation is dynamic and not every region receives a grant allocation, the panel data used in the study were unbalanced. This unbalanced structure was retained because excluding all regions with incomplete yearly observations would substantially reduce the sample and omit meaningful variation in grant receipt and absorption performance across local governments. The sample only contains regions that received at least one grant allocation from a single source throughout the study period. Furthermore, to highlight the importance of fiscal capacity in the absorption of grants to regions, grant allocations derived from domestic resources for post-disaster recovery were excluded from the analysis because grant disbursement is not carried out through a pre-financing process.

Second, the author created lag variables for regional fiscal capacity and grant management experience. Creating lag variables is a crucial step in examining the influence of previous year conditions on current year grant absorption performance. Procedurally, grant recipients are determined before grant fund absorption occurs (there is a lag between utilized fiscal capacity and grant absorption performance). Therefore, the author used a lag of t-1. Consequently, observations without a lag value (2019, the first year of the study) could not be used as a sample. In addition, observations with missing values in key variables, particularly grant allocation, grant realization, fiscal capacity, and audit opinion, were excluded from the estimation for the corresponding year. Missing values were not imputed in order to preserve the integrity of the administrative data and avoid introducing artificial variation into the panel structure.



Source: Directorate General of Fiscal Balance (processed by the author using Stata 15)

Figure 5. Histogram of Local Fiscal Capacity Index (Before and After Normalization)

Third, based on Figure 5, the fiscal capacity index was highly skewed. Therefore, the study applied a logarithmic transformation to the lagged fiscal capacity variable. After normalization, the distribution of fiscal capacity became more symmetrical. The

final sample, after filtering for completeness and data quality, included 866 observations from 271 local governments.

3. Research Model and Hypotheses

Based on the research questions, the following hypotheses are developed:

Hypothesis 1 : Local fiscal capacity has a positive and significant effect on grant absorption performance.

Hypothesis 2 : Prior grant management experience has a positive and significant effect on grant absorption performance.

Hypothesis 3 : The interaction between local fiscal capacity and grant management experience positively moderates the effect of grant absorption performance.

Hypothesis 4 : Audit quality has a positive and significant effect on grant absorption performance.

Hypothesis 5 : Geographic region has a positive and significant effect on grant absorption performance, indicating regional disparities after controlling for fiscal and institutional factors.

Hypothesis 6 : The local fiscal capacity effect may differ in the absorption of local grants sourced from different sources (foreign loans, foreign grants, and domestic revenue).

To answer the hypotheses, this study's equation model corresponds to the following general type of panel data from Gujarati (2003):

$$\boldsymbol{Y = \alpha + \beta_i X_{it} + \cdots + \mu_i + \epsilon_{it}} \qquad \textbf{(1)}$$

Where:

Y = dependent variable
α = intercept
β = regression coefficient
X = independent variable
μ = individual-specific effect
ϵ = error term
i = entity
t = time

Based on the general form of the panel data model and the conceptual framework as referred to in Figure 4, the form of the equation model in this study can be formulated as follows:

$$\boldsymbol{ABS_{it} = \alpha + \beta_1 logFC_{it-1} + \beta_2 GME_{it-1} + \beta_3 (logFC_{it-1} \times GME_{it-1}) + \beta_4 LKPD_{it-1} + \sum_{r=1}^{R-1} \gamma_r REG_{ir} + \mu_i + \epsilon_{it}} \qquad \textbf{(2)}$$

Where:

ABS_{it} = grant absorption rate in region i for year t
α = intercept

$\beta_1 - \beta_4$ = regression coefficient
$logFC_{it-1}$ = lagged log fiscal capacity index
GME_{it-1} = lagged grant management experience
$logFC_{it-1} \times GME_{it-1}$ = interaction term
$LKPD_{it-1}$ = audit quality dummy
REG_{ir} = regional dummies
μ_i = individual-specific effect
ϵ_{it} = error term

This study estimated both fixed-effect and random-effect models. The Hausman test was used to determine if an unobserved individual effect (μ_i) is correlated with one or more independent variables. If the significance level is less than 0.05 and unobserved heterogeneity correlates with regressors, the fixed-effect model is recommended; however, the random effect model is more efficient under strong exogeneity restrictions (Basuki & Prawoto, 2021; Gujarati, 2003).

