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WHAT DRIVES BACK-LOADED BUDGET ABSORPTION? EVIDENCE FROM PROVINCIAL GOVERNMENTS IN SUMATRA INDONESIA

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Abstract
This study examined the influence of goods and services procurement, remaining budget from the previous year, and local government size on Back-loading of budget absorption in the second semester in provincial governments in Sumatra, Indonesia. The study employed a quantitative approach using secondary data obtained from financial statements (audited) of provincial government published by the audit board of the Republic of Indonesia (BPK RI) for the 2020-2024 period, resulting in 50 observations. The data were analyzed using panel data regression in EViews 14. The results showed that goods and services procurement, remaining budget from previous year (SiLPA), and local government size did not significantly affect back-loading of budget absorption in the second semester. These findings suggest that budget absorption back-loading is primarily an implementation phenomenon, reflecting operational and managerial challenges during budget execution rather than differences in fiscal capacity, procurement spending, or organizational scale. This study contributes to the public financial management literature by introducing a non-cumulative second semester budget absorption indicator to capture the temporal dimension of budget execution. Unlike conventional studies that focus on annual budget realization, this study emphasizes the concentration of spending patterns across the fiscal year, providing a more specific perspective for understanding budget implementation delays in local governments.

Keywords: Goods and Services Procurement, Remaining Budget from the Previous Year, Local Government Size, Back-Loading, Budget Absorption

1. Introduction

Regional budget management through the Local Budget (APBD) is a fundamental mechanism used by local governments to provide public services, implement development programs, and support regional economic stability. From a public financial management perspective, budget performance should be evaluated not only based on year-end realization figures, but also on the quality of the entire budget cycle including planning, budgeting, implementation, monitoring, evaluation, reporting, and accountability. This approach aligns with the PEFA framework and Indonesian Government Regulation No. 12 of 2019, which together emphasize that the quality of public spending depends on the integrated management of all phases of the financial cycle.

A common problem is excessive year-end spending, known as the "use it or lose it" phenomenon, where low spending at the beginning of the fiscal year is followed by a surge later in the year. This accumulation of spending at the end of the fiscal year can delay service delivery and undermine the quality of implementation. For example, Liebman & Mahoney (2017) have documented that US federal agencies spend nearly five times more in the final week of the fiscal year than in a typical week, with the projects subsequently procured being of significantly lower quality. This suggests that rushing to spend unspent budgets at the end of the year can undermine the effectiveness and value of public investments (Directorate General of Treasury, 2025).

To mitigate this, the Directorate General of Treasury issued Regulation No. PER-5/PB/2024, which sets quarterly budget absorption targets to guide performance monitoring. However, in practice, many regions still absorb significantly less than the target in the first half of the year and then play catch-up in the second half a clear sign of delayed spending. One study found that spending tends to "pile up in the fourth quarter," described as a "rush to spend" caused by delayed implementation earlier in the year. This pattern is important for regional analysis because local spending is closely linked to development program implementation, service delivery, and driving economic activity (Alfayuni & Dahtiah, 2021). For example, higher budget absorption in human resource development programs directly increases the number of trained civil servants, suggesting that stronger absorption correlates with better achievement of planned outcomes.

Evidence from Sumatra illustrates this problem. For example, Aceh's APBA absorption reached only about 36.9% by early August 2025, reflecting slow spending in the first half of the fiscal year. Cases like these demonstrate that spending delays are not simply administrative quirks but are often caused by the timing of project implementation and service delivery.

Back-loading typically stems from mismatches between planning and implementation. Late regional budget approval can leave agencies without spending authority at the beginning of the year. Operational constraints such as incomplete procurement plans, understaffing in finance offices, and stalled tender processes can also hamper spending in the first half. For example, one analysis found that slow budget absorption was caused by delays in the procurement process (even with electronic procurement systems) and by manual administrative steps that delayed disbursement of funds. The analysis also noted that limited finance personnel and increased workloads led to a backlog of activities toward the end of the year. Furthermore, mid-year budget revisions reduced the time remaining for implementation, often concentrating spending in the final months of the fiscal year (Albab, 2020; Liebman & Mahoney, 2017).

Contingency Theory provides a theoretical basis for explaining budget implementation delays in regional financial management. This theory argues that organizational effectiveness depends on the degree of fit between organizational characteristics and contextual conditions (Donaldson, 2001). In the public sector, budget execution effectiveness is influenced not only by formal regulations and administrative procedures but also by the interaction between organizational capacity, fiscal conditions, and the operational environment (Woods, 2009). Consequently, differences in budget implementation outcomes across regional governments can arise because organizations operate under different contextual conditions and have varying capacities to respond to fiscal and administrative challenges.

