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Research Paper

Determinants of Financial Deficit in Local Governments: Evidence from Indonesia

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ABSTRACT
Local government deficits in Indonesia have become a pressing fiscal concern amid global economic uncertainty, raising questions about which institutional and budgetary factors most strongly drive deficit realization within a decentralized fiscal system. While prior studies have examined legislative oversight and budgetary determinants separately, integrated evidence on their simultaneous effects remains limited. This study aims to examine the influence of legislature size, budget size, budget revisions, and budget performance on the deficit realization of Indonesian local governments. Using a purposive sampling approach, the population comprised all 280 district and city governments (out of 514) that experienced a realized deficit in 2022, with data obtained from local government financial reports via the Ministry of Home Affairs. Multiple linear regression analysis was employed to test the hypotheses. The results show that budget size exerts a significant positive effect, whereas budget performance exerts a significant negative effect on deficit realization; legislature size and budget revisions show no significant influence. These findings suggest that fiscal deficits in Indonesian local governments are driven more by budgetary management than by legislative oversight capacity, offering novel evidence in a decentralized developing-country context. Accordingly, policymakers should prioritize strengthening budget formulation, execution, and performance management to curb excessive deficits and enhance fiscal sustainability and efficient public resource allocation.

Keywords: Budget size, Budget revision, Deficit, Legislative size, Local government.

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1. Introduction

World economic uncertainty has a major influence on government sector funding. This uncertainty can be caused by conflicts between countries, pandemics and international politics (Cifuentes-Faura et al., 2022). For example, during the COVID-19 pandemic, both developed and developing countries have experienced a huge economic decline, due to lockdown restrictions, financial market instability, high unemployment, and loss of income in various sectors. So that the impact of COVID-19 on the income generated by the state has a significant effect, this triggers a lot of spending rather than income which causes a deficit.

These macroeconomic pressures are particularly relevant in decentralized fiscal systems such as Indonesia, where local governments are responsible for maintaining fiscal balance despite limited fiscal capacity. Under conditions of economic uncertainty, local governments may experience declining own-source revenues, increasing expenditure demands, and tighter borrowing restrictions (OECD, 2020). Consequently, the ability of local governments to manage deficits is not determined solely by external economic shocks, but also by internal institutional and budgetary factors, including legislative oversight, budget capacity, rebudgeting practices, and budget performance. Therefore, examining the determinants of local government deficits becomes increasingly important in understanding how local fiscal institutions respond to macroeconomic pressures.

Governments in many countries, including developing countries such as Indonesia, frequently face persistent budget deficits. These deficits can create financial instability at the local government level, leading to political conflict and disruptions in public services. Global economic pressures, including inflation, rising interest rates, and fluctuations in energy prices, have further intensified fiscal challenges for governments (OECD, 2020). In Indonesia, the 2023 budget deficit was still influenced by post-pandemic economic recovery policies and adjustments to global energy price volatility. This situation highlights the difficulty of maintaining fiscal balance while supporting economic growth and keeping deficits within regulated limits. Prolonged deficits may also increase local governments' dependence on central government transfers. Therefore, local governments are encouraged to strengthen fiscal independence, which is consistent with the objectives of fiscal decentralization to promote economic growth and improve regional financial sustainability (Rodden, 2002; Prihatiningsih and Rachmad, 2013).

Deficits and fiscal decentralization are closely related. Fiscal decentralization gives local governments the authority to manage revenue and expenditure sources in their regions. (Prihatiningsih and Rachmad, 2013). So that the authority of fiscal decentralization can improve the efficiency and effectiveness of regional financial management and empower regions to make decisions related to income and expenditure. However, on the other hand, fiscal decentralization also has the potential to increase the risk of deficits at the regional level if not balanced with effective management. If local governments are unable to optimize their own-source revenues and rely solely on transfers from the central government, this situation can become increasingly vulnerable because expenditures are not balanced with the ability to receive revenues, then local budget deficits can occur.

Within the fiscal decentralization framework, local legislatures play a strategic role because they are directly involved in budget approval, revision, and oversight processes. Legislature size may influence fiscal outcomes because a larger legislature can create stronger political fragmentation and increase spending pressures arising from competing constituent interests. According to distributive politics theory, legislators tend to advocate for spending allocations that benefit their constituencies, potentially contributing to expenditure expansion and fiscal imbalance (Weingast et al., 1981). Similarly, Bradbury and Crain (2001) found that legislative organization and larger legislatures are associated with higher government spending. In the Indonesian context, where budgeting involves bargaining processes between local executives and local parliaments, legislature size may influence expenditure allocation and deficit realization. Therefore, legislature size deserves particular attention as a political-institutional determinant of fiscal deficits.

The local government budget (LGB) represents a regional strategic policy that contains annual program and activity plans to achieve development goals according to the vision and mission of the region. In order for the LGB to be prepared in a directed manner, local governments need a strategic plan. This strategic plan is prepared objectively and involves all components of government. Through this system, local governments can assess the financial performance reflected in the LGB (Ramadhan, 2021). A deficit in the LGB occurs when total local revenue is less than total local expenditure. Local governments can plan various programs to improve community welfare, such as infrastructure development, health services, education, and local economic empowerment. However, if a deficit occurs, local governments need to find solutions such as maximizing local revenues, controlling non-priority spending, or utilizing reserve funds.