D. RESULT AND DISCUSSION

1. Descriptive Statistics

Table 1 presents the descriptive statistics of the variables. The average regional grant absorption (ABS_GR) rate, based on 866 observations, reached 72.7 percent, indicating that grant absorption remains suboptimal. Figure 6 illustrates that, although many locations exhibit moderate to high absorption performance, a long tail of low-performing outliers remains. When examining the data by source, the regional grant absorption rate varied, with an average of 70.0 percent for grants sourced from foreign loans (FL), 62.0 percent from foreign grants (FG), and 75.9 percent from domestic revenues (DR). These figures highlight differences in absorption performance across grant types.

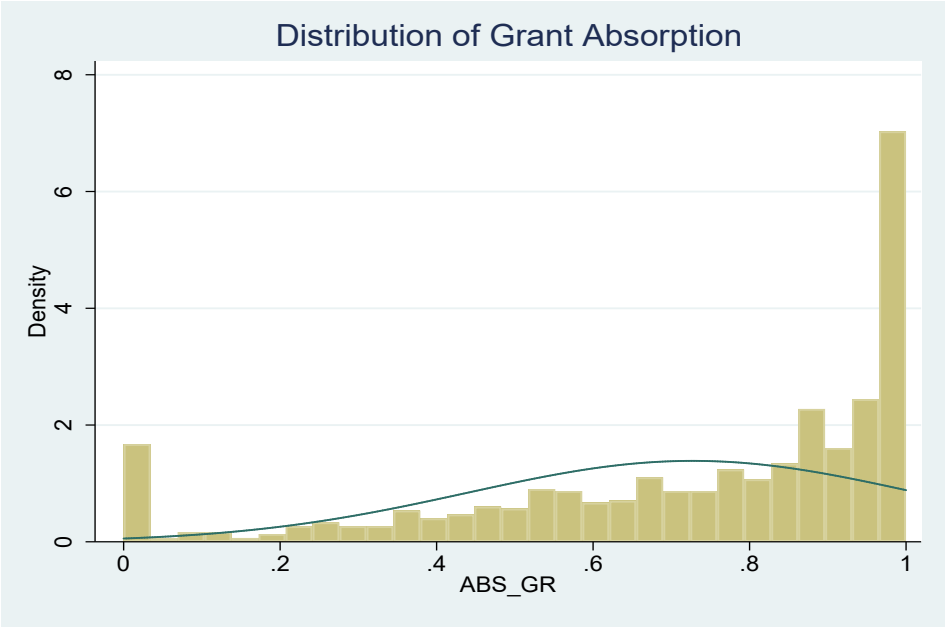
Table 1: Summary of Descriptive Statistics

Variables	Observation	Mean	Std. Dev	Min	Max
ABS_GR	866	0.727246	0.2877515	0	1
FL	438	0.7000646	0.2807012	0	1
FG	102	0.6199162	0.3648211	0	1
DR	638	0.7592299	0.3201027	0	1
logFC_lag	866	0.0368812	0.5839498	-2.180367	2.440868
GME_lag	866	1.355658	0.5272431	1	3
LKPD Dummy	866	0.943418	0.2311756	0	1

Source: Author's calculation based on Ministry of Finance and Audit Board data, processed with Stata 15.

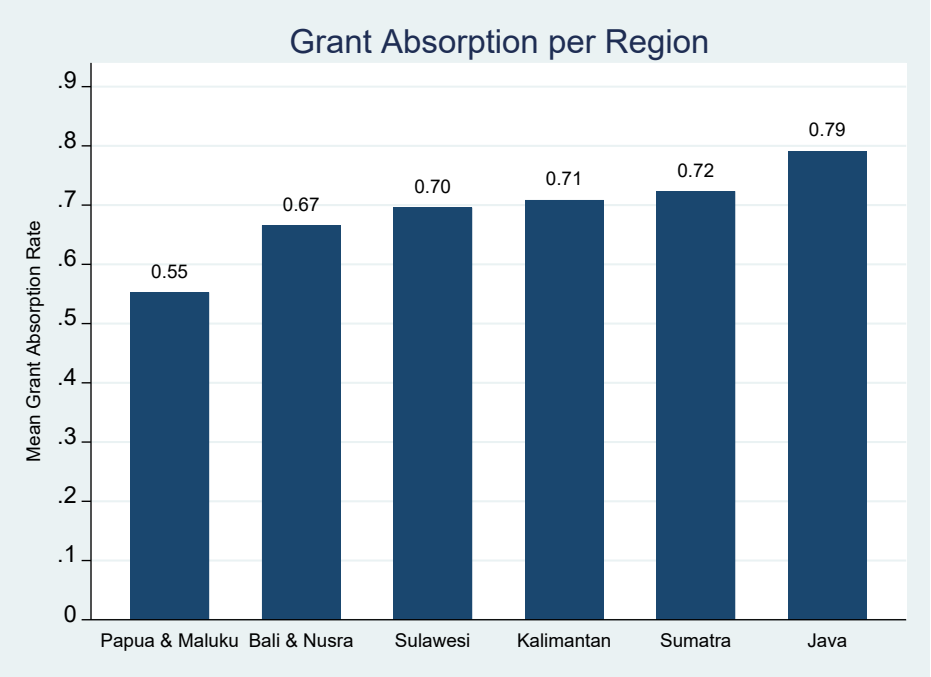
Log-transformed fiscal capacity (logFC_lag) showed a more symmetrical normal distribution, with a mean of 0.04 and a standard deviation of 0.58, reflecting the success of the transformation in reducing skewness. Furthermore, grant management experience (GME_lag) averaged 1.36 in previous years, indicating that some regions consistently received grants while others were relatively new