Public sector budgeting provides the institutional framework within which public priorities are translated into programs, activities, and financial allocations. Regional budgets serve not only as financial plans but also as instruments for planning, coordination, control, and accountability. Therefore, the quality of budget absorption is closely related to the effectiveness of the entire budget cycle, including planning, budgeting, implementation, monitoring, evaluation, reporting, and accountability (Alif'ia et al., 2026; Mayasari et al, 2021; Pattiasina et al., 2023). Within this framework, back-loading of budget absorption reflects timing issues in budget implementation, not simply year-end realization.

Back-loading of budget absorption refers to the tendency for expenditure realization to concentrate in the second semester, particularly during the final months of the fiscal year. This pattern indicates that expenditure realization does not occur proportionally throughout the fiscal year, resulting in an accumulation of expenditures towards the end of the year (Andriati, 2019; Zulaikah & Burhany, 2019). Previous studies have identified several factors associated with delayed expenditure realization and year-end expenditure concentration, including procurement implementation, budget adjustments, project management, administrative capacity, and fiscal conditions (Syamsul et al., 2026).

In this study, back-loading of budget absorption is defined as the tendency for regional government expenditure realization to concentrate in the second semester. This variable is measured using a non-cumulative approach by comparing second-semester expenditure realization with the regional annual expenditure budget. This measurement captures the time dimension of budget implementation rather than simply the overall level of annual expenditure realization and is consistent with the view that budget performance should be evaluated based on expenditure realization throughout the fiscal year (Ministry of Finance, 2024; Yalisman & Khoirunurrofik, 2025)

This study focuses on three contingency factors within the regional budget management framework: goods and services procurement, the remaining budget from the previous year (SiLPA), and the size of the regional government. Goods and services procurement reflects the effectiveness of expenditure implementation through procurement activities, which constitute a substantial component of government expenditure. SiLPA represents the fiscal condition and budget management performance of the regional government, reflecting the magnitude of unspent budget balances carried over from the previous fiscal year. The size of the regional government, as measured by total assets, reflects the organizational scale and administrative complexity that can impact budget execution capacity. From a contingency perspective, these factors represent organizational and fiscal conditions that can impact the timing and effectiveness of budget implementation, thus contributing to back-loading of budget absorption.

Previous studies have shown inconsistent results regarding the determinants of budget absorption. Goods and services procurement has been reported to have either a positive or insignificant effect on budget absorption across various (Adelia & Samukri, 2025; Almi et al. 2022; Hanum & Ramadana, 2025; Lantowa & Ntuiyo, 2026; Lemana, Handarini, & Pahala, 2025; S. & Budi, 2023). Findings regarding the remaining budget from the previous year (SiLPA) also vary, with studies reporting both positive and negative effects on budget absorption (Amellya, Jalaluddin, & Batara, 2023; Anggriawan, Darwanis, & Abdullah, 2020; Chairunnufus et al., 2026; Elpana, Periansya, & Dwitayanti, 2024; Hanum & Ramadana, 2025; Jayenchi, Maria, & Satriawan, 2026; Kurniati, Dwitayanti, & Ofasari, 2025; Wulandari & Fauzihardani, 2022). Similarly, empirical evidence on local government size remains inconclusive, with previous studies showing varying effects on budget absorption and budget performance (Amellya et al., 2023; Rosalina, Frima, Andriani, & Rm, 2023). These inconsistencies suggest the need to re-examine these variables using a more specific outcome, namely back-loading of budget absorption in the second semester. Consequently, annual absorption indicators may obscure the timing dimension of budget execution and fail to distinguish between governments that absorb budgets evenly throughout the year and those that concentrate spending toward year-end.

Most previous studies use annual budget absorption as the primary indicator of budget performance. However, the annual realization measure does not adequately capture the temporal distribution of expenditures throughout the fiscal year. Backloading is essentially a time-based phenomenon that reflects the concentration of realized expenditures at the end of the fiscal year, rather than the total amount of realized expenditures through the end of the year. Consequently, using second-semester budget absorption provides a more appropriate approach to identifying delays in budget execution and patterns of expenditure accumulation.

A further research gap relates to the limited empirical evidence on back-loading of budget absorption at the provincial government level, particularly in the context of Sumatra Island. Existing studies generally focus on aggregate annual budget realization or examine the causes of expenditure accumulation using qualitative approaches. Therefore, empirical research investigating the determinants of second-semester budget absorption using quantitative methods is still relatively limited.

This study addresses this gap by using a non-cumulative second-semester budget absorption indicator as a proxy for Back-loading of budget absorption in the second semester and by examining the effects of goods and services procurement, remaining budget from previous year's (SiLPA), and local government size on expenditure concentration during the second semester. Furthermore, this study uses a panel data approach covering all provincial governments in Sumatra during the 2020–2024 period. Unlike previous studies that primarily focused on annual budget realization, this study emphasizes the temporal dimension of budget execution by capturing expenditure concentration in the second semester of the fiscal year.

