

Do Fiscal Transfers Drive Local Budget Performance? Evidence from General and Special Allocation Funds in West Sumatra

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Abstract: *This study explores how two key fiscal transfer instruments the General Allocation Fund (GAF) and the Special Allocation Fund (SAF) shape regional expenditure patterns in West Sumatra. As Indonesia continues to strengthen its decentralized governance framework, understanding how intergovernmental transfers influence local budgeting has become increasingly important for improving fiscal performance. Using a quantitative explanatory approach, this research analyzes panel data from 19 regencies and cities across the province for the period 2017–2023, resulting in 133 observations. All data were obtained from official national sources, including the Central Statistics Agency (BPS) and the Directorate General of Fiscal Balance (DJPK). The empirical analysis employs panel regression models to evaluate the direct influence of GAF and SAF on regional expenditure. The findings show that both GAF and SAF significantly enhance regional spending capacity, confirming their essential role in supporting local service delivery and development programs. GAF contributes to overall fiscal stability and equalization across regions, while SAF demonstrates strong influence in stimulating sector-specific expenditures aligned with national priorities. These results highlight that intergovernmental fiscal transfers remain critical for ensuring spending adequacy at the subnational level, especially in regions with varying economic and administrative capacities. Strengthening the design, distribution mechanisms, and monitoring of fiscal transfers is therefore crucial to enhancing regional financial management and promoting more equitable development outcomes across Indonesia.*

Keywords: Regional Expenditure, Fiscal Transfers, General Allocation Fund, Special Allocation Fund, Fiscal Decentralization

1. Introduction

Fiscal decentralization has become a central pillar of Indonesia's public sector reform, aimed at strengthening local autonomy and improving the quality of public services across regions. Under this system, local governments are granted greater responsibility to manage resources, plan development priorities, and allocate public spending in accordance with regional needs. However, the ability of districts and cities to carry out these responsibilities depends heavily on their fiscal capacity. In practice, many regions still rely substantially on intergovernmental fiscal transfers to supplement limited revenue sources, making central government funding a key determinant of local expenditure behavior.

Among the various transfer mechanisms, the General Allocation Fund (GAF) and the Special Allocation Fund (SAF) represent two of the most critical instruments supporting regional

financial management. GAF functions as an equalization tool designed to reduce fiscal disparities and ensure that all regions are able to maintain a minimum standard of public services. Its unconditional nature provides local governments with broad spending flexibility, allowing them to allocate funds based on administrative and developmental priorities. SAF, by contrast, is specifically earmarked for targeted sectors such as infrastructure, health, and education. These earmarked transfers are integral for addressing development gaps and supporting national strategic programs at the subnational level.

West Sumatra, like many other provinces in Indonesia, demonstrates a high degree of dependence on these fiscal transfers. Regional revenue structures in several districts are dominated by GAF and SAF, reflecting constraints in internally generated revenue and disparities in economic capacity. This dependence prompts important questions about how effectively these transfers translate into actual regional expenditure and whether they adequately support the fiscal responsibilities mandated by decentralization. While GAF is expected to stabilize financial capacity across regions, its effectiveness may vary depending on local governance practices and expenditure priorities. SAF, on the other hand, is presumed to enhance targeted development outcomes but may be influenced by administrative capacity and project implementation readiness.

Despite the significant role of fiscal transfers, empirical evidence specific to West Sumatra remains limited, particularly regarding how GAF and SAF individually influence regional expenditure over time. Existing studies often focus on national-level analyses or incorporate additional variables such as local revenues or economic factors, leaving a gap in understanding the direct relationship between these two core fiscal instruments and regional spending behavior. This research addresses that gap by examining the impact of GAF and SAF on regional expenditure across 19 regencies and cities in West Sumatra from 2017 to 2023.

By providing empirical insights into the effectiveness of Indonesia's intergovernmental transfer system within the context of West Sumatra, this study contributes to broader discussions on fiscal decentralization, public finance management, and regional development. Strengthening the understanding of how GAF and SAF influence expenditure patterns can support policy efforts aimed at improving transfer design, enhancing fiscal accountability, and promoting more equitable development across Indonesia's diverse regions..