In addition to political factors, budget-related characteristics are also important determinants of fiscal deficits. Budget size reflects the scale of government fiscal operations and expenditure commitments. Larger budgets may increase fiscal risks because governments manage more extensive expenditure programs and development projects. Budget revisions or rebudgeting represent adjustments made during budget implementation when initial plans no longer match actual conditions (Forrester and Mullins, 1992). Frequent budget revisions may indicate weaknesses in planning accuracy and fiscal discipline (Anessi-Pessina et al., 2012), potentially increasing the risk of deficits. Furthermore, budget performance reflects the effectiveness and accountability of financial management. Effective budget performance is important for maintaining fiscal sustainability, transparency, and public trust (Ott et al., 2018).

In Indonesia context, financial deficit can occur when the realization of government expenditure exceeds the realization of revenue, resulting in a negative difference between revenue and expenditure (deficit). If a local government experiences a deficit, this shortfall can be covered through financing receipts. Furthermore, the Indonesian Ministry of Finance reduced the maximum cumulative deficit and debt financing limits to approximately 0.14% of GDP (Ministry of Finance of the Republic of Indonesia, 2022). Therefore, the decrease in the cumulative maximum limit of the LGB deficit is followed by a decrease in the maximum limit of the LGB deficit for each region. For local governments with high fiscal capacity, the allowed maximum deficit in 2023 was 2.8% of local government income (Wildan, 2022). Although this policy aims to maintain fiscal sustainability amid global economic uncertainty, some regions continue to experience difficulties balancing revenues and expenditures due to declining local revenues and increasing expenditure needs.

Previous studies on local government deficits have predominantly focused on fiscal and economic variables such as revenue capacity, expenditure growth, and intergovernmental transfers, while political-institutional factors remain relatively underexplored. In particular, empirical evidence regarding the role of legislature size in explaining local government deficits is still limited and inconclusive. Zaitul et al. (2021), for example, examined the relationship between legislature characteristics and local government performance and found no significant influence of legislature size. However, their study did not specifically investigate fiscal deficits as an outcome variable. Consequently, limited evidence is available regarding whether legislature size contributes to fiscal imbalance and deficit realization in local governments.

Moreover, prior studies generally examine budget size, rebudgeting, and budget performance separately rather than integrating political and budgetary factors within a unified framework to explain local government deficits. Therefore, the literature still lacks comprehensive evidence regarding which factors are more dominant in influencing fiscal deficits in decentralized governments, particularly in developing countries such as Indonesia (Rodden, 2002; Persson and Tabellini, 2004). This study addresses this gap by simultaneously examining the influence of legislature size, budget size, budget revisions, and budget performance on financial deficits in Indonesian local governments.

This study contributes to the literature in several ways. First, it extends the discussion on local government fiscal deficits by incorporating legislature size as a political-institutional variable that has received limited attention in prior deficit studies. Second, this study integrates political and budgetary determinants into a single empirical model, enabling comparison between institutional and fiscal management factors in explaining deficit realization. Third, focusing on Indonesian local governments provides empirical evidence from a decentralized developing-country context characterized by fiscal pressures, political dynamics, and budget management challenges.

2. Theoretical Basis and Hypothesis Development

2.1. Agency Theory

Agency relationships in agency theory according to (Jensen and Meckling, 1976) emphasize the importance of the relationship between the principal (the owner of resources) and the agent (the party authorized to manage these resources) in various contexts, including the public sector. In the public sector, the government acts as the principal, who mandates the bureaucracy as the agent to manage public resources. This relationship requires the bureaucracy to not only be efficient in managing resources, but also responsible in carrying out its duties in order to achieve the goals set by the government. However, this agency relationship is inseparable from potential conflicts of interest, where the agent's interests are not always in line with the principal's interests. Therefore, strict supervision and clear accountability are essential to ensure that the bureaucracy works in accordance with the public interest and does not abuse the authority given.

Recent studies have extended agency theory into the public sector context by emphasizing the importance of accountability, transparency, and performance-based governance in reducing information asymmetry between governments and citizens. In decentralized governments, agency problems become more complex because multiple actors, including executives, legislatures, and bureaucracies, are involved in budget formulation and implementation processes. Citizens as principals expect local governments to allocate public resources efficiently and avoid excessive deficits, while government officials and legislators may pursue political or organizational interests that are not always aligned with fiscal sustainability objectives (Baimyrzaeva, 2021). Therefore, strong monitoring mechanisms, transparent budgeting systems, and effective budget performance evaluations are essential to reduce agency conflicts in local financial management.