recipients. Meanwhile, audit results (LKPD_dummy) showed that 94.3 percent of local governments received an unqualified opinion in the previous year.



Source: Directorate General of Fiscal Balance (processed by the author using Stata 15)

Figure 6. Distribution of Grant Absorption, 2019-2023



Source: Directorate General of Fiscal Balance (processed by the author using Stata 15)

Figure 7. Grant Absorption per Region, 2019-2023

Figure 7 shows regional disparities in grant absorption. Java and Sumatra generally displayed higher average absorption rates, while Papua and Maluku lagged at 55 percent. This variation highlighted the geographic gaps and might signal the importance of controlling for regional effects in the regression analysis.

Table 2: Distribution of Observations by Region

Region	Frequency	Percent (%)
Sumatra	220	25.40
Java	269	31.06
Kalimantan	109	12.59
Sulawesi	169	19.52
Bali & Nusa Tenggara	73	8.43
Papua & Maluku	26	3.00
Total	**866**	**100.00**

Source: Author's calculation, processed with Stata 15.

Furthermore, it is important to note that the dataset was not evenly distributed across regions. Based on Table 2, the largest portions of observations were in Java (31.06%) and Sumatra (25.40%), while Kalimantan and Sulawesi contributed 12.59% and 19.52%, respectively. Conversely, Bali and Nusa Tenggara, as well as Papua and Maluku, had the smallest portions, at 8.43% and 3%, respectively. This uneven distribution could affect the precision of regional coefficients and should be considered when discussing regression results on geographic disparities.

2. Classical Assumption Tests

Table 3 shows the results of testing the classical assumptions of the fixed-effects model, which were compared with the random-effects model. The test results revealed heteroscedasticity issues. The test was conducted using the Breusch-Pagan test with pooled Ordinary Least Squares (OLS), which yielded a p-value of 0.01, indicating heteroscedasticity. This issue was addressed by using robust clustered standard errors in the main estimation model (Gujarati, 2003).

Table 3: Classical Assumption Test Results

Test	Statistic/ Estimate	p-value
Multicollinearity (VIF)	Mean VIF – 1.29; Max = 1.68	-
Autocorrelation (FE_AR(1))	ρ = 0.13	-
Heteroscedasticity (Breusch-Pagan)	Chi-square = 24.28	0.000

Source: Author's estimation using Stata 15.

Meanwhile, no multicollinearity or autocorrelation problems were found. The average Variance Inflation Factor (VIF) value was around 1.29, and all variables were below 10, so it was concluded that there were no severe multicollinearity issues (Gujarati, 2003; Nugraha, 2022). Furthermore, through estimation using the Fixed Effects model with first-order autoregressive scheme (FE_AR(1)), the ρ (rho) value was approximately 0.13, which is relatively small, thus indicating weak autocorrelation (Gujarati, 2003).

3. Model Selection

Table 4 reports the results of selecting the best model using the Hausman test. For the ABS_GR and FL variables, the Hausman test results were insignificant (p-value <0.05), so the fixed-effects model was used. Meanwhile, the random-effects model was more appropriate for FG and DR. All models applied clustered standard errors at the local government level to address potential heteroscedasticity, as shown by the results of the classical assumptions tests.

