

Article

An accounting review of regional and central budgeting dynamics in Indonesia

Eva Herianti^{1,*}, Amor Marundha², Haryanto Haryanto³¹ Department of Accounting, Faculty of Economics and Business, Universitas Muhammadiyah Jakarta, Kota Tangerang Selatan 15419, Indonesia² Department of Accounting, Faculty of Economics and Business, Universitas Bhayangkara Jakarta Raya, Jakarta Selatan 17123, Indonesia³ Department of Accounting, Sekolah Tinggi Ilmu Ekonomi Mulia Singkawang, Kota Singkawang 79123, Indonesia* **Corresponding author:** Eva Herianti, eva.herianti@umj.ac.id

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Abstract: This research aims to assess the impact of bargaining power on budget implementation while also considering the deviation in capital expenditure as a moderating factor. The research sample included 34 provincial governments in Indonesia between 2019 and 2022. The sample determination method used purposive sampling, so the final sample size was 134 observations. The research employed panel data regression to test the hypotheses and continued with the Chow, Lagrange multiplier, and Hausman tests. The study results indicate that bargaining power has a positive and significant effect on budget implementation, with the deviation in capital expenditure not diminishing its impact. The research's practical implication is that regional governments must effectively manage their revenues to finance regional spending needs through regional tax intensification and extensification policies. The study contributes to signaling theory by highlighting that regional governments can finance regional spending needs through fiscal independence and society's involvement. It also contributes to agency theory by demonstrating that capital expenditure deviation in the form of information asymmetry in regional governments does not reduce their ability to finance regional expenditure needs. Nonetheless, the study suggests that the proxies used in this research are limited, and further exploration of other proxies to measure tested variables. This research provides new knowledge for stakeholders regarding the dynamics of regional budgeting, especially regarding assessing the impact of bargaining power on budget implementation and considering deviations in capital expenditure as a moderating factor.

Keywords: agency theory; bargaining power; budget implementation; capital expenditure deviation; signaling theory

1. Introduction

A budget comprises income, expenses, transfers, and financing for a specific period. Typically measured in rupiah units, it serves as a crucial tool for governments to guide their actions and ensure optimal utilization of resources (Siregar, 2017). Budgets are often utilized as administrative control systems to foster creativity, behavior, government autonomy, and the implementation of innovative ideas (Rafi, 2020). Additionally, Rafi (2020) explains that budgets facilitate administrative activities, such as planning income sources, preventing overspending, and coordinating organizational tasks. Mah (2014) further elucidates that budgets cover all management aspects to control costs and enhance management performance.

The implementation of a budget is a critical process that involves two crucial aspects: income budget and expenditure budget. The focus of this study is on budget

implementation and, specifically, the implementation of the expenditure budget. This research emphasizes the importance of budget implementation, which refers to the successful execution of expenditure towards the regional expenditure budget. Proficient budget implementation is a crucial indicator for the regional government, as it effectively utilizes funds for the region's development. According to Rakhman (2019), local governments' high budget implementation indicates optimal fiscal policy implementation and efforts to meet community needs. Conversely, if community needs are unmet, it indicates a failure to implement fiscal policy.

In recent decades, budgets have gained popularity among academics worldwide as a tool to maintain functionality and achieve organizational goals. Huang and Chen (2010) suggest that budgets are a management tool for measuring progress and motivating employees in many organizations, including public sector organizations. Devlin (2001) explained that performance evaluation based on regional budgets can improve regional government performance.

Budget implementation remains a crucial concern for various stakeholders, including the government, as it significantly impacts economic activities (Oliewo, 2015; Paliova and Lybek, 2014). According to data, the average value of regional budget implementation for all provincial governments in Indonesia was 30.84% from 2019 to 2022. **Table 1** below presents budget implementation data for the last four years.

Table 1. Budget implementation between 2019–2022.

Years	Budget Implementation (%)
2019	31.61
2020	26.93
2021	30.52
2022	34.32
2019–2022	30.84

Source: Secondary data processed by researchers, 2023.

Table 1 displays the mean value of budget implementation between 2019 and 2022. The data indicates that the budget implementation rate has not exceeded 35% over the past four years. 2020 had the lowest implementation rate at 26.93%, while 2022 had the highest at 34.32%. **Table 1** shows that the average budget implementation level for all regional governments in Indonesia is suboptimal. The low implementation rate may link to the risks that regional governments face when they fail to adhere to budget regulations. Sheehan (2010) posits that regional governments encounter corruption demands and project failures during budget implementation, and they tend to mitigate these risks by implementing the budget suboptimally, especially if they receive low compensation. This inadequate implementation by regional governments could hinder regional development and impact the regional economy. Therefore, this study's significance lies in identifying the predictors of suboptimal budget implementation.

The region's lack of optimal budget implementation can be attributed to its low bargaining power, as Choi et al. (2021) explained. The region's independence often determines the level of bargaining power, as Oktaviani and Sari (2020) noted. A region

is considered independent when its original regional income in regional development exceeds the transfer funds. According to Surya et al. (2021), increasing regional income can encourage fiscal independence. Amin et al. (2023) explain that a region must follow applicable regulations, maintain economic potential, and increase its original regional income.

Amin et al. (2023) also stated that regions with higher fiscal independence experienced more significant economic growth than those without it. This fact indicates that regions with more financial resources can fund their needs more effectively. Regional governments can manage their finances better through fiscal decentralization when the central government delegates authority. This strategy aims to promote economic equity between the central and regional governments, encourage growth in regional economies, and address interregional disparities (Gonschorek et al., 2021; Lewis et al., 2020; Ulum et al., 2019; Wahyuningsih et al., 2019).

Fiscal decentralization shows the delegation of authority, which is marked by the increasing role of regions. The demand for democracy and the upheaval of reform after the fall of the New Order government in 1998 required an increase in the role of regions and wider community empowerment. The handover of funding sources and financial management authority to support the implementation of development in the regions within the fiscal decentralization framework has resulted in changes in roles, functions, institutions, and human resources at various levels of government (Puspita et al., 2021). Fiscal decentralization, as the bargaining power of regional governments, is considered to be able to improve budget implementation.