Agency theory also provides a relevant framework for explaining the determinants of fiscal deficits examined in this study. Legislature size is associated with monitoring effectiveness and political bargaining in budget approval processes. Larger legislatures may strengthen oversight functions, but they may also increase spending pressures due to competing constituent interests and distributive politics. Budget size reflects the scale of resources managed by agents, where larger budgets potentially increase agency problems because monitoring becomes more difficult and opportunities for inefficient spending become greater. Budget revisions (rebudgeting) may indicate information asymmetry and weaknesses in initial budget planning, requiring adjustments during implementation. Meanwhile, budget performance reflects the extent to which agents manage public resources effectively and accountably in achieving fiscal objectives. Thus, agency theory provides an integrated theoretical basis for understanding how political and budgetary factors influence deficit realization in local governments.

Oversight mechanisms, both internal and external, as well as transparent accountability systems are needed to reduce the risk of irregularities and ensure that public objectives are optimally achieved. The implications of agency theory in the public sector also include efforts to balance power between the government and the bureaucracy, ensuring that the bureaucracy not only follows government instructions, but also acts with integrity and in the public interest.

Many local governments face challenges in achieving set budget targets, often resulting in deficits. For example, financial reports show that some districts experienced significant deviations between budget and revenue realization, which contributed to the realization of budget deficits. This reflects a potential conflict of interest between government officials (agents) responsible for financial management and the public (principals) who expect transparency and accountability in the use of public funds.

The mismatch between budget and realization also points to the need for a better monitoring system to ensure that agents act in accordance with the interests of the principal. In many cases, a lack of understanding or mastery of local financial regulations can lead to errors in budget planning and execution, which in turn exacerbates deficit conditions. Therefore, the application of agency theory in local financial management can help improve accountability and efficiency of budget use, thereby reducing the risk of future deficit realizations.

2.2. Deficit Realization

The realization of a budget deficit refers to the difference between revenues and expenditures in the LGB. The Budget Realization Report (BRR) in local government financial statements can show a surplus figure. Surpluses occur when revenues received exceed local expenditures, thus providing an opportunity for local governments to set aside funds for savings or make investments in assets. This surplus can also be used to reduce debt or increase reserves to deal with unexpected conditions in the future. A deficit, on the other hand, is a situation where local expenditures are greater than revenues received, indicating that the region cannot finance all planned expenditures with existing revenues. In a deficit situation, local governments usually have to find additional sources of financing, such as loans or utilizing reserve funds, to cover the shortfall. A deficit occurs when total revenue is lower than total expenditure. If the budget experiences a deficit, the shortfall can be overcome through the receipt of financing, such as the surplus from the previous year, utilization of reserves, receipt of loans, proceeds from the sale of unused regional assets, as well as returns from loans granted or other budget sources. The surplus or deficit position of a government budget can be seen in the BRR. Thus, financial administration management and accountability in the preparation process can be assessed (Fitriyani and Rahmadi, 2023).

This is important so that local governments can evaluate the effectiveness of budget management and ensure that spending is done efficiently, according to priorities, and within the corridors of applicable regulations. In addition, a clear understanding of the financial position allows local governments to plan better financing strategies to maintain financial stability and support sustainable regional development.

2.3. Legislature Size

In accordance with Indonesian Law No. 32 of 2004, the local parlement is one of the elements in the implementation of local government that functions as a cooperative relationship with the regional head (executive) and carries out the functions of budgeting, supervision, and legislation local parlement legislation is determined by the number of members elected in a certain period. The local parlement, which is elected by the people, is tasked with ensuring that the executive carries out its duties in accordance with the interests of the community, namely to improve the welfare of the people and develop the region. local parlements are also obliged to oversee the use of the budget in a transparent and accountable manner to prevent abuse of power. Thus, local parlements have a very important role in maintaining the balance of power between the executive and the legislature and ensuring that local government runs in accordance with the principles of democracy and justice (Zaitul et al, 2021). Suhardjanto and Yulianingtyas (2011) found that legislative size has a favorable impact on the level of disclosure of financial statements by local governments. Therefore, it is anticipated that local government supervision will increase as the number of local parlement members increases, which in turn will encourage an increase in the disclosure of these financial statements (Madelia et al., 2017).

Kusumawardani (2012) states indicates that the financial performance of local governments in Indonesia is positively influenced by the size of the legislature. It is thought that more legislators will allow greater oversight of local governments, which will improve their performance and ensure efficient use of budget resources. (Evelindasari, 2020). This also has an effect on the realization of the deficit where the size of the legislature that has the main points of view in the fund called Aspiration can lead to greater budget allocations to meet the interests of the region or their constituents. This can lead to an increase in government expenditure that exceeds revenue, thus contributing to the budget deficit. Aspirations proposed by legislators often focus on specific local projects, and if not matched by adequate state revenues, this will result in an increase in deficit realization.