2. Literature Review

This section reviews the theoretical foundations and empirical studies related to fiscal transfers specifically the General Allocation Fund (GAF) and the Special Allocation Fund (SAF) and their influence on regional expenditure. The discussion is built upon principles of fiscal federalism, resource allocation theory, and intergovernmental transfer design, followed by empirical insights from Indonesia and comparable decentralized systems.

2.1 Theoretical Foundations

Fiscal federalism provides the conceptual basis for understanding how responsibilities and resources are allocated between central and subnational governments. Oates (1972) argues that decentralized systems function effectively when expenditure responsibilities and revenue authority are balanced and aligned with local needs. Because local governments often have limited revenue generating capacity, fiscal transfers become essential instruments to bridge fiscal gaps and ensure equitable public service delivery. From this perspective, fiscal transfers such as GAF and SAF influence regional expenditure by expanding local fiscal capacity,

enabling local governments to execute mandated functions, and reducing disparities among jurisdictions. The theory suggests that well-designed transfers can enhance efficiency, but poorly structured transfers may create dependency or weaken spending discipline.

Resource allocation theory highlights how public funds are distributed and used to maximize social welfare. In decentralized settings, the allocation of transfers affects local decisions regarding both operational and developmental spending. Unconditional funds (e.g., GAF) allow regions greater flexibility, while conditional transfers (e.g., SAF) direct spending toward sector-specific priorities. The theory underscores that the effectiveness of transfers depends not only on the amount received but also on how efficiently local governments convert resources into public services and development outcomes.

2.2 General Allocation Fund (GAF) and Regional Expenditure

The General Allocation Fund is the largest unconditional transfer mechanism within Indonesia's fiscal framework. Its primary objective is to equalize fiscal capacity across regions by providing broad, flexible funding that supports administrative operations and essential public services. According to the Ministry of Finance (2023), GAF is designed to help local governments maintain minimum service levels and reduce horizontal fiscal imbalances. Theoretical models suggest that such unconditional transfers enhance expenditure flexibility, enabling local governments to allocate resources based on regional priorities (Oates, 1999). However, concerns remain that unconditional transfers may reduce incentives for fiscal discipline, potentially encouraging local dependency.

Empirical studies in Indonesia generally associate GAF with increased regional expenditure, although its impact differs by region. Research by Khoirunisa and Sulaeman (2021) found that GAF significantly expands local spending capacity across more than 500 districts, underscoring its importance in supporting decentralized governance. Other studies, however, highlight inefficiencies in how GAF is used, particularly when funds are heavily absorbed by routine expenditures rather than development initiatives (Haryanto & Yussof, 2020). These mixed outcomes suggest that while GAF contributes materially to regional expenditure, the quality of spending depends on governance capacity and local fiscal priorities.

2.3 Special Allocation Fund (SAF) and Regional Expenditure

In contrast to GAF, the Special Allocation Fund assumes an earmarked design, channeling central government resources into targeted sectors such as infrastructure, education, health, and rural development. SAF is intended to support strategic programs and accelerate development in areas facing structural challenges. Theoretical arguments emphasize that conditional transfers can enhance allocative efficiency by directing spending toward high-impact sectors (Bird & Smart, 2023). SAF therefore plays a dual role: supporting national development priorities while fostering more balanced regional growth.

Empirical evidence generally confirms the positive effect of SAF on spending outcomes. Studies such as Arifin and Sari (2022) show that SAF improves regional development performance by boosting capital expenditure and sector-specific spending. However, the effectiveness of SAF is also influenced by administrative capacity. Delays in project implementation, low absorption rates, and bureaucratic constraints often limit the full utilization of SAF allocations (Setyowati & Nugroho, 2021). Despite these challenges, SAF remains a crucial tool for strengthening regional expenditure, especially in areas requiring targeted investment.

2.4 Synthesis and Research Gap

The literature reveals that both GAF and SAF play essential roles in shaping regional expenditure behavior in decentralized systems. GAF enhances fiscal space and supports operational spending, while SAF directs resources to priority sectors, encouraging capital investment and development-oriented expenditure. However, several gaps remain. First, many studies evaluate fiscal transfers alongside additional variables such as local revenue or economic indicators, leaving fewer works that isolate the direct influence of GAF and SAF on expenditure. Second, although Indonesia's fiscal transfer system is widely studied at the national level, empirical investigations specific to provinces like West Sumatra are still limited. Third, heterogeneity across regions suggests that transfer effectiveness may vary depending on local administrative capacity and governance practices, which warrants further exploration.