The level of bargaining power that a region possesses indicates its innovation and creativity in maximizing its potential to enhance the welfare of its community. An independent and prosperous society reflects a region's capability to meet its people's needs. In order to optimize regional potential, regional governments must map out the potential and sources of income within the region. Mahmudi (2020) suggests that a region can be categorized into four significant parts based on their ownership and management capacity of regional potential: (a) regions with high potential and ability to manage, (b) regions with high potential but low management capacity, (c) regions with low potential but high management capacity, and (d) regions with low potential and low management capacity.

Regional governments must maintain their regional sources of income to ensure financial sustainability for regions with high potential and the ability to manage their regional potential. Promotion and expansion strategies must be implemented. For regions with high potential but low management capacity, regional governments should focus on intensification, partnerships, and increasing human resource capacity. Extensification and expansion strategies can be beneficial for regions that may have lower potential and management capabilities. These strategies can help unlock untapped potential and create new opportunities for growth and development. Lastly, education, innovation, and partnerships are required for regions with low potential and low management capabilities.

Research regarding the impact of bargaining power on budget implementation remains limited. Prior studies relevant to this research include those conducted by Amin et al. (2023) and Royda and Riana (2019), examining the effect of fiscal independence on economic growth. The findings suggest that fiscal independence

positively and significantly influences economic growth. In another study, Permatasari and Trisnaningsih (2022) investigate the effect of fiscal independence on regional financial performance and report that it has a positive and significant impact. Burhan et al. (2022) show that regional independence has a positive and significant effect on regional government financial performance. However, Idris and Samsinar (2022) demonstrate that fiscal independence does not significantly affect economic growth.

To determine the potential for local original income, local governments must understand how to calculate it. Mahmudi (2020) explains that the potential regional original income can be calculated using macro and micro approaches. A comprehensive approach to enhancing regional financial independence involves using econometric regression models to estimate macroeconomic variables as proxies. Furthermore, conducting thorough data collection, surveys, and observations of tax objects and subjects helps to determine the existing income potential through a micro approach. The ultimate objective of these two approaches is to promote community welfare by bolstering regional financial autonomy.

According to Tehupuring (2021), research shows that regions with high resource potential benefit greatly from delegating authority from the central to regional governments. A region would become independent if the regional income generated from these resources is managed efficiently. However, not all information regarding regional resources is made public, as this can signal good government performance. Heraldsson (2022) explains that deviations in capital expenditure can occur when governments wish to demonstrate competence in providing public goods and financial control.

According to a study by Herianti (2019), budget deviations can indicate a regional government's inability to manage its budget, which may lead to budget surpluses or deficits. This fact can result from ineffective budgeting processes and a lack of discipline in budget realization. Additionally, budget deviations can create information asymmetry, where local governments possess more information than the general public, providing an advantage for the former. This surplus showcases the government's lack of preparation and discipline in managing the budget (Johansson and Siverbo, 2014; Herianti, 2019). Further, budget deviation represents a form of information asymmetry, where local governments possess more information regarding budget management compared to the community, which only has access to financial reports issued by regional governments. As such, agents with more information benefit from this information asymmetry.

The topic of bargaining power and its impact on budget implementation has been a subject of interest among researchers for quite some time now. However, despite numerous studies, there remains a gap in understanding the role of bargaining power when a deviation in capital expenditure is involved. As an example of the gap in research findings of Amin et al. (2023), Burhan et al. (2022), Idris and Samsinar (2022), Royda and Riana (2019), Permatasari and Trisnaningsih (2022). Hence, this study aims to bridge this gap by providing empirical evidence on the connection between bargaining power and budget implementation while considering the impact of capital expenditure deviations. By exploring this subject in greater detail, the findings from this study can shed new light on this crucial area of research and contribute to our overall understanding of how bargaining power influences budget implementation.

This research is still limited to being conducted in Indonesia, but it can contribute to the position of regional government bargaining power in improving budget implementation. This will allow regional governments to manage the potential for local original income through the amount of regional taxes and levies that can be received optimally.

2. Theoretical framework and hypothesis development

2.1. Signalling theory

Spence (1973) introduced the theory of signaling. This theory explain that sellers use signals to communicate information to buyers and aiding them in assessing the quality of the products sold. Signal theory suggests that job seekers use educational credentials as signals to convey their competence to potential employers. Since then, the theory has been applied to other contexts, including product marketing, where companies use signals like branding, packaging, and advertising to communicate the quality of their products to consumers. The theory of signaling has had a significant impact on our comprehension of how information is conveyed and how it influences decision-making in markets.

Signal theory underscores that local governments can foster public trust by providing affirmative signals regarding their performance. If the regional government fails to send positive signals, the public will consider it to have neglected its duties and functions, negatively impacting its governance period. Consequently, a local administration with a good reputation, reflected in its performance accomplishments, will transmit a positive signal to the community.

2.2. Agency theory

The theory of agency sheds light on the intricate relationship between the principal and the agent. Jensen and Meckling (1976) explain that agency theory is the delegation of authority from the owner (principal) to management (agent) to carry out the organization's business activities. Halim (2007) expounds that in the context of public sector organizations, the government serves as the agent, while the Regional People's Representative Council (DPRD) represents the community as the principal. The principal is vested with the authority to delegate power to their agent to act in their best interest. However, the agent may not continuously operate to the fullest extent of the principal's interests, leading to conflict. It is imperative to recognize that the agent is expected to act in the principal's best interest, and any deviation from this standard of conduct can result in a dispute of interest. Therefore, it is necessary to maintain a constant vigilance of the agent's practices to ensure compliance with the principal's interests. Syamsuddin (2017) explains that this arises due to the agent's information advantage over the principal and conflicting interests. Within public sector organizations, budgeting is a political tool for the government to achieve its goals, and performance measurement and incentive systems are essential components of agency theory, as Lambert (2006) noted.