Table 4: Main Model Selection Results

Dependent Variable	Hausman Test (p-value)	Main Model
ABS_GR (Grant Absorption)	0.0299 (<0.05)	Fixed Effects (FE) with clustered Standard Errors (SE)
FL (Foreign Loans)	0.0215 (<0.05)	Fixed Effects (FE) with clustered SE
FG (Foreign Grants)	0.0977 (≥0.05)	Random Effects (RE) with clustered SE
DR (Domestic Revenues)	0.5166 (≥0.05)	Random Effects (RE) with clustered SE

Source: Author's estimation using Stata 15.

4. Hypothesis Testing and Discussion

Table 5 presents the results of a panel regression to test the hypotheses. Each hypothesis is interpreted based on its regression coefficients, significance values, and policy implications. As a robustness check, alternative estimates were also run and presented in the Appendix. The results remain consistent with the main estimates, strengthening the research findings.

a. The relationship between local fiscal capacity and grant absorption performance.

The estimation results show that regional fiscal capacity has a diverse influence on grant absorption performance. First, in the FL model, the logFC_lag coefficient is negative and significant (β = –0.181; p = 0.036), meaning that the higher the regional fiscal capacity, the lower the absorption rate of grants sourced from foreign loans. Moving to the FG model, the logFC_lag coefficient is positive and significant (β = 0.459; p = 0.027), indicating that better fiscal capacity is positively associated with increased grant absorption performance sourced from foreign grants. Finally, in both the ABS_GR and the DR model, the effect of fiscal capacity is not significant.

These results challenge the assumption that fiscal strength alone would guarantee the performance of fund utilization. Fiscal capacity is indeed crucial for ensuring resource allocation (Martinez-Vazquez & Jameson Boex, 1997), especially for implementing pre-financing mechanisms (Aristanto, 2020). However, they align with the findings of Kirana & Sulardi (2020), which found that local government financial performance is not influenced by fiscal capacity, but rather by human

resource capacity and quality governance. Even in the context of loans, high fiscal capacity does not guarantee repayment performance, but is more influenced by the willingness of local governments (Lewis, 2003).

b. The relationship between prior grant management experience and grant absorption performance.

The estimation results show that experience in managing grants in previous years only has a significant effect in the FL model, with a positive and significant coefficient of GME (β = 0.066; p = 0.050). This indicates that regions that have managed grants in previous periods have better absorption performance in subsequent periods. Meanwhile, in the ABS_GR, FG, and DR models, the effect of GME is not significant. This implies that the benefits of administrative experience are more pronounced in complex grant schemes that require greater technical readiness, such as foreign loans.

Table 5: Panel Regression Results (Main Variables and Hypotheses Testing)

Variables	ABS_GR (FE)	FL (FE)	FG (RE)	DR (RE)
logFC_lag	-0.062 (0.069); n.s.	-0.181** (0.086)	0.459** (0.207)	0.036 (0.072); n.s.
GME_lag	0.046 (0.025); n.s.	0.066* (0.033)	0.091 (0.068); n.s.	0.031 (0.026); n.s.
logFC_lag x GME_lag	0.005 (0.039); n.s.	0.087* (0.045)	-0.328*** (0.111)	-0.050 (0.045); n.s.
LKPD_dummy	0.019 (0.077); n.s.	0.124 (0.099); n.s.	-0.189 (0.153); n.s.	-0.019 (0.073); n.s.
R-squared (within/overall)	0.044	0.226	0.258	0.133

Notes:
- Standard errors in parentheses.
- *** p < 0.01 (highly significant); ** p < 0.05 (significant); * p < 0.10 (marginally significant); n.s. (not significant)
- For the FE model, R^2 within is displayed, while for the RE model, R^2 overall is shown.

Source: Author's estimation using Stata 15.