The uniqueness of this study lies in the use of second semester Back-loading of budget absorption in the second semester as a time-based dependent variable, which provides a more accurate measure of expenditure execution patterns than conventional annual absorption indicators. Furthermore, this study contributes to the literature by quantitatively examining organizational and fiscal factors that may influence Back-loading of budget absorption in the second semester, specifically goods and services procurement, the remaining budget from the previous year, and local government size, in the context of provincial governments in Sumatra.

Therefore, this study aims to examine the influence of goods and services procurement, the remaining budget from previous year's (SiLPA), and local government size on budget absorption among provincial governments in Sumatra. This research contributes to the public financial management literature by providing empirical evidence on the organizational and fiscal determinants of expenditure concentration in the second semester and by expanding the discussion on budget execution performance beyond conventional annual budget absorption measures.

2. Theoretical Background

2.1 Contingency Theory

This study is based on Contingency Theory, which argues that organizational effectiveness depends on the degree of fit between organizational characteristics and contextual conditions. According to Donaldson (2001), there is no universally optimal organizational structure or management practice because organizational performance depends on the specific environmental and organizational circumstances. The theory's central proposition is that organizational outcomes are achieved when organizational arrangements align with contextual factors, while misalignment leads to inefficiency and decreased performance. Therefore, the concept of fit is fundamental in explaining variations in organizational effectiveness across institutions operating under different conditions.

Contingency Theory further suggests that organizational structures and processes evolve in response to changes in contextual variables such as local government size, technology, environmental uncertainty, and resource availability. When organizational characteristics fail to adapt to these contingencies, a state of mismatch arises, resulting in lower organizational performance. Conversely, organizations that successfully align their operational structures and processes with prevailing contingencies are more likely to achieve their desired goals and improve performance outcomes (Donaldson, 2001).

In the public sector context, Woods (2009) extended Contingency Theory by demonstrating that organizational control and management systems are influenced by several contextual factors, including government policies, information and communication technology, and local government size. These findings suggest that public sector performance cannot be explained solely by formal regulations or administrative procedures, but also by the interaction between organizational characteristics and the environment in which public organizations operate.

This theory is particularly relevant to budget execution because the effectiveness of public financial management depends on how well government institutions adapt their organizational capacities and operational processes to fiscal and administrative challenges. Budget absorption is not only a reflection of expenditure realization but also an indicator of the government's ability to align planning, implementation, and resource management throughout the fiscal year. Consequently, differences in budget absorption patterns among provincial governments can be explained by variations in organizational contingency.

In this study, Back-loading of budget absorption refers to the concentration of expenditure realization in the second half, particularly during the final months of the fiscal year. From a contingency perspective, this phenomenon arises when organizational arrangements are unable to accommodate contextual demands during the early stages of budget implementation. Delays in the procurement process, fiscal constraints related to the previous year's budget balance, and increased organizational complexity due to government size can create a mismatch between budget planning and implementation capacity. This mismatch can delay expenditure realization and ultimately lead to accumulated expenditures in the second semester.

Therefore, Contingency Theory provides a comprehensive framework to explain why provincial governments can exhibit varying levels of Back-Loading of Budget Absorption despite operating under the same national regulatory framework. This theory suggests that procurement performance, fiscal conditions reflected in the previous year's budget balance, and local government size are contingency factors that influence the timing and effectiveness of budget execution.

2.2 Goods and services procurement and Back-Loading of Budget Absorption

Goods and services procurement is a critical operational process in public expenditure implementation because a significant portion of government spending is implemented through procurement activities. From a contingency perspective, the procurement system represents an organizational mechanism that must align with project complexity and administrative requirements. Delays in procurement planning, tender execution, contract

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finalization, or vendor selection can reduce the capacity of local governments to implement expenditures during the first semester.

Empirical studies have highlighted the importance of procurement implementation in determining budget execution performance. Previous research found that procurement-related factors influence budget absorption because delays in procurement processes often postpone project implementation and expenditure realization (Adelia & Samukri, 2025; Almi et al., 2022; Hanum & Ramadana, 2025; Lantowa & Ntuiyo, 2026). Furthermore, studies on expenditure accumulation indicate that procurement delays are among the primary causes of year-end spending concentration (Albab, 2020; Alfayuni & Dahtiah, 2021).

When procurement processes are inefficient, budget execution becomes misaligned with spending plans, creating implementation bottlenecks that delay project implementation. Consequently, realized expenditures tend to pile up at the end of the fiscal year. Contingency Theory predicts that organizations experiencing such operational misalignment will exhibit lower execution effectiveness, reflected in Back-Loading of Budget Absorption and increased spending concentration in the second half.