This study addresses these gaps by focusing exclusively on the direct influence of GAF and SAF on regional expenditure in West Sumatra using panel data over a seven-year period. Through this approach, the research contributes a more targeted understanding of how fiscal transfers function within a provincial context and how they support decentralized public financial management.

3. Research Methodology

This study adopts a quantitative research design to empirically examine how two central fiscal transfer instruments the General Allocation Fund (GAF) and the Special Allocation Fund (SAF) influence regional expenditure in West Sumatra Province. Quantitative analysis enables the objective testing of hypotheses using numerical data and allows fiscal relationships to be evaluated within the broader theoretical framework of fiscal decentralization and public finance.

3.1 Data and Scope

The analysis utilizes a panel data framework that integrates cross-sectional observations from 19 districts and cities with annual time-series data covering the period 2017 to 2023. This combined structure captures variations across regions and over time, enabling more accurate estimation and reducing potential bias arising from unobserved heterogeneity. All data used in this study were obtained from authoritative and publicly accessible sources, namely the Central Statistics Agency (BPS) and the Directorate General of Fiscal Balance (DJPK). The use of official data ensures reliability, transparency, and replicability throughout the research process.

3.2 Variables and Measurement

The dependent variable in this study is regional expenditure, which represents the realized spending of local governments as reported in annual budget execution documents. Regional expenditure reflects the fiscal capacity of local governments to deliver public services and implement development programs.

The independent variables consist of the General Allocation Fund (GAF) and the Special Allocation Fund (SAF). GAF represents unconditional transfers designed to support basic public services and reduce fiscal disparities among regions. SAF, in contrast, is an earmarked transfer intended to finance specific sectoral priorities such as infrastructure, education, or health. Both fiscal variables are expressed in natural logarithmic form to stabilize variance, reduce skewness, and facilitate elasticity-based interpretation. No moderating or additional control variables are included in this model, as the study focuses solely on the direct influence of GAF and SAF on regional expenditure.

3.3 Analytical Procedures

The analytical process begins with the generation of descriptive statistics to provide an overview of fiscal patterns across districts and years. A series of diagnostic tests is then conducted to ensure that the classical linear regression assumptions are met, including tests for multicollinearity, heteroskedasticity, autocorrelation, and the normality of residuals. These steps are essential to ensure the accuracy and reliability of the regression estimates.

Three panel regression estimators are applied: Pooled Ordinary Least Squares (OLS), the Fixed Effects Model (FEM), and the Random Effects Model (REM). Model selection is determined through the Chow test, the Breusch–Pagan Lagrange Multiplier test, and the Hausman specification test. These procedures assess whether unobserved regional characteristics should be treated as fixed or random within the dataset. After identifying the most appropriate model, panel regression analysis is performed to estimate the direct effects of GAF and SAF on regional expenditure. All analyses rely solely on secondary data and do not involve human subjects, ensuring full compliance with ethical research standards and promoting objectivity in reporting the findings.

4. Findings

This section presents the empirical findings derived from the panel data analysis conducted on 19 districts and cities in West Sumatra for the period 2017–2023. The results consist of descriptive statistics, model selection, diagnostic testing, and the final regression output. Together, these findings provide an integrated understanding of how intergovernmental fiscal transfers specifically the General Allocation Fund (GAF) and the Special Allocation Fund (SAF) shape regional expenditure under Indonesia’s decentralized fiscal framework.

4.1 Descriptive Summary

The descriptive results highlight substantial heterogeneity in fiscal capacity and expenditure patterns across districts and cities in West Sumatra throughout the seven-year observation period. Regional expenditure demonstrates a broad distribution, ranging from approximately Rp 420 billion in the smallest districts to more than Rp 3.25 trillion in larger urban governments. This variation reflects differences in administrative responsibilities, demographic pressures, fiscal management capacity, and local development priorities. Regions such as Padang, Bukittinggi, and Payakumbuh consistently record higher spending levels due to their more complex service demands and larger institutional structures. On the other hand, districts such as Pasaman, Solok Selatan, and Kepulauan Mentawai display lower levels of expenditure, mirroring their smaller populations and narrower administrative scopes.