According to Dubois (2016), the government uses the budgeting process to increase public expectations about its ability to improve community welfare. Budget

planning and implementation deviations in public sector organizations often stem from information asymmetry between the agent and principal. Such asymmetry arises because agents possess superior knowledge of the organization's resources, which they may leverage to advance their own interests. As a result, the principal may not have a complete understanding of the agent's motives and actions, leading to deviations from the budget plan. Establishing efficient communication channels between the agent and principal is crucial to ensure transparency in the flow of information regarding the organization's resources. It is imperative to ensure that the principal has unrestricted access to all relevant and technical details vital for the organization's smooth functioning. This approach can effectively address the problem at hand. By doing so, the principal can make informed decisions and hold the agent accountable for any deviations from the budget plan.

2.3. Budget implementation

According to Ogujiuba and Ehigiamusoe (2014), the government's most critical economic policy instrument is the budget. The budget document reflects the government's priorities pertaining to social and economic policies compared to other official records. It manifests the government's policies, the regional head's campaign promises, and the head's political commitment toward successfully implementing the regional budget. When a budget is implemented effectively, it can significantly impact a region's economic growth. The primary purpose of implementing a budget is to address the collective social needs of society. This can lead to faster economic growth, increased employment opportunities, and reduced poverty and income inequality between communities.

Siregar (2017) explains that the budget has several essential functions: authorization, planning, supervision, allocation, distribution, and stabilization. The budget serves as a crucial authorization for implementing income and expenditure for the year. It also functions as a planning guide for management in planning activities throughout the year. In addition, the budget acts as a means of supervision to assess regional government administrative activities. Its allocation function aims to create jobs, reduce resource wastage, and increase economic efficiency. Furthermore, the budget has a distribution function that prioritizes justice and propriety, while its stabilization function aims to maintain a fundamental balance in the regional economy.

Schick (2007) described how the budget is formulated, which refers to output per unit and is also performance-based. As a result, public sector organizations adopt budget-based performance systems to evaluate government performance. Aliabadi et al. (2019) highlight that performance-based budgeting concentrates on the link between increased budgeted spending and output. Schick (2007) also asserts that performance-based budgeting is desirable for public sector organizations. Nonetheless, implementing performance-based budgeting is a challenge for governments. There are two main reasons why performance-based budgeting is not always achievable. Firstly, implementing performance-based budgeting requires information on the output of the budget, which can be an obstacle for countries without performance measures and accrual systems. Plains performance-based budgeting is a desirable budgeting practice in public sector organizations. However, it is hard for governments to execute

performance-based budgeting practices. There are two essential reasons for not achieving performance-based budgeting in its implementation. The first is that implementing performance-based budgeting requires information on the output of the budget. Reliable performance measures and efficient accrual systems are crucial for countries' progress. The lack of such systems can pose challenges and hinder their development (Schick, 2007). Furthermore, in nations where performance-based budgets are employed, it is crucial to consider mandatory provisions and adjustments when creating these budgets, which can require considerable time and effort (Schick, 2014).

Mahmudi (2020) explained that using a performance-based budget system in local governments has led to significant changes in budget planning, filling, and reporting. Additionally, Mahmudi (2020) highlights that change in the budget structure impact the budget paradigm, budget account code, and recording procedures. For instance, the classification of expenditures has undergone substantial changes from the old system. Consequently, performance-based budgeting recognizes financing items that were previously unknown in traditional budgets. It's vital to note that performance-based budgeting isn't solely input-oriented. It's also based on budget outputs and outcomes, implying that the budget is linked to performance targets that will be met to measure its success.

Budget implementation requires regional governments to display the expenses incurred from the allocated budget (Rakhman, 2019). Mahmudi (2019) explains that the budget implementation process involves a regional government accounting system critical for successful implementation. Even if budget planning is done well, the desired outcomes may not be achieved without an adequate accounting system during implementation. This highlights the crucial role of the regional government accounting system in implementing the budget, as a suboptimal system can lead to fraud or misuse of regional funds.

Siregar (2017) explains that the expenditure budget implementation involves various parties, documents, and processes. Various parties are involved in managing the regional government's budget, including the budget team, regional work units, officials from the regional financial management department, expenditure treasurers, financial administration officials, budget users, authorized budget users, regional general treasurers, individuals with general treasurer powers, and regional and regional secretaries. The documents used for implementing the expenditure budget include budget implementation documents, cash budgets, letters of provision of funds, letters of request for payment, letters of payment orders, and orders of disbursement of funds. Implementing the expenditure budget includes preparing budget implementation documents and cash budgets, issuing letters of the provision of funds, submitting payment request letters, issuing payment orders, issuing orders for the disbursement of funds, spending funds, and issuing accountability reports.

2.4. Bargaining power

According to Choi et al. (2021), a region's bargaining power is reflected in its level of financial independence. A region is considered to have bargaining power if it is self-sufficient financially. Oktaviani and Sari (2020) elaborate on this concept,

stating that a region can achieve financial independence if its original income outweighs the use of transfer funds by the regional government in local development. Regional governments must thoroughly analyze their local potential to increase their original income. Mahmudi (2019) further elaborates on potential regional income analysis, highlighting the importance of categorizing local levy regional taxes as potential, prime, developing, or underdeveloped. Once this categorization is complete, regional governments can implement appropriate policies for each category, such as intensification or extensification for potential and developing categories, intensification for prime categories, and review or removal for underdeveloped categories.

According to Amin et al. (2023), regions with higher local revenue levels, indicating greater fiscal independence, tend to experience higher economic growth than regions with less independence. When a region has high fiscal independence, it can finance its own spending needs, which optimizes the management of its potential and supports the welfare of its community (Mahmudi, 2020). Further, the author elaborates on potential, explaining that it exists but requires significant effort to obtain and exploit. Exploration and exploitation efforts are necessary to utilize natural resources fully. Similarly, it is essential to identify taxable objects to maximize tax potential. Therefore, evaluating the scope of regional income potential is crucial for preserving and utilizing regional potential to its fullest.