Empirical findings regarding the influence of legislature size on fiscal outcomes remain inconclusive. Some studies suggest that larger legislatures improve oversight quality and accountability, thereby strengthening financial performance and fiscal discipline (Kusumawardani, 2012; Suhardjanto and Yulianingtyas, 2011). In contrast, other studies argue that larger legislatures may increase budget fragmentation and political bargaining, leading to higher public spending and fiscal imbalances due to pressures to accommodate constituent interests (Bradbury and Crain, 2001). These inconsistent findings may be explained by contextual factors such as institutional quality, fiscal capacity, political competition, and the effectiveness of budget oversight mechanisms. In developing and decentralized countries such as Indonesia, where local budgeting often involves negotiations between executives and local parliaments, larger legislatures may create stronger political incentives to expand expenditures, potentially increasing deficit realization.

Therefore, further empirical investigation is needed to clarify the role of legislature size in influencing local government deficits.
H1. Legislature size affects deficit realization.

2.4. Budget Size

Abdullah et al. (2020) argue that larger budget allow for more significant adjustments because they represent an increase in department tasks and efforts. Abdullah (2013) found that the opportunity for budget revision increases along with the size of the local parlement budget, especially in terms of reallocation, although it does not always result in changes to the local parlement's expenditure budget ceiling, the greater the opportunity to revise the budget, especially to reallocate, although it does not always change the local parlement's expenditure budget ceiling concerned.

The size of each local government budget also affects local expenditure. Local government revenue sources force governments to allocate funds effectively and efficiently and prioritize projects. Strategic activities can be funded by optimizing limited revenues through effective budget allocations. However, on the contrary, if the budget allocation is carried out inefficiently, the local government will experience a budget deficit at the end of each year.

From an agency theory perspective, larger budgets increase the complexity of financial management and monitoring processes. As the amount of public resources managed by local governments increases, information asymmetry between principals and agents may also become greater, potentially creating opportunities for inefficient spending and weak fiscal control. Although larger budgets may provide governments with greater flexibility to finance development programs, ineffective allocation and monitoring can increase the risk of fiscal deficits. Previous studies have generally examined budget size in relation to expenditure management and budget revisions, but limited studies have directly linked budget size to deficit realization within a political and institutional framework. Therefore, this study further examines whether larger local government budgets contribute to higher deficit realization.
H2. Budget size affects the realization of the deficit.

2.5. Budget Revisions

Local governments often experience changes in budget implementation (Anessi-Pessina et al., 2012). Abdullah (2013) states that local governments in Indonesia experience changes known as LGB, caused by various factors. The regional head formulates the elements that cause changes in the LGB in the draft policies, priorities, and limits for LGB changes. Some of these factors include changes in economic conditions, urgent needs in public services, and new policies issued by the central government. Changes to the LGB can also be triggered by transfer funds from the center that do not match initial projections, as well as the need to adjust the budget to the development of social and political situations in the regions. Thus, flexibility in LGB management is essential to ensure that budgets can be revised and adjusted promptly to remain relevant and meet the needs of the community. Success in amending the LGB also depends on public participation and transparency in the budgeting process, so that the public can monitor the use of the budget and support the policies adopted by local governments.

Budget revisions (rebudgeting), according to Forrester and Mullins (1992) in Kurniawan and Arza (2019) state the consequences of differences between previously planned budgets and those required based on current conditions. Budget revisions are not described in the the government financial report, so most people do not know the changes that occur in the LGB. As a result, the public cannot effectively oversee the implementation of the LGB. The tendency of regions to make budget revisions towards the end of the year (after September) is one of the reasons why the budgeting process appears ineffective in addressing problems in society and government (Muda, 2017, as cited in Kurniawan and Arza, 2019).

Purwaningtyastuti (2014, as cited in Purwanto, 2016), examining the ratio of local government revenue and expenditure budgets to changes in the LGB shows that over the past three years, other legal revenues have experienced the most significant budget revisions. On the other hand, the biggest change in expenditure occurred in the unexpected expenditure budget.

Changes to the LGB are expected to ensure the achievement of government programs that have been previously determined. In addition, changes to the LGB are intended to utilize the increase in the revenue budget in the current year so that there are no funds left at the end of the year (Abdullah and Junita, 2016). Abdullah and Nadir (2014) determined that budget modifications help rationalize budgets in unclear situations and protect against budget uncertainty.

Administrative errors, budget shifts in the event of permanent changes, and increases or decreases in budget ceilings are the main causes of budget adjustments. To achieve the right goals and objectives, the planned budget needs to be changed, resulting in an effective budget for the local government. This can also affect the realization of deficits because budget revisions can affect the addition or subtraction of a budget which results in a lot of budget expenditure. In addition, budget revisions also have the potential to affect deficit realization, because additions or reductions in budget allocations can have an impact on increasing government spending, which in turn can affect the balance between revenue and expenditure in the local government budget.

Budget revisions or rebudgeting can also be explained through agency theory. Frequent budget revisions may reflect weaknesses in initial planning, limited forecasting accuracy, and information asymmetry between executives, legislatures, and the public. In some cases, rebudgeting may be necessary to respond to unexpected economic conditions; however, excessive revisions may also indicate opportunistic behavior and weak fiscal discipline. Prior studies have primarily focused on the administrative aspects of rebudgeting, while limited attention has been given to its implications for fiscal deficits. In the Indonesian local government context, where budget revisions frequently occur during implementation, rebudgeting may influence the balance between revenues and expenditures and subsequently affect deficit realization.