H_1: Goods and services procurement has a positive effect on back-loading of budget absorption in the second semester in provincial governments on the island of Sumatra.

2.3 Remaining Budget from the Previous Year and Back-Loading of Budget Absorption

The remaining budget from the previous year (SiLPA) reflects the fiscal condition and budget management performance of local governments. Within a contingency framework, fiscal capacity constitutes an important contextual factor that influences organizational behavior and budget implementation decisions. A large SiLPA balance may indicate unrealized activities, implementation delays, or inefficiencies in previous budget execution.

Previous empirical studies provide evidence that SiLPA influences budget absorption performance, although the direction of the relationship remains mixed. Several studies found that higher SiLPA levels affect expenditure realization because governments must accommodate budget adjustments and carry-over balances in the subsequent fiscal year (Anggriawan et al., 2020; Elpana et al., 2024; Kurniati et al., 2025). Similarly, Amellya et al. (2023), Hanum and Ramadana (2025), and Jayenchi et al. (2026) argued that fiscal conditions represented by SiLPA can influence the effectiveness of budget implementation.

A substantial SiLPA balance may require additional budget revisions, financing adjustments, and expenditure reallocations during the subsequent fiscal year. These processes can reduce the time available for expenditure implementation and increase the likelihood of delayed expenditure realization. Consequently, provincial governments with larger SiLPA balances may experience greater expenditure concentration during the second semester.

H_2: The remaining budget from the previous year has a positive effect on back-loading of budget absorption in the second semester in provincial governments on the island of Sumatra.

2.4 Local Government Size and Back-Loading of Budget Absorption

Local government size is one of the most widely recognized contingency variables in organizational research. Donaldson (2001) argues that increasing local government size leads to greater structural complexity, coordination requirements, and administrative specialization. In the public sector, larger regional governments typically manage larger budgets, more organizational units, and a broader range of development programs.

While larger governments may have greater resources and administrative capacity, they also face more complex coordination challenges that can slow decision-making and implementation processes. Woods (2009) identified local government size as a key contingency factor influencing public sector management systems. Consequently, larger provincial governments may experience delays in spending implementation if organizational complexity exceeds their implementation capacity. Such conditions can contribute to the accumulation of expenditures in the second semester and increase the incidence of Back-loading of budget absorption in the second semester.

Empirical evidence suggests that organizational size may influence budget performance and financial management outcomes. Amellya et al. (2023) and Rosalina et al. (2023) found that local government size is associated with variations in budget management and performance outcomes.

H_3: Local government size has a positive effect on back-loading of budget absorption in the second semester in provincial governments on the island of Sumatra.

2.5 Conceptual Framework

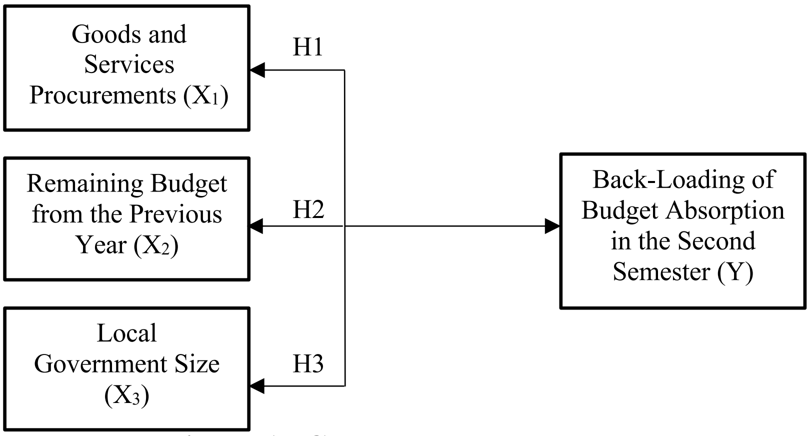

Figure 1. Conceptual Framework

Based on Contingency Theory, goods and services procurement, budget surpluses from the previous year, and local government size are conceptualized as contingency factors that influence budget implementation timing. The provincial government's success in aligning these factors with implementation requirements determines the effectiveness of budget absorption. A mismatch between organizational capacity and contextual demands can result in delays in spending realization, which is reflected in Back-Loading of Budget Absorption.

3. Methods

This study employed a quantitative research design to investigate the determinants of Back-loading of budget absorption in the second semester among provincial governments in Sumatra, Indonesia. A quantitative approach is deemed appropriate because this study examines the relationships between measurable variables using statistical analysis techniques (Creswell, 2023).

The population consisted of all provincial governments located on the island of Sumatra, namely Aceh, North Sumatra, West Sumatra, Riau, Jambi, South Sumatra,

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Bengkulu, Lampung, the Bangka Belitung Islands, and the Riau Islands. Given the relatively small population size, this study employed a saturated sampling technique, where all members of the population were included in the sample. The observation period covered five fiscal years from 2020 to 2024, resulting in a balanced panel dataset of 50 observations, representing 10 provincial governments observed over five consecutive years.