2.5. Capital expenditure deviation

According to Benito et al. (2015), past research on budget deviation focused on the correlation between political ambition and demonstrating government competency. This highlights the importance of local governments efficiently utilizing resources to enhance community well-being. Drawing from agency theory, governments act strategically and opportunistically to pursue personal interests to secure re-election and maintain their positions (Downs, 1957). Veiga and Veiga (2007) suggest that governments can benefit from signaling their competence to the public in information asymmetry. Drazen and Eslava (2010) elaborate on how governments can opportunistically allocate funds to meet their interests in capital expenditure budgets. Additionally, Drazen and Eslava (2010) and Rogoff (1990) explain that governments can use the budgeted investment expenditure or capital expenditure budget implementation as political signals to demonstrate their ability to provide public goods and services at the regional level.

According to Patty (2019), budget deviation arises when there are shortcomings in the regulatory aspects of budget planning, implementation, supervision, and accountability, leading to a budget surplus or deficit. Additionally, Heraldsson (2022) This explanation states that capital expenditure deviation occurs when there is a difference between realized capital expenditure and budgeted capital expenditure. Such deviation reflects the variance between the government's actual and planned capital expenditures. Herianti (2019) further elaborates that budget deviation indicates a regional government's inability to control its budget, leading to a potential budget surplus or deficit. A budget surplus or deficit shows that the budgeting process was not efficient and effective. In comparison, Johansson and Siverbo (2014) explain that

a surplus indicates a lack of discipline and ability on the government's part to prepare and realize the budget.

Siregar (2017) explains that the budget preparation process is through the preparation of general budget policies, the preparation of priorities and temporary budget platforms, the preparation of circulars guiding the preparation of work plans and budgets, and the preparation of budget plans and regional expenditure revenues. Next, the budget plan will be ratified as a regional budget and implemented. Implementation of capital expenditure is carried out based on the approved capital expenditure budget. However, implementing the capital expenditure budget is not always the same as the budget. This condition resulted in deviations from the capital expenditure budget. Deviations in capital expenditure budgets occur due to uncertainty in the unstable regional economic environment.

To reduce budget deviations, local governments must have complete knowledge of bureaucracy and law and use them to maximize budget implementation. Hassani et al. (2024) explained that local governments have complete knowledge of bureaucracy and law and utilize their inner capacity to compensate for the lack of necessary resources and fill law gaps. To maximize productivity in municipal governance, governors must go beyond the procedures prescribed in their systems and organizational hierarchy.

2.6. Bargaining power and budget implementation

The government budget is a critical policy instrument that reflects its priorities concerning social and economic policies compared to other documents (Ogujiuba and Ehigiamusoe, 2014). According to Ratmono and Sholihin (2017), the budget is a statement of public policy, fiscal targets, and a control tool, indicating a formal agreement between the government and legislature on spending. Budgets are a crucial component of accounting and financial reporting. They reflect public policy, articulating fiscal targets for spending, income, and financing. Budgets also provide a legal foundation for control and evaluation of government performance, and they are reported in the government's financial statements as evidence of accountability to the public. As a result, budgets are a fundamental tool for governmental entities to effectively manage their finances, demonstrate transparency and accountability, and ensure that their expenditures align with their policy objectives. The significance of budgets in the public sector cannot be overstated, as they form the cornerstone of financial management and governance and serve as a critical means for governments to fulfill their obligations to their constituents.

Siregar (2017) explains that the budget implementation process goes through eight stages, including preparing budget implementation documents, cash budgets, and accountability reports. These reports are among the regional governments' concrete efforts to ensure transparency and accountability in financial management that fulfills timely principles and is prepared in accordance with generally accepted accounting standards (Suhartini, 2019). Furthermore, if the examination of the regional budget accountability report reveals losses, the regional treasurer, as the recipient of a power of attorney for regional financial management, will compensate for the losses suffered by the region, charged according to the procedure for returning state losses in

compliance with the regulations of the Financial Audit Agency.

According to Evans and Patton (1987), the government utilizes signal theory to increase public trust by providing information signals to the public. Regional government financial reports are one way of providing these signals as they demonstrate the performance of regional governments. In order to support government performance, a region's bargaining power is necessary. As explained by Choi et al. (2021), regional independence is a representation of bargaining power. A region is considered independent if its original regional income for regional development is higher than the use of transfer funds (Oktaviani and Sari, 2020). This suggests that successful implementation of fiscal decentralization leads to higher original regional income.

Furthermore, Amin et al. (2023) argue that regions with higher fiscal independence experience higher economic growth compared to those that do not have this independence. Therefore, local governments must manage their resources effectively and efficiently to optimize local revenue. The more fiscally independent a region is, the more capable it is of financing its needs. This positive impact of high fiscal independence translates into higher economic growth (Gonschorek et al., 2021) and reduced inequality between regions (Lewis et al., 2020). Based on this description, we can formulate the following hypothesis:

H1: Bargaining power has a positive effect on budget implementation.

2.7. Bargaining power, budget implementation, and capital expenditure deviation

Agency theory is a theoretical framework that explains the interactions between agents and principals within an organization. Within the context of regional government, the agent is typically represented by the regional government, while the principal is represented by the DPRD, which acts on behalf of the community. The principal grants authority to the agent to manage regional assets, with the ultimate aim of creating prosperity (Halim, 2007). This framework is essential for understanding the dynamics of regional government and the relationships between key stakeholders. By understanding the role of the agent and principal, it becomes possible to design effective governance structures that promote accountability, transparency, and good governance. Through effective governance, it is possible to create an environment that supports economic growth, social development, and sustainable development. However, because the agent possesses more information than the principal, their actions may not always align with the principal's interests. This information asymmetry can lead to conflicts of interest that ultimately have a negative impact on budget estimates and result in discrepancies in budget allocation (Marundha, 2020).