H3. Budget revisions affect deficit realization.

2.6. Budget Performance

According to Ministry of Finance (MoF) Regulation No. 124/2017, budget performance is defined as actions intended to produce desired results. To improve budget performance, it is important to conduct an evaluation, which includes a comparison between the budget performance of the previous year and the current year. The purpose of this assessment is to pinpoint the strengths and weaknesses of budget execution, so that the government can make better decisions in planning and allocating resources in the future. In addition, budget performance evaluations also provide a clear picture of the achievement of established goals and objectives, and facilitate improvements and adjustments in budget management strategies.

This situation shows that budget performance has not been implemented regularly, where budgets for regional development are still not fully realized. In other words, because budgets are not reaching targets, budget performance is not in line with expectations and goals that have been set. As a result, a way is needed to suppress the budget performance problem with a systematic and continuous evaluation process that will encourage accountability and transparency in public financial management, and increase the effectiveness and efficiency of budget use to achieve optimal results in governance and public services (Rachmadi et al., 2023).

The COVID-19 pandemic that occurred in 2021-2022 greatly affected the government's budget performance, especially in revenue and expenditure items that experienced many changes. As a result of COVID-19, the local government's LGB experienced a budget deficit which had to be refocused and reallocated, especially in regional expenditures whose activities were delayed or could be postponed due to the pandemic. This is what triggers the realization of a deficit due to a lack of efficiency and effectiveness in budget performance which encourages a deficit in the COVID -19 year until 2022.

Agency theory suggests that budget performance serves as an important accountability mechanism to ensure that government agents manage public resources efficiently and in accordance with public interests. Poor budget performance may indicate ineffective expenditure management, delays in program implementation, and poor fiscal control, which can contribute to fiscal imbalance and deficit realization. Conversely, effective budget performance reflects stronger accountability and more efficient resource utilization, potentially reducing deficit risks. Although previous studies have emphasized the role of budget performance in improving transparency and governance quality, empirical evidence linking budget performance directly to local government deficits remains limited, particularly in developing countries. Therefore, this study examines whether budget performance significantly influences deficit realization in Indonesian local governments.

H4. Budget performance affects deficit realization.

3. Research Methods

This study was conducted to investigate the effect of legislature size, budget size, budget revisions, budget performance on the realization of the study deficit in district and city governments in Indonesia. the data used in this study are secondary data. The data source of this research is initial/ planned LGB financial report data and the actual/ realized LGB obtained from the Ministry of Home Affairs website. This study uses tabulation data collection techniques. Where data is collected by downloading from the planned LGB and the actual LGB data. The population in this study were all district and city governments in Indonesia that experienced a realized deficit in 2022, totaling 280 out of 514 local governments. While the sample of this study was taken using the purposive sampling technique.

The variables in this study consist of dependent variables and independent variables, where the dependent variable (Y) is deficit realization while the independent variable (X) consists of the number of board members, budget size, budget revisions and budget performance.

Table 1. Operational Definition of Variables

Variable	Definition	Indicator	Scale
Deficit Realization (Y)	Realized deficit is the difference between revenue and expenditure in a budget in the same fiscal year, where total revenue is lower than total expenditure.	The 2022 Revenue Realization is reduced by the 2022 Expenditure Realization, resulting in a Deficit Realization figure.	Ratio
Number of board members (X1)	The number of local parlement members elected over a period of time determines the size of the local parlement.	Number of seats or number of local parlement members in 2022	Ratio
Budget size (X2)	Budget size is the amount of local government expenditure that reflects the workload of the local government parlement concerned in carrying out its functions.	Total LGB expenditure budget in 2022	Ratio
Budget Revisions (X3)	A budget amendment is an adjustment to the allocation of funds in an entity's budget that has been prepared for a particular fiscal year.	The expenditure budget after the change is reduced by the expenditure budget before the change in 2022	Ratio

Variable	Definition	Indicator	Scale
Budget performance (X4)	Budget performance is an evaluation of the achievement of goals and objectives that have been set in a government budget and to highlight the effectiveness and efficiency of the use of the budget.	Surplus in LGB of 2021	Ratio

The data analysis method used is a method that has been collected to provide answers to research hypotheses. Some of the methods used include the classic assumption test (normality test, multicollinearity test, autocorrelation test, heteroscedasticity test). The data analysis model used in this study is a multiple regression model which is used to determine whether the independent variables (Legislature Size, Budget Size, budget revisions, Budget Performance) partially affect the dependent variable (Deficit Realization). So that the equation model is (Ramadhan, 2021) as follows:

$$Y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + e \dots \dots \dots (1)$$

Notes:
Y = Deficit Realization
α = Constant
β_1, β_2, β_3, β_4 = Independent variable regression coefficient
X1 = Legislature Size (LS)
X2 = Budget Size (BS)
X3 = Budget revisions (BR)
X4 = Budget Performance (BP)
e = Error term

Then proceed with hypothesis testing to determine the acceptance or rejection of the proposed hypothesis. Hypothesis testing is done in the form of t test, f test and coefficient of determination test.