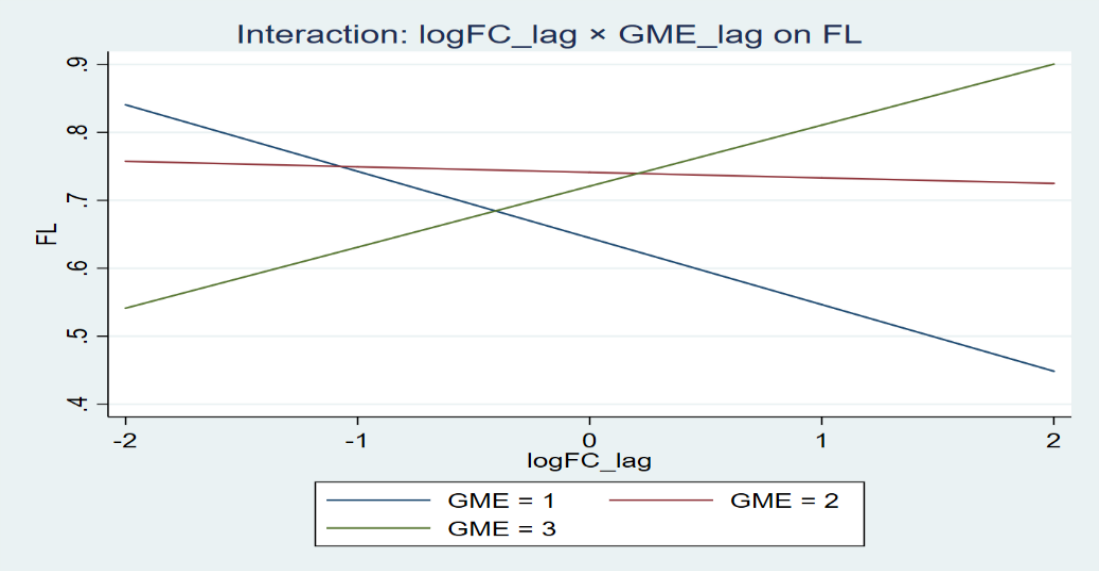
These results also indicate that institutional learning from the previous grant cycle remains effective, especially considering that the programs funded by the grants are mostly multi-year. Local governments tend to have low absorption in the first year of implementation, but absorption increases in subsequent years as work progresses. This result aligns with the findings of Cunico et al. (2022) that behavioral absorption is the accumulation of recurring events that develop over time

c. The moderating relationship between local fiscal capacity and prior grant management experience in explaining grant absorption performance.

The results of the interaction test between logFC_lag and GME vary depending on the type of grant. In the FL model, the interaction is positive and marginally significant (β = 0.087; p = 0.055). This indicates that although fiscal capacity can reduce grant performance, regions with experience in grant management can maintain the absorption. Conversely, in the FG model, the interaction is negative and

highly significant (β = –0.328; p = 0.003). This implies that increasing fiscal capacity reduces the positive impact of experience on managing foreign grants. Meanwhile, in the ABS_GR and DR models, the moderating variable's effect is insignificant.

The visualization in Figure 8 supports the illustration of how the moderating variable has a positive and significant effect in the FL model. For regions with low GME (blue line), remaining fiscal capacity is associated with declining absorption performance. However, as GME increases, the GME interaction weakens the negative effect of fiscal capacity on grant absorption (red line) and exerts a positive effect (green line). This strengthens the finding that the role of moderating variables can suppress the potential obstacle. It also aligns with the findings of Setiawan et al. (2022), the interaction pattern may increase benefits for optimizing absorption in local government.



Source: Author's estimation using Stata 15

Figure 8. Interaction Effect of Local Fiscal Capacity and Grant Management Experience on Grant Absorption (FL Model)

However, the moderating effect between fiscal capacity and grant experience is negative for foreign grants but positive for non-foreign grants. This can be explained by the fact that, according to Government Regulation Number 2 of 2012 concerning Local Government Grants, local governments receiving foreign grants can be specifically identified by donors based on specific needs, rather than selected based on fiscal capacity or institutional factors.

d. The relationship between audit quality and grant absorption performance.

The estimation results show that the financial report audit quality variable does not exhibit a statistically significant effect across all models (ABS_GR, FL, FG, and DR). This suggests that local accountability, as reflected in an unqualified audit opinion, is insufficient to ensure regional effectiveness in absorbing grants. This insignificant result may align with the findings of Sutopo et al. (2017) that audit opinions are positively related to administrative performance. Besides, audit opinions primarily reflect compliance with budget implementation, while absorption is influenced by disciplined planning, program readiness, and program implementation capacity.

e. The geographic differences in grant absorption performance.

Incorporating regional effects through the RE model and using Sumatra as the baseline, it indicates clear disparities across regions, as shown in Table 6. Using the ABS_GR model, Java has a positive and highly significant coefficient on grant absorption, or 10 percentage points higher than Sumatra (β = –0.328; p = 0.003). However, Papua and Maluku show significant negative coefficients, or 19 percentage points lower (β = –0.328; p = 0.003). Sulawesi also shows lower but marginally significant coefficients. Kalimantan, Bali, and Nusa Tenggara do not show statistically significant differences.