The budget is a crucial metric for measuring a company's performance and concerns various stakeholders. Hansen and Mowen (2009) highlight four key benefits of budgets: (a) compelling executives to plan their budgets, (b) providing valuable data to enhance decision-making, (c) setting performance evaluation criteria, and (d) facilitating communication and coordination. Regions need to possess bargaining power to ensure successful budget implementation. This can be achieved by demonstrating a high level of original regional income. A substantial regional income

can finance regional requirements, leading to the overall betterment of the community. Unfortunately, if the budget managed by the regional government deviates, the bargaining power cannot be established. Deviations in capital expenditure can negatively impact the effectiveness of bargaining power in achieving budget implementation. As a result, this study puts forth the following hypothesis:

H2: Capital expenditure deviation reduces the influence of bargaining power on budget implementation.

Based on the theoretical basis and hypothesis development, this research has the following conceptual framework as outlined in the **Figure 1** below:

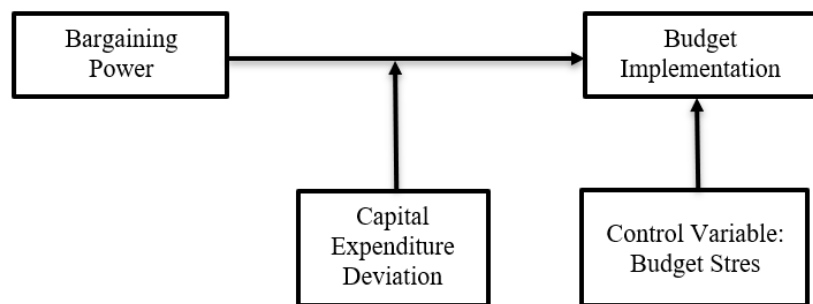


Figure 1. Conceptual framework.

3. Methodology

3.1. Sample and data collection

The scope of this research encompasses the provincial governments of Indonesia within the timeframe of 2019–2022, resulting in a total of 134 observation samples. This research uses secondary data. The data utilized in this study was obtained from credible government sources, namely the Directorate General of Fiscal Balance (DJPK) operating under the Ministry of Finance. This information is conveniently accessible to the public via the official government website, “www.djpk.kemenkeu.go.id”. This research uses the following purposive sampling method.

Table 2 shows 34 provinces in Indonesia. A comprehensive research study was undertaken over a period of four years, spanning from 2019 to 2022, with a specific focus on 34 provinces. After collecting data, the sample size for the study was determined to be 136. However, two sample observations were incomplete and were subsequently removed from the study. These particular observations were from Maluku Province and Sulawesi Tenggara Province in 2021. The study concluded with a total of 134 observations being included in the final analysis.

Table 2. Sample selection process.

Criteria	Sample
Provincial governments registered with the Directorate General of Fiscal Balance during 2019–2022.	34
Number of sample observations (34 × 4)	136
Incomplete provincial government data	(2)
Number of final sample observations	134

Source: Secondary data processed by researchers, 2023.

3.2. Measurement methods

This study examined four variables: dependent, independent, moderating, and control. The dependent variable was budget implementation, while the independent variable was bargaining power. Capital expenditure deviation served as the moderating variable, and budget stress was the control variable. The study's operational definitions and measurements for these four variables have been outlined below:

a. Budget Implementation

Rakhman (2019) explained that budget implementation is a condition of the regional government that shows the amount of actual expenditure on the total regional budget. The budget implementation formula is as follows:

$$\text{Budget implementation} = \frac{\text{Actual expenditure}}{\text{Budget expenditure}} \times 100\% \quad (1)$$

b. Bargaining Power

Choi et al. (2021) explain that bargaining power is represented through regional financial independence. The formula for measuring bargaining power is as follows:

$$\text{Bargaining power} = \frac{\text{Budget of Original Local Government Revenue}}{\text{Budget Revenue}} \times 100\% \quad (2)$$

c. Capital Expenditure Deviation

Patty (2019) explains that budget deviation occurs when there are regulatory failures in the budget's planning, implementation, supervision, and accountability, resulting in a budget surplus or deficit. This study adapts the capital expenditure deviation measurement from Heraldsson (2022) as follows:

$$\text{Capital expenditure deviation} = \frac{\text{Actual of Capital Expenditure} - \text{Budget of Capital Expenditure}}{\text{Budget of Capital Expenditure}} \times 100\% \quad (3)$$

d. Budget Stress

Chapman (1999) explained that budget stress is a regional fiscal condition when regional income is low, and regional expenditure is increasing. This study adapts the budget stress measurement from Boukari and Veiga (2018) as follows:

$$\text{Budget Stress} = \frac{\text{Budget Revenue} - \text{Budget Expenditure}}{\text{Budget Revenue}} \times 100\% \quad (4)$$

This research utilized a panel data regression methodology to scrutinize a hypothesis. The outcomes of this methodology indicated the necessity for paired examinations, comprising Chow, Lagrange multiplier, and Hausman tests. The Chow test was executed to establish the appropriate panel data regression model between common and fixed effects. If the significance value is less than 0.05, it signifies that the fixed effect model is superior to the common effect model. The Lagrange multiplier test was then conducted to determine the appropriate panel data regression model between the common and random effects. If the significance value is less than 0.05, it suggests that the random effect model is a better fit than the common effect model. Finally, the Hausman test was performed to ascertain the appropriate panel data regression model between the fixed and random effects. If the significance value is less than 0.05, it indicates that the fixed effect model is a better fit than the random effect model. It is worth noting that testing classical assumptions is not necessary if the resulting model is a random effect, as the random effects model is a generalized

least-squares method (Algifari, 2021).

4. Results

This research examines how bargaining power influences budget implementation, moderated by capital expenditure deviation. This research uses descriptive statistical values to describe variable profiles.