The pattern of GAF allocation confirms its role as the primary equalization mechanism within Indonesia’s intergovernmental transfer system. During the study period, GAF allocations ranged between Rp 250 billion and Rp 1.48 trillion, indicating the central government’s intention to ensure that all districts, regardless of their economic or demographic characteristics, possess adequate fiscal capacity to administer essential public services. Districts with lower local revenue capacity receive proportionally higher GAF allocations, demonstrating the formula’s compensatory design aimed at reducing horizontal fiscal imbalances.

Meanwhile, SAF exhibits more dynamic and varied allocation patterns. As an earmarked transfer tied to specific national development priorities, SAF ranges from Rp 60 billion to Rp 720 billion across the sample. Districts with pressing infrastructure needs or strategic

development objectives tend to receive higher SAF allocations, particularly for road construction, educational facilities, and health service improvements. SAF therefore acts as a mechanism not only to stimulate capital expenditure but also to align regional development programs with national priorities.

Overall, the descriptive analysis underscores the fiscal dependence of most West Sumatran districts on intergovernmental transfers, particularly GAF and SAF. While some urban areas show relatively strong financial performance, many districts still rely heavily on these transfers to finance both routine public services and long-term development programs. This pattern reinforces the need for a more detailed econometric assessment of how effectively these transfers translate into regional expenditure.

4.2 Model Estimation and Selection

To determine the most appropriate estimator for analyzing the impact of GAF and SAF on regional expenditure, three panel data models were evaluated: Pooled Ordinary Least Squares (OLS), the Fixed Effects Model (FEM), and the Random Effects Model (REM). The model selection process involved a series of rigorous statistical tests. The Chow test revealed a significant improvement when shifting from Pooled OLS to the Fixed Effects Model, indicating that district-specific characteristics meaningfully influence regional expenditure. These inherent characteristics such as administrative capacity, governance quality, population size, or geographic constraints cannot be captured adequately by a pooled model. The significance of the Chow test therefore justified moving to a panel structure that accounts for cross-sectional heterogeneity.

Similarly, the Breusch Pagan Lagrange Multiplier test confirmed that panel estimation techniques were more suitable than pooled regressions, as the test strongly rejected the null hypothesis of no panel effect. This demonstrates that variations across districts and years must be modeled explicitly to obtain unbiased estimates. The final step, the Hausman specification test, compared the suitability of the Fixed Effects Model (FEM) and the Random Effects Model (REM). The significant test result indicated that the unobserved district-level characteristics are correlated with the explanatory variables. Therefore, the Fixed Effects Model was deemed the most consistent and efficient estimator for this dataset. FEM allows the analysis to control for all time-invariant characteristics specific to each region, ensuring that the estimated coefficients for GAF and SAF capture true fiscal effects rather than regional structural differences.

After model selection, diagnostic tests were conducted to ensure the robustness of the estimation. Variance Inflation Factor (VIF) scores showed no signs of multicollinearity between GAF and SAF. Tests for heteroskedasticity and autocorrelation did not reveal any major violations, confirming that the regression residuals are well-behaved. Collectively, these results support the validity and reliability of the econometric model.

4.3 Regression Results

The regression output from the Fixed Effects Model provides compelling evidence that intergovernmental fiscal transfers significantly influence regional expenditure across West Sumatra. Both GAF and SAF exhibit positive and statistically significant coefficients, indicating that increases in these transfers directly stimulate higher levels of regional spending. The coefficient for the General Allocation Fund (GAF) is 0.412 with a p-value of less than 0.01. This suggests that a one percent increase in GAF allocation is associated with a 0.41 percent increase in regional expenditure. GAF's strong effect reflects its central role in

financing essential government functions, including administration, public services, and operational activities. Its unconditional nature allows local governments considerable flexibility, enabling them to deploy the funds in accordance with their specific fiscal needs and strategic priorities. The significance of GAF in this study aligns with its policy design as the backbone of local fiscal stability.