This study relied entirely on secondary data obtained from audited financial statements and provincial government audit reports published by the Supreme Audit Agency of the Republic of Indonesia (BPK RI). Additional supporting data was collected from official government publications related to regional budget implementation and financial management. The use of audited financial statements ensures the reliability and credibility of the financial information used in the analysis.

The dependent variable is Back-loading of budget absorption in the second semester, measured as the proportion of regional expenditures realized during the second semester relative to the total annual regional expenditure budget. This measure captures the concentration of expenditure realization in the second half of the fiscal year and serves as an indicator of delayed budget execution. Unlike conventional annual budget absorption measures, this indicator emphasizes the timing of expenditure realization and allows for the identification of accumulated expenditures toward the end of the fiscal year.

The independent variables consist of goods and services procurement, the remaining budget from the previous year (SiLPA), and local government size. Goods and services procurement is measured using the ratio of goods and services expenditures to total regional expenditures. This indicator reflects the extent to which the provincial government allocates and implements procurement-related expenditure activities. The remaining budget from the previous year is measured using the natural logarithm of SiLPA, which represents fiscal capacity and the remaining budget inherited from the previous fiscal period. Local government size is measured using the natural logarithm of total assets reported in the audited financial statements, which serves as a proxy for local government size and administrative complexity.

The data were analyzed using descriptive statistics and panel data regression techniques using EViews 14 software. Descriptive statistics were used to provide an overview of the characteristics and distribution of the research variables. Furthermore, panel data regression was used because the dataset combines cross-sectoral and time-series dimensions. The cross-sectoral dimension consists of ten provincial governments, while the time-series dimension covers five fiscal years from 2020 to 2024.

To determine the most appropriate panel data estimation model, a model selection procedure was performed using the Chow test, Hausman test, and the Lagrange Multiplier test. Hypothesis testing was conducted using the t-test to assess the partial effect of each independent variable and the F-test to evaluate their simultaneous effect on budget absorption charged at the end of the term. All statistical tests were conducted at the 5 percent significance level. The panel regression model was defined as follows:

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

In this model, the dependent variable (Y) is back-loading of budget absorption in the second semester. The independent variables comprise goods and services procurement (X_1), the remaining budget from the previous year or SiLPA (X_2), and local government size (X_3). The subscript "$_i$" identifies each provincial government, while "$_t$" indicates the fiscal year of observation. The term "e" represents the stochastic error component.

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4. Results and Discussion

4.1 Results

This section presents the empirical findings obtained from the panel data analysis. The discussion begins with descriptive statistics to provide an overview of the characteristics and distribution of the research variables. Subsequently, classical assumption tests and panel data model selection procedures are presented to determine the most appropriate estimation model. The selected model serves as the basis for hypothesis testing and interpretation of the effects of goods and services procurement, the remaining budget from the previous year (SiLPA), and local government size on Back-loading of budget absorption in the second semester.

Table 1. Descriptive Statistics of Research Variables

Description	X_1	X_2	X_3	Y
Mean	91.44712	26.45763	30.26327	56.69910
Maximum	125.7233	29.00969	31.21337	80.68348
Minimum	68.43003	24.62598	29.12740	23.91684
Std. Dev.	9.160862	1.033310	0.694100	12.36663
Observations	50	50	50	50

Source: processed data, EViews 14 Output (2026)

Table 1 presents the descriptive statistics of the variables included in the study. The average value of back-loading of budget absorption in the second semester was 56.69910, with a standard deviation of 12.36663. This indicates that, on average, more than half of the annual expenditure budget was realized during the second semester. Goods and services procurement recorded a mean value of 91.44712 and a standard deviation of 9.160862, suggesting moderate variation among provincial governments. The remaining budget from the previous year (SiLPA) had an average value of 26.45763, with a standard deviation of 1.033310, indicating relatively limited variation across observations. Meanwhile, local government size, measured by the natural logarithm of total assets, had a mean value of 30.26327 and a standard deviation of 0.694100, reflecting relatively similar local government sizes among provincial governments in Sumatra.

Table 2. Result of Multicolinearity Test

	X_1	X_2	X_3
X_1	1.000000	0.066098	0.305296
X_2	0.066098	1.000000	0.292763
X_3	0.305296	0.292763	1.000000

Source: processed data, EViews 14 Output (2026)

The results of the multicollinearity test presented in Table 2 show that all correlation coefficients among the independent variables were below 0.90. The highest correlation value was 0.305296, indicating that no serious multicollinearity problem existed among the explanatory variables.