Table 3 displays the descriptive statistics of the budget stress description. The budget implementation variable had a minimum value of 2.59%, which was the implementation budget owned by North Kalimantan Province in 2021. The maximum budget implementation value of 61.63% was owned by Bengkulu Province in 2022. The mean budget implementation value for this study was 30.84%. Provinces with budget implementation values below and above the mean value of 30.84% are presented in **Table 4**. The standard deviation of budget implementation was 7.55%, indicating that the average percentage of the budget realized is only 30.84% for provincial governments in Indonesia.

Table 3. Budget stress description.

Variables	Obs.	Min.	Max.	Mean	Std. dev
Budget Implementation	134	2.59	61.63	30.84	7.55
Bargaining Power	134	5.20	73.20	38.44	16.42
Capital Expenditure Deviation	134	-98.79	-34.84	-86.00	11.72

Source: Secondary data processed by researchers, 2023.

Table 4. Budget implementation category map based on mean value.

Budget Implementation < mean value 30.84%		Budget Implementation > mean value 30.84%	
Province	Year	Province	Year
Aceh	2019, 2020, 2021, 2022		
North Sumatra	2020	North Sumatra	2019, 2021, 2022
West Sumatra	2022	West Sumatra	2019, 2020, 2021
Riau	2020, 2022	Riau	2019, 2021
Jambi	2019, 2020, 2021, 2022		
South Sumatra	2020, 2022	South Sumatra	2019, 2020, 2021
Bengkulu	2019, 2020	Bengkulu	2021, 2022
Lampung	2020	Lampung	2019, 2021, 2022
D.K.I Jakarta	2019, 2020, 2021, 2022		
West Java	2020, 2021	West Java	2019, 2022
Central Java	2020	Central Java	2019, 2021, 2022
D.I Yogyakarta	2020	D.I Yogyakarta	2019, 2021, 2022
East Java	2020, 2021	East Java	2019, 2022
West Kalimantan	2019, 2020, 2021	West Kalimantan	2022
Central Kalimantan	2020	Central Kalimantan	2019, 2021, 2022
		South Kalimantan	2019, 2020, 2021, 2022
East Kalimantan	2019, 2020, 2022	East Kalimantan	2021
North Sulawesi	2020, 2021	North Sulawesi	2019, 2022

Table 4. (Continued).

Budget Implementation < mean value 30.84%		Budget Implementation > mean value 30.84%	
Province	Year	Province	Year
Central Sulawesi	2020	Central Sulawesi	2019,2021,2022
South Sulawesi	2021	South Sulawesi	2019, 2020, 2022
Southeast Sulawesi	2019, 2020, 2022	Southeast Sulawesi	2021
Bali	2019, 2021	Bali	2020, 2022
West Nusa Tenggara	2020	West Nusa Tenggara	2029, 2021, 2022
East Nusa Tenggara	2019, 2020, 2021	East Nusa Tenggara	2022
Maluku	2020	Maluku	2019, 2021, 2022
Papua	2019, 2020, 2021	Papua	2022
North Maluku	2020	North Maluku	2019, 2021, 2022
		Banten	2019, 2020, 2021, 2022
Bangka Belitung	2021	Bangka Belitung	2019, 2020, 2022
		Gorontalo	2019, 2020, 2021, 2022
		Kepulauan Riau	2019, 2020, 2021, 2022
West Papua	2019, 2021, 2022	West Papua	2020
West Sulawesi	2019, 2020, 2021	West Sulawesi	2022
North Kalimantan	2019, 2022	North Kalimantan	2020, 2021

Source: Secondary data processed by researchers, 2023.

The study also revealed that the bargaining power variable had a minimum value of 5.20%, representing West Papua Province’s bargaining power in 2019. The maximum bargaining power value of 73.20% was owned by Banten Province in 2022. The mean bargaining power in this study was 38.44%. Provinces with bargaining power values below and above the mean value of 38.44% are shown in **Table 5**. The standard deviation of bargaining power was 16.42%, indicating that the average percentage of regional strength in fulfilling regional interests was 38.44%.

Table 5. Bargaining power category map based on mean value.

Bargaining Power < mean value 38.44%		Bargaining Power > mean value 38.44%	
Province	Year	Province	Year
Aceh	2019, 2020, 2021, 2022		
North Sumatra	2020	North Sumatra	2019, 2021, 2022
West Sumatra	2019, 2020, 2021	West Sumatra	2022
		Riau	2019, 2020, 2021, 2022
Jambi	2019, 2020, 2021	Jambi	2022
South Sumatra	2019	South Sumatra	2020, 2021, 2022
Bengkulu	2019, 2020, 2021, 2022		
		Lampung	2019, 2020, 2021, 2022
		D.K.I Jakarta	2019, 2020, 2021, 2022
		West Java	2019, 2020, 2021, 2022
		Central Java	2019, 2020, 2021, 2022

Table 5. (Continued).

Bargaining Power < mean value 38.44%		Bargaining Power > mean value 38.44%	
Province	Year	Province	Year
D.I Yogyakarta	2019, 2020, 2021, 2022	East Java	2019, 2020, 2021, 2022
West Kalimantan	2019	West Kalimantan	2020, 2021, 2022
Central Kalimantan	2019, 2020, 2021	Central Kalimantan	2022
		South Kalimantan	2019, 2020, 2021, 2022
		East Kalimantan	2019, 2020, 2021, 2022
North Sulawesi	2019, 2021	North Sulawesi	2020, 2022
Central Sulawesi	2019, 2020, 2021, 2022		
		South Sulawesi	2019, 2020, 2021, 2022
Southeast Sulawesi	2019, 2020, 2021, 2022		
		Bali	2019, 2020, 2021, 2022
West Nusa Tenggara	2019, 2020, 2021	West Nusa Tenggara	2022
East Nusa Tenggara	2019, 2020, 2021, 2022		
Maluku	2019, 2020, 2021, 2022		
Papua	2019, 2020, 2021, 2022		
North Maluku	2019, 2020, 2021, 2022		
		Banten	2019, 2020, 2021, 2022
Bangka Belitung	2019, 2021	Bangka Belitung	2020, 2022
Gorontalo	2019, 2020, 2021, 2022		
Kepulauan Riau	2019, 2020, 2021	Kepulauan Riau	2022
West Papua	2019, 2020, 2021, 2022		
West Sulawesi	2019,2020,2021,2022		
North Kalimantan	2019,2020,2021,2022		

Source: Secondary data processed by researchers, 2023.