4. Results and Discussions

Table 2 shows the result of the descriptive statistical analysis of the data:

Table 2. Descriptive Statistics

Variable	Minimum	Maximum	Mean	Std. Deviation
Deficit Realization (DR) (in Million IDR)	-887,110.51	-193.13	-81,013.73	101,217.07
Legislature Size (LS),	20	55	34.14	10.341

Variable	Minimum	Maximum	Mean	Std. Deviation
number of local government parlement member				
Budget Size (BS) (in Million IDR)	542,920.92	10,395,185.80	1,802,443.64	1,221,299.24
Budget Revisions (BC) (in Million IDR)	-1,040,711.57	1,285,491.54	-38,098.15	213,885.38
Budget Performance (BP) (in Million IDR)	-1,988.88	1,179,959.35	178,473.35	192,918.45

Based on the table above, it can be seen that the descriptive statistics of local governments in Indonesia in the 2022 fiscal year. The (dependent) variable, namely deficit realization, has a minimum value from Bengkalis Regency of IDR -887,110.51 million and Bireuen Regency has a maximum value of IDR -193.13 million with an average (mean) value of IDR -81,013.73 million and a standard deviation of 101,217.07 million. With a standard deviation higher than the mean, this indicates that the data has a poor distribution. In the variable (independent) the size of the legislature can be seen in the seats of council members in 2022 which has a minimum value of 20, namely in Aceh Jaya Regency, which shows that there are very few council members in the district. the maximum value of 55, namely in Bandung Regency, shows that the largest number of council members is in the district and the average value (mean) of 34.14 with a standard deviation of 10.34.

This shows that the size of the legislature in Bandung Regency can affect local government spending to meet the needs of council members, such as salaries, allowances, and other facilities. Therefore, regencies or cities that have more council members usually have a larger realized deficit than regencies or cities that have fewer council members. Conversely, Aceh Jaya district, which has fewer council members, may face a lower budget burden, potentially reducing the deficit level.

The budget size variable can be seen in the 2022 LGB budget expenditure which has a minimum value of IDR 542,920.92 million in South Bolaang Mongondow Regency and a maximum value of IDR 10,395,185.80 million in Surabaya City. This shows that there is a notable difference in budget allocations between districts and cities, with Surabaya City having a much larger budget allocation than other districts in 2022. The average budget size of IDR 1,802,443.64 million shows that in general, local governments have a fairly large budget. However, there is significant variation, as seen from the standard deviation value of IDR 1,221,299.24 million, which is higher than the average. This indicates a wide spread of data.

There is a link between deficit realization where districts/municipalities with large budget sizes tend to have the potential to create larger deficits if government expenditure is not balanced with revenue. Conversely, districts with smaller budgets may face a lower risk of deficits, but also experience limitations in spending on development and public services. Therefore, high budget size can be one of the factors that influence high deficit realization, especially if it is not matched by adequate revenue or efficient budget management.

In 2022 the budget change variable has a minimum value of IDR -1,040,711.57 million in Bekasi Regency and a maximum value of IDR 1,285,491.54 million in Bima Regency, which shows a large enough difference between districts / cities in that year While the average value of budget revisions is IDR -38,098.15 million, with a standard deviation value of IDR 213,885.38 million This value is smaller than the average value, which indicates that budget change data is poorly distributed and often uneven, with some locations experiencing severe changes.

In this case a low budget change variable can contribute to an increase in the deficit if revenues cannot cover the budget reduction. Conversely, budget increases can lower the deficit if they are used for productive expenditures that increase local revenues. The uneven distribution of budget revisions suggests that some regions may face greater challenges in managing deficits, especially those that experienced significant budget reductions. This underscores the importance of effective financial management to cope with budget revisions and control deficit realization.

The budget performance variable can be seen in the 2022 regional government financial report which has a minimum value of IDR -1,988.88 million in West Halmahera Regency and a maximum value of IDR 1,179,959.35 million in Bengkalis Regency which shows an average value of IDR 178,473.35 million and a standard deviation value of IDR 192,918.45 million which is higher than the average value, indicating that the data is poorly distributed. This indicates that the realization of deficits in some regions causes significant differences in budget performance, because the deficit reflects the gap between revenue and expenditure, thus affecting the stability and effectiveness of budget management in these regions.

4.1. Normality test

The normality test was conducted to examine whether the residuals in the regression model were normally distributed. In this study, the Kolmogorov–Smirnov test was used as the normality testing approach. A significance value (Asymp. Sig.) greater than 0.05 indicates that the residuals are normally distributed, while a value below 0.05 indicates non-normal distribution.

The initial test results before outlier treatment showed an Asymp. Sig. value of 0.000, which was below the 0.05 significance level. This finding indicated that the residuals were not normally distributed, implying that the regression model did not initially satisfy the normality assumption. Non-normal residuals may reduce the validity of statistical tests such as the t-test and F-test.