Table 6: Regional Effects on Grant Absorption (Baseline = Sumatra)

Region	Coefficient (SE)	p-value	Significance
Java	0.1008 (0.0314)	0.001	***
Kalimantan	0.0000 (0.0419)	1.000	n.s.
Sulawesi	-0.0624 (0.0337)	0.064	*
Bali & Nusa Tenggara	-0.0673 (0.0485)	0.165	n.s.
Papua & Maluku	-0.1923 (0.0749)	0.010	**

Notes:
- Coefficients from RE Generalized Least Squares regression with clustered SE at the local government level.
- Baseline region = Sumatera.
- Positive coefficients indicate higher absorption compared to Sumatra, and negative coefficients indicate lower.
- Standard errors in parentheses.
- *** p < 0.01 (highly significant); ** p < 0.05 (significant); * p < 0.10 (marginally significant); n.s. (not significant)

Source: Author's estimation using Stata 15.

These findings confirm the existence of heterogeneity differences in grant absorption capacity and performance, where spatially, the western region is relatively capable of absorbing grants compared to eastern Indonesia. This is consistent with research showing that Java continues to perform better than other regions (Lewis, 2003; Rusmin et al., 2014; World Bank, 2025) and that each region needs appropriate policies.

f. The relationship between local fiscal capacity and grant absorption performance differs across funding sources (foreign loans, foreign grants, and domestic revenue).

Based on a comparison of the test results across funding sources, the influence of fiscal capacity differs across funding sources. Local fiscal capacity in the previous year shows a negative and significant effect in the FL model but a positive one in the FG model. This heterogeneity supports the hypothesis that appropriate policy design should be tailored for each type of grant to develop an absorption strategy. The variation in R^2 values across models (FL within R^2 = 0.226; FG overall R^2 = 0.258; DR overall R^2 = 0.133) confirms that the strength of the model is highly dependent on the characteristics of the type of grant funding source.

E. CONCLUSION AND RECOMMENDATION

This study finds that grant absorption performance in Indonesia is shaped by local fiscal capacity, prior grant management experience, and regional disparities. However, local fiscal capacity alone does not consistently improve grant absorption, as its effect varies by grant type. This study also supports the hypothesis that prior grant management experience enhances absorption performance, although the effect is weak. The moderating effect weakens the negative effect of fiscal capacity on loan-based grants, indicating that grant management experience is crucial. Audit quality was not significantly related to absorption performance, demonstrating that formal compliance does not necessarily translate into effective program implementation. Meanwhile, there were significant regional disparities, with Java performing better and Papua and Maluku lagging after controlling for fiscal and institutional factors.

This study contributes to the literature by showing that grant absorption is influenced not only by fiscal conditions but also by administrative experience and structural regional differences. In this sense, the study extends the discussion of fiscal decentralization beyond transfer allocation to the effectiveness of grant implementation at the local level.

However, this study has several limitations that need consideration. First, based on the hypothesis results (Table 5), the R^2 value remains relatively low, particularly for the ABS_GR and DR models, indicating a need for additional control variables to strengthen the model. Second, considering the uneven regional distribution of observations (Table 2), this suggests the importance of more balanced samples and complementary data to better understand capacity gaps across regions. Third, the measurement of grant management experience is proxied by the presence of prior grants rather than qualitative aspects, such as the managerial quality of local government. Besides, the analysis focuses on administrative data, which may not fully capture the dynamics within local governments that can influence absorption performance.

Furthermore, this study provides several recommendations for the government to anticipate grant absorption strategies. Local fiscal capacity is not necessarily a benchmark for determining regional grant recipients. Further refinement is needed in designing grant formulas that also consider administrative readiness, institutional strength, and regional heterogeneity. For academics, this research can open up opportunities for further study, particularly in examining other variables that may play a role in accelerating grant absorption more specifically or in other intergovernmental transfers.

REFERENCES

Adinata, W., Puspandoyo, T., & Ling, M. (2023). Pengaruh Opini Audit Laporan Keuangan Pemerintah Daerah terhadap Kesejahteraan Masyarakat di Daerah. *Indonesian Treasury Review: Jurnal Perbendaharaan, Keuangan Negara dan Kebijakan Publik, 8*(3), 219-234.