The capital expenditure deviation variable for Banten Province in 2020 had a minimum value of -98.79% . Meanwhile, the maximum deviation value of -34.84% was observed in North Sulawesi Province in 2021. The study also found a mean capital expenditure deviation of -86% . **Table 6** clearly represents the bargaining power values of the provinces that fall below and above the mean value. The standard deviation for capital expenditure was found to be 11.72% , indicating that the average budget variance among provincial governments in Indonesia is -86% .

Table 6. Capital expenditure deviation category map based on mean value.

Capital Expenditure Deviation < mean value -86%		Capital Expenditure Deviation > mean value -86%	
Province	Year	Province	Year
Aceh	2019, 2020, 2021	Aceh	2022
North Sumatra	2019, 2020, 2021, 2022		
West Sumatra	2019, 2020, 2021, 2022		
Riau	2019, 2020, 2021	Riau	2022
Jambi	2019, 2020, 2021	Jambi	2022

Table 6. (Continued).

Capital Expenditure Deviation < mean value –86%		Capital Expenditure Deviation > mean value –86%	
Province	Year	Province	Year
South Sumatra	2019, 2020, 2022	South Sumatra	2021
Bengkulu	2019, 2020, 2021, 2022		
Lampung	2020, 2021, 2022	Lampung	2019
D.K.I Jakarta	2019, 2020, 2021, 2022		
West Java	2019, 2020	West Java	2021, 2022
Central Java	2020, 2021	Central Java	2019, 2022
D.I Yogyakarta	2020	D.I Yogyakarta	2019, 2021, 2022
East Java	2020, 2021, 2022	East Java	2019
West Kalimantan	2019, 2020, 2021, 2022		
		Central Kalimantan	2010, 2020, 2021, 2022
South Kalimantan	2020	South Kalimantan	2019, 2021, 2022
East Kalimantan	2019, 2020, 2021, 2022		
North Sulawesi	2019, 2020	North Sulawesi	2021, 2022
Central Sulawesi	2021, 2022	Central Sulawesi	2019, 2020
South Sulawesi	2019, 2020, 2022	South Sulawesi	2021
Southeast Sulawesi	2019, 2020, 2021	Southeast Sulawesi	2022
Bali	2019, 2021	Bali	2020, 2022
West Nusa Tenggara	2019, 2020, 2021	West Nusa Tenggara	2022
East Nusa Tenggara	2019, 2021	East Nusa Tenggara	2020, 2022
Maluku	2020, 2021, 2022	Maluku	2019
Papua	2019, 2020, 2021	Papua	2022
North Maluku	2020	North Maluku	2019, 2021, 2022
Provinsi Banten	2019, 2020, 2021	Banten	2022
Bangka Belitung	2021, 2022	Bangka Belitung	2019, 2020
		Gorontalo	2019, 2020, 2021, 2022
Kepulauan Riau	2021, 2022	Kepulauan Riau	2019, 2020
West Papua	2019, 2020, 2021, 2022		
West Sulawesi	2019, 2020, 2021	West Sulawesi	2022
North Kalimantan	2019, 2021	North Kalimantan	2020, 2022

Source: Secondary data processed by researchers, 2023.

Table 4 displays a budget implementation map that is based on the mean value of all provincial governments in Indonesia from 2019–2022. This data reveals that some provinces have budget implementations below the mean value while others have implementations above it. For instance, Aceh, Jambi, and D.K.I. Jakarta have budget implementations below the mean during 2019–2022. The Aceh provincial government needs to take note of this and work towards increasing budget absorption to enhance the quality of community welfare. Conversely, South Kalimantan, Banten, Gorontalo, and the Riau Islands have budget implementations above the mean during 2019–2022. This outcome demonstrates that the regional government of these provinces has effectively used the budgets to uplift the community’s welfare.

The study also revealed that the bargaining power variable had a minimum value of 5.20%, representing West Papua Province's bargaining power in 2019. The maximum bargaining power value of 73.20% was owned by Banten Province in 2022. The mean bargaining power in this study was 38.44%. Provinces with bargaining power values below and above the mean value of 38.44% are shown in **Table 5**. The standard deviation of bargaining power was 16.42%, indicating that the average percentage of regional strength in fulfilling regional interests was 38.44%.

A map of bargaining power categories within the Indonesian provincial governments from 2019–2022 is presented in **Table 5**. The data reveals that some provinces have a bargaining power above the mean value while others fall below it. Notably, Aceh, Bengkulu, D.I Yogyakarta, Central Sulawesi, Southeast Sulawesi, East Nusa Tenggara, Maluku, Papua, North Maluku, Gorontalo, West Papua, West Sulawesi, and North Kalimantan fall below the mean during this period. The governments of these 13 provinces need to address this issue by utilizing the potential of local original income to enhance the welfare of the communities. Conversely, Riau, Lampung, D.K.I Jakarta, West Java, Central Java, East Java, South Kalimantan, East Kalimantan, South Sulawesi, Bali, and Banten demonstrate a bargaining power above the mean during the same period. This highlights the ability of the regional government to manage local original income to meet community needs.

The capital expenditure deviation variable for Banten Province in 2020 had a minimum value of -98.79%. Meanwhile, the maximum deviation value of -34.84% was observed in North Sulawesi Province in 2021. The study also found a mean capital expenditure deviation of -86%. **Table 6** clearly represents the bargaining power values of the provinces that fall below and above the mean value. The standard deviation for capital expenditure was found to be 11.72%, indicating that the average budget variance among provincial governments in Indonesia is -86%.