To overcome this issue, an outlier treatment was performed by removing 69 data observations identified as extreme values. In addition, the data were transformed using the SQRT transformation method to improve the distribution of residuals. After the outlier removal and data transformation, the normality test showed an Asymp. Sig. value of 0.098, which exceeded the 0.05 threshold. Therefore, it can be concluded that the residuals were normally distributed and the regression model fulfilled the normality assumption.

4.2. Multicollinearity test

The multicollinearity test was conducted to determine whether correlations existed among the independent variables in the regression model. A good regression model should not exhibit strong correlations among independent variables. In this study, multicollinearity was assessed using tolerance values and the Variance Inflation Factor (VIF). A model is considered free from multicollinearity when the tolerance value is greater than 0.10 and the VIF value is less than 10.

The test results showed that all independent variables had tolerance values above 0.10 and VIF values below 10. Specifically, the legislature size variable had a tolerance value of 0.227 and a VIF value of 4.406, while the budget size variable had a tolerance value of 0.222 and a VIF value of 4.496. Furthermore, the budget revision variable had a tolerance value of 0.930 and a VIF value of 1.076, and the budget performance variable had a tolerance value of 0.803 and a VIF value of 1.246. These findings indicate that no multicollinearity problem existed among the independent variables, and therefore the regression model satisfied the multicollinearity assumption.

4.3. Heteroskedasticity test

The heteroskedasticity test was performed to determine whether the variance of residuals remained constant across observations in the regression model. In this study, heteroskedasticity was examined using the scatterplot method. A regression model is considered free from heteroskedasticity if the residual points are randomly distributed and do not form a specific pattern.

The scatterplot results showed that the residuals were randomly spread above and below the zero line without forming any clear pattern. This finding indicates the absence of heteroskedasticity in the regression model. Therefore, the model fulfilled the homoskedasticity assumption and was considered appropriate for regression analysis.

4.4. Autocorrelation test

The autocorrelation test was conducted to examine whether there was a correlation between residuals in one observation period and residuals in another observation period. The Durbin–Watson (DW) test was used to detect autocorrelation in the regression model. A regression model is considered free from autocorrelation when the Durbin–Watson value falls between −2 and +2.

The test results showed a Durbin–Watson value of 1.885. Since this value lies within the acceptable range of −2 to +2, it indicates that there was no autocorrelation problem in the regression model. Therefore, the regression model satisfied the autocorrelation assumption and could be considered reliable for further statistical analysis.

4.5. Regression test results

To examine the extent to which the independent variables explain variations in the dependent variable, this study employed multiple regression analysis. This analytical approach was utilized to investigate the relationship between a single dependent variable and multiple independent variables simultaneously. The results of the analysis are presented in Table 3:

Table 3. Multiple Linear Regression Analysis Results

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
(Constant)	219,632.852	79,899.682		2.749	.007
SQRT_LS	-7,593.140	17,487.235	-0.058	-0.434	0.665
SQRT_BS	0.124	0.060	0.283	2.083	0.038
SQRT_BC	0.051	0.065	0.052	0.779	0.437
SQRT_BP	-0.261	0.078	-0.240	-3.359	0.001

Based on the table, an equation conclusion can be drawn, namely:

$$RD = 219632.852 - 7593.140\ X1 + 0.124\ X2 + 0.051\ X3 - 0.261\ X4 + e$$

The regression equation, obtained through data analysis using SPSS software, is shown in the table above. The constant (α) is IDR 219,632.852, which represents the predicted value of deficit realization when all independent variables, legislature size, budget size, budget revisions, and budget performance, are held constant at zero. This constant provides a baseline level of deficit realization in the absence of variation in the explanatory variables. The regression coefficient for legislature size (X1) is –7,593.140, indicating that, on average, a one-unit increase in the number of legislative members corresponds to a decrease in deficit realization by IDR 7,593.140 units, assuming all other factors remain constant. The coefficient for budget size (X2) is 0.124, which means that each additional unit in budget allocation is associated with an increase in deficit realization by 0.124 units, ceteris paribus.

For budget revisions (X3), the coefficient is 0.051, suggesting that each one-unit increase in budget adjustment is predicted to raise the deficit realization by 0.051 units. Lastly, the regression coefficient for budget performance (X4) is –0.261, implying that an improvement of one unit in budget performance is associated with a reduction in deficit realization by 0.261 units.

The results of hypothesis testing provide further insights into these relationships. For the legislature size variable, the significance value is 0.665, which is greater than the 0.05 threshold. This indicates that the effect of legislature size on deficit realization is statistically insignificant, and therefore H1 is not supported. Despite the negative coefficient suggesting an inverse relationship, this relationship lacks statistical evidence. In contrast, budget size shows a significance value of 0.038, which is below the 0.05 threshold, indicating a statistically significant positive relationship with deficit realization. This finding supports H2 and implies that larger budgets may be associated with higher financial deficits, potentially due to greater fiscal commitments or expenditure expansion. The budget revisions variable has a significance value of 0.437, which exceeds the 0.05 threshold, indicating that variations in budget adjustments do not have a statistically significant impact on deficit realization; hence, H3 is not supported. Finally, budget performance records a significance value of 0.001, which is well below the 0.05 benchmark, showing a significant negative relationship with deficit realization. This confirms H4, suggesting that better budget performance, likely reflecting higher efficiency and effectiveness in budget execution, contributes to reducing financial deficits.