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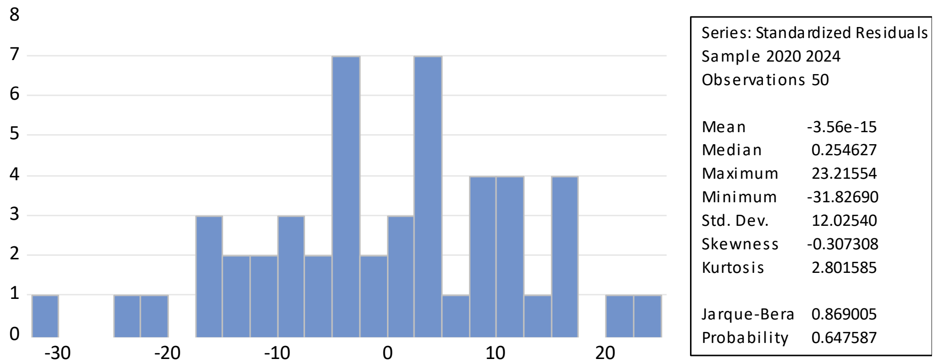

Source: processed data, EViews 14 Output (2026)

Figure 2. Result of Normality Test

Based on Figure 2, the Jarque-Bera probability value exceeded the 5 percent significance level, indicating that the data were normally distributed and met the normality assumption required for regression analysis.

Table 3. Result of Heteroscedasticity Test

F-statistic	1.318207	**Prob. F(3,46)**	0.2799
Obs *R-squared	3.958213	**Prob. Chi-Square(3)**	0.2660
Scaled explained SS	3.017863	**Prob. Chi-Square(3)**	0.3889

Source: processed data, EViews 14 Output (2026)

Table 3 reports the results of the heteroscedasticity test. The probability value of the Obs*R-squared statistic was 0.2660, which exceeded the significance level of 0.05. Therefore, the null hypothesis of homoscedasticity could not be rejected, indicating that the regression model was free from heteroscedasticity problems.

Table 4. Result of Panel Data Regression Model Selection

Test	Probability	Selected Model
Chow test	0.7679 > 0.05	Common Effect Model
Lagrange Multiplier test	0.2449 > 0.05	Common Effect Model

Source: processed data, EViews 14 Output (2026)

The selection of the appropriate panel data regression model was conducted using the Chow test and the Lagrange Multiplier test. As presented in Table 4, the Chow test produced a probability value of 0.7679, while the Lagrange Multiplier test generated a probability value of 0.2449. Both values were greater than 0.05, indicating that the Common Effect Model (CEM) was the most appropriate estimation approach for this study. Accordingly, the analysis and interpretation of the panel regression results are based on the Common Effect Model. The estimated regression equation can be expressed as follows:

$$Y = 30.79777 - 0.325816X_{1it} + 0.287195X_{2it} + 2.091472X_{3it} + e_{it}$$

Table 5. Result of Panel Data Regression and Hypothesis Testing

Variable	Coefficient	Std. Error	t-statistic	Prob.	Decision
Constant	30.7978	81.1016	0.3797	0.7059	
Goods and Services Procurements (X1)	-0.3258	0.2033	-1.6025	0.1159	Not significant
Remaining Budget from the Previous Year (X2)	-0.2872	1.7951	-0.1600	0.8736	Not Significant
Local Government Size (X3)	2.0915	2.8002	0.7469	0.4589	Not significant
F-test	0.8826	-	-	-	-
R-Square	0.0544	-	-	-	-
Adjusted R-Square	-0.0072	-	-	-	-

Source: processed data, EViews 14 Output (2026)

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The results of the panel data regression analysis are presented in Table 5. The coefficient of goods and services procurement was -0.325816, indicating a negative relationship with Back-loading of budget absorption in the second semester. However, the probability value of 0.1159 exceeded the 5 percent significance level, suggesting that the effect was not statistically significant.

The remaining budget from the previous year (SiLPA) produced a coefficient of -0.287195 with a probability value of 0.8736. This result indicates that SiLPA did not have a significant effect on Back-loading of budget absorption in the second semester.

Local government size exhibited a positive coefficient of 2.091472, implying that larger provincial governments tended to experience higher levels of Back-loading of budget absorption in the second semester. Nevertheless, the probability value of 0.4589 was greater than 0.05, indicating that the relationship was not statistically significant.

Overall, the findings demonstrate that goods and services procurement, the remaining budget from the previous year (SiLPA), and local government size did not significantly influence Back-loading of budget absorption in the second semester among provincial governments in Sumatra during the 2020-2024 period. Consequently, hypotheses H_1, H_2, and H_3 were not supported.