Similarly, the Special Allocation Fund (SAF) has a positive coefficient of 0.267, which is also statistically significant at the 1 percent level. This result demonstrates that SAF, although more targeted in nature, plays an important role in shaping regional expenditure patterns. As an earmarked transfer, SAF tends to be directed toward capital-intensive sectors such as infrastructure, education, and health. The positive coefficient therefore indicates that SAF effectively channels resources toward development-oriented spending, stimulating economic and social improvements at the regional level. Districts receiving higher SAF allocations typically exhibit stronger investment performance and more rapid development progress.

The explanatory power of the model further reinforces the importance of fiscal transfers. The R^2 value of 0.823 shows that more than 82 percent of the variation in regional expenditure during the 2017–2023 period can be explained by fluctuations in GAF and SAF. This high level of explanatory strength indicates that intergovernmental fiscal transfers remain the most influential determinants of spending capacity in West Sumatra, especially in regions with limited internal revenue generation.

Overall, the regression results underscore the centrality of fiscal transfers within Indonesia's decentralized governance system. Both GAF and SAF significantly shape regional financial behavior, with GAF acting as the primary stabilizing instrument and SAF serving as a targeted driver of development-focused expenditure. These findings highlight the critical role of the central government in supporting local fiscal sustainability and ensuring balanced regional development.

5. Discussion

The findings of this study reinforce the central role of intergovernmental fiscal transfers in shaping regional expenditure patterns within the decentralized fiscal landscape of West Sumatra. Both the General Allocation Fund (GAF) and the Special Allocation Fund (SAF) exhibit strong and statistically significant effects on expenditure, demonstrating that these transfers remain the most influential sources of financing for district and city governments throughout the province. This discussion elaborates on the implications of these findings, situates them within existing theoretical frameworks, and highlights their relevance in the broader context of Indonesia's fiscal decentralization system.

The significant and positive effect of GAF on regional expenditure supports the foundational principles of fiscal federalism, which emphasize the necessity of transfer mechanisms to ensure adequate service provision at the subnational level. Because many districts in West Sumatra possess limited internally generated revenue, they depend heavily on national allocations to maintain essential administrative and operational functions. GAF, being an unconditional grant, provides the flexibility needed for local governments to tailor their spending to local priorities. The estimated coefficient of 0.412 indicates that increases in GAF allocations translate almost proportionately into increased expenditure, underscoring its effectiveness as a stabilizing fiscal instrument. This aligns with prior studies that highlight the importance of

equalization transfers in mitigating regional disparities and strengthening subnational service delivery.

The positive and significant effect of SAF further demonstrates the importance of targeted fiscal instruments in advancing sectoral development. SAF's earmarked nature ensures that funds are allocated toward national priority sectors, particularly infrastructure, education, and health. The observed coefficient of 0.267 suggests that increases in SAF allocation lead to measurable expansion in development-oriented expenditure. These results confirm that SAF serves not only as a funding mechanism but also as a policy tool that guides local governments toward developmental objectives aligned with national standards. The consistency of SAF's positive impact suggests that, even amid administrative and capacity-related challenges, earmarked transfers remain effective in promoting capital investment and improving public service facilities across regions.

When viewed together, the impacts of GAF and SAF underscore the multifaceted importance of fiscal transfers in decentralized governance. GAF plays a foundational role by supporting overall fiscal stability, while SAF complements this function by promoting targeted sectoral advancements. The strong explanatory power of the regression model ($R^2 = 0.823$) indicates that fiscal transfers collectively account for a significant proportion of regional expenditure variation. This observation is particularly important given that many districts in West Sumatra have relatively narrow economic bases and limited potential to generate substantial own-source revenue. As a result, the central government's role in designing, allocating, and monitoring fiscal transfer mechanisms becomes even more critical in ensuring that local governments can fulfill mandated responsibilities and improve local development outcomes.

Despite their overall effectiveness, the findings also highlight an underlying issue: regional dependence on central government transfers remains high and persistent. Although GAF and SAF contribute positively to expenditure, such reliance may limit the incentives for districts to innovate in local revenue mobilization or improve fiscal efficiency. This concern echoes broader critiques in the literature, which warn that excessive dependence on unconditional transfers may undermine fiscal discipline or discourage administrative reforms at the regional level. The sustained reliance seen in West Sumatra suggests a need for policy measures that balance the benefits of fiscal transfers with efforts to strengthen local fiscal autonomy.