Ariadi, W., Syafii, M., Yendra, Y., & Jatmik, W. (2023). Analysis of Factors Influencing Delays in the Absorption of the Local Government Revenue Expenditure Budget of the Regional Government of Papua Province. *Kontigensi: Jurnal Ilmiah Manajemen*, *11*(1), Article 1. https://doi.org/10.56457/jimk.v11i1.394

Aristanto, E. (2020). Analisis Kemampuan dan Kemandirian Keuangan Daerah sebagai Daya Dukung Pelaksanaaan Program Sumber Daya Air dan Ketahanan Pangan. *Jurnal Ekonomi Pembangunan STIE Muhammadiyah Palopo*, *6*(1). https://doi.org/10.35906/jep01.v6i1.466

Baltagi, B. H. (2008). *Econometric Analysis of Panel Data* (3rd ed., Vol. 4). Wiley.

Bappenas. (2018, November). *RC Manual-Indonesia*. Panduan Pengusulan dan Peningkatan Kesiapan Kegiatan yang Didanai Pinjaman Luar Negeri. https://perpustakaan.bappenas.go.id/e-library/file_upload/koleksi/migrasi-data-publikasi/file/Panduan_Perencanaan/RC%20Manual-Indonesia.pdf

Basuki, A. T., & Prawoto, N. (2021). *Analisis Data Panel dalam Penelitian Ekonomi dan Bisnis (Dilengkapi dengan Penggunaan Eviews)* (Vol. 160). PT Rajagrafindo Persada. https://ekonometrikblog.wordpress.com/wp-content/uploads/2021/08/draft-buku-analisis-data-panel-dalam-penelitian-ekonomi-dan-bisnis-2021-dikompresi.pdf

Boeckhout, S., Boot, L., Hollanders, M., Reincke, K.-J., & de Vet, J. M. (2002). *Client: EC DG REGIO/DG ENLARGEMENT*.

Choi, N. (2021). Analyzing Local Government Capacity and Performance: Implications for Sustainable Development. *Sustainability*, *13*(7), Article 7. https://doi.org/10.3390/su13073862

Creswell, J. W., & Creswell, J. D. (2017). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (Fifth Edition). SAGE Publications.

Cunico, G., Aivazidou, E., & Mollona, E. (2022). Decision-making traps behind low regional absorption of Cohesion Policy funds. *European Policy Analysis*, *8*(4), 439–466. https://doi.org/10.1002/epa2.1162

Friyani, R., & Hernando, R. (2019). Determinants of The Effectiveness of Implementation Performance-Based Budgeting and Budget Absorption in Local Government (Study on Jambi City Government). *Sriwijaya International Journal of Dynamic Economics and Business*, *3*(3), Article 3.

Gujarati, D. N. (2003). *Basic econometrics* (4th ed). McGraw-Hill.

Herdiyana, D. (2019). Analisis Data Peta Kapasitas Fiskal Daerah. *Jurnal Pajak dan Keuangan Negara (PKN)*, *1*(1), 22. https://doi.org/10.31092/jpkn.v1i1.610

Kirana, A. S., & Sulardi, S. (2020). Pengaruh Karakteristik Pemerintah Daerah Dan Opini Audit Terhadap Kinerja Keuangan Pemerintah Daerah (Studi Empiris Pada

Pemerintah Daerah Kabupaten/Kota Di Indonesia Tahun 2018). *Jurnal Akuntansi dan Manajemen Mutiara Madani*, *8*(2), 175–192.

Lewis, B. D. (2003). Local Government Borrowing and Repayment in Indonesia: Does Fiscal Capacity Matter? *World Development*, *31*(6), 1047–1063. https://doi.org/10.1016/S0305-750X(03)00047-0

Mardiasmo. (2021). *Akuntansi Sektor Publik - Edisi Terbaru*. Penerbit Andi.

Martinez-Vazquez, J., & Jameson Boex, L. F. (1997). Fiscal Capacity: An Overview of Concepts and Measurement Issues and Their Applicability in the Russian Federation. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.470821

Meadows, D. H. (2009). *Thinking in Systems: A primer*. Earthscan.

Ministry of Finance. (2024, August). *02-Buku-II-Nota-Keuangan-RAPBN-TA-2025*. Buku II Nota Keuangan RAPBN TA 2025. https://media.kemenkeu.go.id/getmedia/a7a2dbde-9264-478e-a841-05e7ad94fa12/02-Buku-II-Nota-Keuangan-RAPBN-TA-2025.pdf?ext=.pdf

Muthomi, J. L. (2021). *Relationship Between Budget Absorption and Economic Growth in Kenya* [Thesis, University of Nairobi]. http://erepository.uonbi.ac.ke/handle/11295/160138

Nugraha, B. (2022). *Pengembangan Uji Statistik: Implementasi Metode Regresi Linier Berganda dengan Pertimbangan Uji Asumsi Klasik*. Pradina Pustaka.