4.2 Discussions

Goods and services procurement does not significantly affect back-loading of budget absorption in the second semester. This finding is consistent with Lemana et al. (2025) and S. & Budi (2023), who reported that procurement variables do not always significantly determine budget absorption performance. From a contingency theory perspective, procurement activities are an implementation mechanism that should facilitate expenditure realization. In principle, a larger proportion of procurement expenditures is expected to increase implementation activities and influence the timing of expenditure realization. However, the results of this study indicate that procurement expenditures do not significantly explain the concentration of expenditure realization in the second semester.

A plausible explanation is that the procurement variable used in this study captures the composition of expenditure, rather than the quality and timing of procurement execution. In provincial governments, a relatively high proportion of goods and services expenditure does not necessarily mean that procurement is implemented earlier, faster, or more efficiently. Two provinces may record similar procurement ratios yet experience very different execution outcomes depending on package readiness, technical specifications, tender completion, vendor performance, and the speed of contract administration. Therefore, the ratio of procurement expenditure is too broad to capture the operational bottlenecks that actually generate back-loading.

Another explanation is that procurement delays in practice often occur **after** procurement activities have formally begun. In many local governments, tendering, contract signing, and budget commitment may already take place in the first semester, but physical implementation may proceed more slowly than planned. Delays in land readiness, technical design finalization, site conditions, contract amendments, verification of work progress, and payment processing can postpone expenditure realization until the second semester. In such cases, procurement is not absent, but its effect is absorbed by implementation frictions that are not visible in the expenditure ratio itself. This helps explain why the coefficient is negative but not significant: higher

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procurement spending may slightly reduce back-loading in some cases, but the effect is too weak and too inconsistent across provinces to be statistically meaningful.

The result also suggests that procurement in provincial governments on Sumatra Island may already be relatively standardized through electronic procurement systems, centralized rules, and administrative procedures issued at the national level. When formal procurement procedures are similar across provinces, variation in procurement expenditure becomes less capable of explaining variation in expenditure timing. What differentiates budget absorption, therefore, is not simply the existence of procurement spending, but the readiness of activities, the quality of coordination, and the capacity of implementing units to move projects from procurement to execution without delay. This finding indicates that back-loading is more likely to reflect implementation readiness than procurement volume itself.

The remaining budget from the previous year (SiLPA) did not significantly impact budget absorption in the second semester. This finding is consistent with Hanum & Ramadana (2025), who found that SiLPA does not always significantly impact budget absorption performance. Theoretically, SiLPA reflects fiscal conditions and the results of previous budget management. In Contingency Theory, fiscal resources are an important contextual factor influencing organizational behavior and performance. Fiscal conditions can shape managerial decisions regarding expenditure implementation because organizations must adjust their operational activities to the available financial resources. A large SiLPA is often interpreted as evidence of implementation delays, unrealized activities, or inefficiencies in budget execution during the previous fiscal year. Therefore, SiLPA is expected to create additional fiscal adjustments that can delay expenditure realization in the following year.

One reason is that SiLPA does not always represent implementation failure. In practice, SiLPA can arise from a variety of sources, including procurement savings, conservative budgeting, postponed but not canceled activities, higher-than-expected revenue realization, or financing adjustments made at year-end. Because the variable aggregates different fiscal phenomena, its magnitude does not automatically imply that the next year's spending will be delayed. A large SiLPA may reflect prudence or efficiency rather than weak execution. This heterogeneity weakens its ability to explain second-semester back-loading in a consistent way.

Another important explanation is that SiLPA has become part of the normal fiscal architecture of provincial budget planning. Since the remaining budget from the previous year is formally recognized as a financing source in the following fiscal year, provincial governments may already anticipate its incorporation during budget preparation. In this sense, SiLPA may not create an additional implementation burden strong enough to alter the timing of expenditure realization. Once it is embedded in the budget structure, SiLPA functions more as an accounting and financing component than as a direct driver of spending concentration.

The insignificant coefficient also suggests that the main obstacle to budget absorption is not the availability of funds, but the ability to implement spending promptly and effectively. Even when a province has substantial SiLPA, expenditure realization may still be delayed if procurement readiness is low, technical documents are incomplete, activity plans are not finalized, or verification and disbursement processes are slow. This indicates that fiscal availability and implementation timing are not the same thing. SiLPA may provide financial space, but it does not guarantee operational readiness.

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Consequently, the timing of spending realization is determined more by administrative and managerial capacity than by the size of carry-over balances.

Local government size did not significantly influence back-loading of budget absorption in the second semester. This finding is differs from Amellya et al. (2023), who found that local government size have an influence on budget performance outcomes. In theory, larger provincial governments are expected to experience greater coordination complexity because they manage more programs, more organizational units, and larger financial resources. Under Contingency Theory, this should make size an important contextual factor in explaining budget execution behavior. However, the results of this study indicate that organizational scale, measured through total assets, is not sufficient to explain expenditure concentration in the second semester.