These findings also suggest several implications for fiscal policy refinement. First, the strong influence of GAF on expenditure confirms the importance of maintaining transparency and fairness in the allocation formula. Because GAF plays a foundational role in ensuring minimum service standards, continuous assessment of its distribution criteria is essential. Second, the effectiveness of SAF in driving development-oriented spending highlights the need to enhance project planning, coordination, and monitoring processes to ensure that earmarked funds are absorbed efficiently and deliver expected outcomes. Third, to reduce long-term dependency on transfers, central and regional governments should explore initiatives to broaden local revenue sources, improve administrative capacity, and promote accountability in public financial management.

In summary, the study provides clear evidence that fiscal transfers remain indispensable components of regional financial systems in West Sumatra. Through their combined functions equalization, stabilization, and targeted development financing GAF and SAF significantly shape the trajectory of regional expenditure. Strengthening the design and implementation of

these transfers, while simultaneously promoting local fiscal resilience, will be essential to advancing equitable and sustainable development across Indonesia's diverse regions.

6. Conclusion

This study provides a comprehensive empirical assessment of how the General Allocation Fund (GAF) and the Special Allocation Fund (SAF) influence regional expenditure in West Sumatra within Indonesia's decentralized fiscal framework. Using panel data from 19 districts and cities over the period 2017–2023, the research demonstrates that intergovernmental fiscal transfers remain the primary determinants of regional spending capacity. The findings confirm that both GAF and SAF play significant roles in shaping expenditure behavior, although their functions and impacts emerge through different channels.

The results of the Fixed Effects Model indicate that GAF exerts a strong and positive effect on regional expenditure. As an unconditional transfer intended to equalize fiscal capacity across regions, GAF enables local governments to finance core administrative activities, routine public services, and operational responsibilities. The magnitude and consistency of GAF's coefficient underscore its importance as a stabilizing fiscal instrument that ensures continuity in service delivery, especially for districts with limited internal revenue-generating potential. This finding aligns with the objectives of Indonesia's transfer system, which seeks to reduce horizontal disparities and promote balanced regional development.

In addition to GAF, the analysis shows that SAF also significantly contributes to increasing regional expenditure. Unlike GAF, SAF is earmarked for specific development sectors, particularly infrastructure, education, and health. The positive effect of SAF reflects its capability to stimulate investment-oriented spending and support targeted development initiatives. Districts receiving higher SAF allocations typically show stronger progress in capital expenditure, indicating that earmarked funds effectively drive improvements in regional development outcomes. The role of SAF is therefore complementary to that of GAF: while GAF sustains general fiscal operations, SAF accelerates sector-specific progress aligned with national priorities.

The combined explanatory power of GAF and SAF, with an R^2 value exceeding 0.82, highlights the extent to which regional expenditure depends on central government transfers. Although the transfers successfully enhance local fiscal capacity, the high level of dependency observed across districts suggests a need for long-term strategies to strengthen local revenue autonomy and fiscal resilience. Without efforts to diversify local revenue sources or enhance financial management capacity, many regions may continue to rely heavily on national fiscal support, limiting their ability to independently pursue development priorities.

From a policy perspective, the study emphasizes the importance of improving the design, monitoring, and efficiency of fiscal transfer mechanisms. Strengthening the allocation formula for GAF, enhancing the transparency of SAF distribution, and improving project management capacity at the regional level could further enhance the effectiveness of fiscal transfers. At the same time, initiatives to broaden local tax bases, modernize administrative systems, and promote fiscal accountability are essential for creating a more balanced and sustainable fiscal environment.

In conclusion, this study reaffirms the critical functions of GAF and SAF in shaping regional expenditure patterns in West Sumatra. Intergovernmental fiscal transfers continue to serve as

indispensable instruments for supporting regional development, reducing fiscal disparities, and enabling local governments to fulfill their mandated responsibilities. However, the long-term success of fiscal decentralization will depend on strengthening both the transfer system and the capacity of local governments to manage their resources effectively and independently. Future research may explore how governance quality, institutional capacity, or sector-specific policies interact with fiscal transfers to influence local expenditure performance.

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Conflict of Interest Statement

The authors declare that there is no conflict of interest regarding the publication of this study.

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