Pratiwi, N. R., Perwito, & Sukmawijaya, J. (2023). Determinants of Budget Absorption: The Role of Regulation as Moderator. *International Journal of Economics Development Research*, *4 (1)*, 167–180.

Rusmin, R., Astami, E. W., & Scully, G. (2014). Local Government Units in Indonesia: Demographic Attributes and Differences in Financial Condition. *Australasian Accounting, Business and Finance Journal*, *8*(2), Article 2. https://doi.org/10.14453/aabfj.v8i2.7

Setiawan, A., Tjiptoherijanto, P., Mahi, B. R., & Khoirunurrofik, K. (2022). The Impact of Local Government Capacity on Public Service Delivery: Lessons Learned from Decentralized Indonesia. *Economies*, *10*(12), Article 12. https://doi.org/10.3390/economies10120323

Simanjuntak, R. (2003, August 25). Kebutuhan Fiskal, Kapasitas Fiskal, dan Optimalisasi Potensi PAD. *Lembaga Penyelidikan Ekonomi dan Masyarakat - Fakultas Ekonomi dan Bisnis - Universitas Indonesia*. https://lpem.org/kebutuhan-fiskal-kapasitas-fiskal-dan-optimalisasi-potensi-pad/

Sugiyono. (2013). *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif dan R&D* (19th ed.). Alfabeta. https://digi-lib.stekom.ac.id/assets/dokumen/ebook/feb_35efe6a47227d6031a75569c2f3f39d44fe2db43_1652079047.pdf

Sutopo, B., Wulandari, T. R., Adiati, A. K., & Saputra, D. A. (2017). E-Government, Audit Opinion, and Performance of Local Government Administration in Indonesia. *Australasian Accounting, Business and Finance Journal*, *11*(4), Article 4. https://doi.org/10.14453/aabfj.v11i4.2

Turachman, H., Noor, I., & Makmur, M. (2018). Strategy of Planning in Absorption of Regional Budget (Study at Regency Government of East Kotawaringin). *Wacana Journal of Social and Humanity Studies*, *21*(2). https://wacana.ub.ac.id/index.php/wacana/article/view/565

World Bank. (2025). *World Bank East Asia and Pacific Economic Update, April 2025: A Longer View*. World Bank, Washington DC. https://doi.org/10.1596/978-1-4648-2232-2

APPENDIX A. ADDITIONAL REGRESSION RESULTS

Table A.1: Robustness Check: Alternative Specifications

Alternative Specification 1: FE + Year and Region				
Variables	**ABS_GR (FE)**	**FL (FE)**	**FG (RE)**	**DR (RE)**
logFC_lag	–0.058 (0.071); n.s.	-0.175** (0.085)	0.447** (0.204)	0.033 (0.074); n.s.
GME_lag	0.045 (0.026); n.s.	0.065* (0.034)	0.088 (0.069); n.s.	0.030 (0.027); n.s.
logFC_lag x GME_lag	0.004 (0.040); n.s.	0.083* (0.046)	-0.322*** (0.109)	-0.047 (0.046); n.s.
LKPD_dummy	0.018 (0.078); n.s.	0.120 (0.100); n.s.	-0.185 (0.155); n.s.	-0.018 (0.074); n.s.
R-squared (within/overall)	0.046	0.229	0.262	0.133
Alternative Specification 2: FE-AR(1) Disturbances				
Variables	**ABS_GR (FE)**	**FL (FE)**	**FG (RE)**	**DR (RE)**
logFC_lag	-0.060 (0.067); n.s.	-0.178** (0.084)	-	-
GME_lag	0.046 (0.025); n.s.	0.066* (0.033)	-	-
logFC_lag x GME_lag	0.006 (0.038); n.s.	0.085* (0.044)	-	-
LKPD_dummy	0.019 (0.077); n.s.	0.124 (0.099); n.s.	-	-
R-squared (within)	0.045	0.230	-	-

Notes:

- Alternative specifications test robustness of baseline models by (1) including additional year and region controls and (2) applying fixed-effects with AR(1) disturbances for ABS_GR and FL.
- Standard errors in parentheses.
- *** p < 0.01 (highly significant); ** p < 0.05 (significant); * p < 0.10 (marginally significant); n.s. (not significant)

Source: Author's estimation using Stata 15.