The results of this study reveal that legislature size does not significantly affect deficit realization, aligning with the findings of Fitriyani and Rahmadi (2023) and Nurhalisa (2020), who argue that deficits are more strongly driven by effective expenditure and revenue management and broader economic conditions. This contrasts with earlier studies, for instance Suhardjanto and Yulianingtyas (2011), Madelia et al. (2017), and Kusumawardani (2012), which suggest that larger legislatures can enhance oversight and budget allocations to serve constituent interests. While the DPRD participates in budget approval and oversight, this study finds no strong evidence that its size meaningfully contributes to deficit levels, as macroeconomic conditions and executive fiscal management exert a more dominant influence.

Furthermore, the findings of this study are consistent with those of Fitriyani and Rahmadi (2023) and Prihatiningsih and Rachmad (2013), who argue that inefficient expenditure management can lead to waste and exacerbate fiscal deficits, particularly when budget allocations for goods and services are misdirected. This underscores the importance of strong budget performance, including effective oversight and expenditure control, in reducing deficits. However, unlike the present results, studies by Ningsih and Andini (2018) and Nugraheni et al. (2021) highlight that external factors, for instances, global economic instability and fluctuations in local revenue, can exert a more substantial influence on deficits than government spending management. Prior research focusing on the impact of external economic variables suggests that even efficient budget management may be insufficient during economic crises, as declining revenues and rising fiscal pressures can occur beyond the control of local governments.

5. Conclusions, Limitations and Suggestions

Based on the results of this study, it can be concluded that legislature size, budget size, budget revisions, and budget performance simultaneously influence the realization of financial deficits in Indonesian districts and cities in 2022. However, partially, only budget size and budget performance have a significant effect on deficit realization, while legislature size and budget revisions do not show significant effects. Budget size has a positive influence on deficits, indicating that larger government budgets potentially increase fiscal pressure and expenditure risks if not managed efficiently. In contrast, budget performance has a negative and significant effect, suggesting that better budget performance can reduce deficit realization through more effective planning, implementation, supervision, and resource allocation.

From a theoretical perspective, these findings provide important implications for agency theory in the public sector. The insignificant effect of legislature size suggests that increasing the number of legislators does not necessarily strengthen monitoring effectiveness or improve fiscal discipline in local governments. This finding indicates that the effectiveness of legislative oversight may depend more on institutional quality, governance capacity, and accountability mechanisms rather than merely the number of legislative members. Thus, the study extends agency theory by showing that political representation alone is insufficient to reduce agency problems in local financial management if it is not supported by effective control systems and fiscal governance practices.

Furthermore, the significant influence of budget size and budget performance supports the agency theory argument that fiscal management quality and monitoring effectiveness are critical in reducing information asymmetry and controlling opportunistic behavior in public budgeting. Larger budgets increase the complexity of financial management and create greater opportunities for inefficient spending, while stronger budget performance reflects more effective accountability mechanisms that help reduce fiscal imbalance and deficit risks.

This study also provides more specific policy implications for policymakers. Since budget size and budget performance are the most influential variables, local governments should prioritize strengthening budget management capacity rather than focusing solely on expanding legislative structures or conducting frequent budget revisions. First, local governments need to improve expenditure prioritization, especially by controlling non-priority spending and strengthening performance-based budgeting systems. Second, regular evaluations of budget performance should be conducted to ensure that budget allocations achieve development targets efficiently and do not create excessive fiscal burdens. Third, local governments should strengthen internal control systems, monitoring mechanisms, and expenditure efficiency to prevent budget overruns that contribute to deficits. In addition, improving the quality of fiscal planning and revenue forecasting is important to minimize the need for excessive budget adjustments during implementation.

This study has several limitations. First, the study only covers the 2022 period, which may not adequately capture long-term fiscal trends and structural changes in local government finances. Second, the study focuses exclusively on Indonesian local governments, so the findings may not be fully generalizable to countries with different governance systems and fiscal decentralization structures. Third, this study only examines four determinants of deficits and does not incorporate other potentially relevant factors such as fiscal capacity, political competition, transfer dependency, or institutional quality.

Future studies are encouraged to expand the observation period and utilize panel data approaches to better capture dynamic fiscal conditions and improve the robustness of the analysis. Further research may also incorporate moderating or mediating variables, such as governance quality, political fragmentation, or fiscal independence, to explain why legislature size does not significantly influence deficit realization. Additionally, comparative studies across countries or regions may provide broader insights into how political and fiscal factors interact in influencing local government deficits.

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