One plausible explanation is that total assets do not directly capture implementation capacity. Asset size reflects the scale of a government's resources, but it does not measure how effectively those resources are translated into budget execution. A province with large assets may still face delays if coordination among units is weak, while a smaller province may execute spending efficiently if planning and implementation are well aligned. Thus, size is an imperfect proxy for the operational conditions that generate back-loading. The insignificant result suggests that differences in asset ownership do not necessarily translate into differences in expenditure timing.

Another explanation is that the advantages and disadvantages of size may offset each other. Larger provincial governments may indeed face more complex coordination requirements, but they also tend to have more specialized personnel, stronger administrative systems, and greater institutional resources. These strengths may compensate for the complexity associated with managing a larger organization. As a result, the net effect of size on back-loading becomes statistically weak. In other words, larger governments are not automatically more prone to delayed expenditure, because their greater complexity is balanced by greater administrative capacity.

This result also implies that budget absorption back-loading in provincial governments on Sumatra Island is not driven mainly by structural scale, but by the quality of implementation processes. Delays in expenditure realization are more likely to arise from project readiness, procurement scheduling, technical verification, payment administration, and coordination between budget users and implementing units. These operational factors can occur in both large and small provincial governments. Therefore, local government size alone is too broad to explain why spending concentrates in the second semester.

5. Conclusion

This study examined the influence of goods and services procurement, the remaining budget from the previous year (SiLPA), and local government size on the back-loading of budget absorption in the second semester among provincial governments in Sumatra during the 2020–2024 period. The results indicate that goods and services procurement, SiLPA, and local government size do not significantly affect the back-loading of budget absorption in the second semester. These findings extend Contingency Theory by suggesting that procurement expenditure, SiLPA, and local government size may not constitute the primary contingency factors influencing expenditure concentration.

The insignificant effects observed in this study suggest that the concentration of expenditure in the second half is more likely driven by operational and managerial factors during budget execution. These factors include project readiness, implementation capacity, administrative processes, coordination effectiveness, and bureaucratic procedures that influence how budgets are executed throughout the fiscal year. The findings imply that procurement expenditure patterns, fiscal conditions reflected by SiLPA, and organizational scale may not directly determine the timing of budget absorption, as budget execution involves complex administrative processes and coordination challenges that can delay expenditure regardless of available resources or organizational size.

The theoretical implications of this study contribute to the application of Contingency Theory in the context of local government budget absorption. While Contingency Theory suggests that organizational characteristics influence performance outcomes, the findings indicate that the relationship between organizational factors and budget absorption is more complex than previously assumed, requiring consideration of both internal and external contingency factors. The results challenge the assumption that procurement expenditure and fiscal conditions automatically influence expenditure concentration, suggesting that budget execution outcomes are shaped by multiple interacting factors rather than isolated organizational characteristics.

From a practical perspective, efforts to reduce the back-loading of budget absorption should focus on improving the budget execution process and strengthening expenditure implementation management throughout the fiscal year. Local governments should enhance project planning and preparation to ensure that activities are ready for implementation early in the fiscal year. Improving administrative efficiency and simplifying bureaucratic procedures can accelerate procurement processes and reduce delays. Strengthening coordination among government units and implementing monitoring mechanisms can help identify and address implementation bottlenecks early, promoting more evenly distributed expenditure across fiscal periods. Additionally, strengthening the capacity of budget execution teams and improving coordination mechanisms between planning, procurement, and implementation units can accelerate budget realization and reduce the concentration of expenditure at the end of the fiscal year.

This study has several limitations that should be acknowledged. First, the study focuses on provincial governments in Sumatra, which may limit the generalizability of the findings to other regions or levels of government. Second, the study covers the 2020–2024 period, which includes the COVID-19 pandemic and post-pandemic recovery periods, and the findings may not be generalizable to other time periods with different economic and fiscal conditions. Third, the study uses secondary data from budget realization reports, which may have limitations in terms of data quality and completeness. Fourth, the study only examines three variables, leaving other potential determinants of budget absorption unexamined.

Future research should expand the scope to include all provincial governments in Indonesia or incorporate district and city governments to obtain more comprehensive and generalizable findings. Researchers should extend the observation period to examine how the relationship between organizational factors and budget absorption evolves over time and how it responds to changes in regulations, economic conditions, and government policies. Future studies should incorporate variables such as fiscal stress, budget revisions, procurement delays, project readiness, administrative capacity, and coordination effectiveness to provide a more comprehensive understanding of the determinants of budget absorption. Researchers could also employ qualitative approaches such as case studies or interviews with government officials to provide richer insights

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into the operational and managerial factors that influence budget execution patterns. Finally, future research should examine the effectiveness of policy interventions aimed at accelerating budget absorption, such as changes in procurement procedures, monitoring mechanisms, and incentives for earlier budget execution.

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