Table 6 displays a map of capital expenditure deviation categories, which are categorized based on the mean value of all provincial governments in Indonesia from 2019 to 2022. The data reveals that some provinces fall below and above the mean value. For example, North Sumatra, West Sumatra, Bengkulu, D.K.I Jakarta, West Kalimantan, East Kalimantan, and West Papua are among the provinces that have capital expenditure deviations below the mean during 2019–2022. This highlights the ability of these regional governments to manage budget variances effectively, resulting in a budget variance value that is below the average for all provinces in Indonesia during the aforementioned period. However, in contrast to these seven provinces, the Central Kalimantan and Gorontalo Provinces had capital expenditure deviations above the mean during 2019–2022. This indicates that these two provinces experienced budget variances and, therefore, require an optimal strategy to reduce these variances. Paired tests were performed to determine the most suitable model for testing the hypotheses, and the results of the paired tests are as follows:

The results of the paired tests that determine the panel data regression model are presented in **Table 7**. The panel data regression model comprises two models: Model I tests the main effect, while Model II tests the moderation effect. Based on the results of Models I and II, the Chow test indicates fixed effects, while the Lagrange multiplier test shows random effects. Additionally, the Hausman test results demonstrate random effects. This research uses a random effect model to test the hypothesis. This study

investigates the impact of bargaining power on budget implementation, moderated by capital expenditure deviation. The results of the hypothesis test for this study are outlined below:

Table 7. Paired test results determination of panel data regression model.

	Model I	Model II
	Chow Test	
Cross-section F (Sig.)	0.003	0.026
Conclusion	Fixed Effect	Fixed Effect
	Lagrange Multiplier Test	
Breusch-Pagan (Sig.)	0.000	0.017
Conclusion	Random Effect	Random Effect
	Hausman Test	
Cross-section random (Sig.)	0.520	0.565
Conclusion	Random Effect	Random Effect
End Conclusion	Random Effect	Random Effect

Source: Secondary data processed by researchers, 2023

The hypothesis H1 testing findings are presented in **Table 8** based on the data collected from DJPK. The hypothesis H1 states that bargaining power positively impacts budget implementation. The research results indicate that the coefficient of bargaining power's effect on budget implementation is 0.080, with a *t*-statistic of 2.153 and a significance of 0.033, which is less than the threshold of 0.05. These findings demonstrate that bargaining power significantly and positively affects budget implementation, supporting H1.

Table 8. Hypothesis testing.

Independent Variable	Model I Dependent Variable: Budget Implementation Random Effect			Model II Dependent Variable: Budget Implementation Random Effect		
	coef.	t-stat.	sig.	coef.	t-stat.	sig.
Const.	31.196	13.119	0.000	56.531	4.437	0.000
Bargaining Power	0.080	2.153	0.033	-0.056	-0.189	0.850
Capital Expenditure Deviation				0.294	2.041	0.043
Bargaining Power*Capital Expenditure Deviation				-0.001	-0.480	0.631
Budget Stress	-4.111	-2.505	0.013	-4.185	-2.727	0.007
F-Stat.	5.415			8.714		
Sig.	0.005			0.000		
Adjusted R ²	6.2%			18.8%		
Obs.	134			134		

Source: Secondary data processed by researchers, 2023

According to this study's findings, H2 suggests that deviations in capital expenditures have a detrimental impact on the correlation between bargaining power and budget implementation. The research results indicate that the effect of bargaining power and capital expenditure deviation on budget implementation has a coefficient

of -0.001 , a t -statistic of -0.480 , and a significance level of 0.631 , which is greater than 0.05 . This implies that capital expenditure deviation cannot diminish the influence of bargaining power on budget implementation, thereby rendering H2 unsupported.

5. Discussion

5.1. Bargaining power and budget implementation

These findings demonstrate that bargaining power significantly and positively affects budget implementation. Recent research highlights the significant correlation between bargaining power and budget implementation. According to the study, bargaining power substantially influences the budget implementation process, and its impact is even higher than the threshold level. The research emphasizes the importance of bargaining power in ensuring successful and efficient budget implementation processes. The study suggests that enhancing bargaining power can be a highly effective strategy for improving the outcomes of budget implementation, which aligns with previous research in this area.

Our research also underscores the practical implications of regional independence in the context of bargaining power. As Choi et al. (2021) posit, regional independence serves as a tangible manifestation of bargaining power. In essence, a region attains independence when its original regional income, earmarked for regional development, surpasses the use of transfer funds (Mahardika and Fauzan, 2022). Our study demonstrates that a higher original regional income signifies successful implementation of fiscal decentralization. The bargaining power of regional governments communicates to the public that their regional spending needs can be met. Regional governments with bargaining power demonstrate that local revenues can be effectively managed to fulfill district spending requirements. Therefore, signal theory underscores that local governments can foster public trust by providing affirmative signals regarding their performance. Our research indicates that financing regional needs through original regional income is more prevalent than utilizing regional transfers. This highlights the real-world significance of our findings and emphasizes the practical implications of our study.

Evans and Patton (1987) propose that the government leverages signal theory to enhance public trust. The government utilizes regional government financial reports as a medium to communicate with the public. In essence, the government's performance, as reflected in financial reports, serves as its accountability to society. The government is duty-bound to inform the public about the organization's current state, thereby bolstering public trust. Regional government financial reports, therefore, play a pivotal role in enhancing accountability and building public trust, a key takeaway from our research. This research supports the research of Burhan et al. (2022) that regional independence has a positive and significant effect on regional government financial performance.

The study also reveals that the signaling theory applies to regional and central government budget policy issues. The signal is transmitted via the level of the bargaining position of the regions to obtain the required budget and inform society accordingly. The research highlights the importance of bargaining power and regional

independence in ensuring successful budget implementation and promoting accountability and public trust in government spending.

5.2. Bargaining power, budget implementation, and capital expenditure deviation

Our research findings reveal a crucial nexus between bargaining power, deviation in capital expenditure, and their influence on budget implementation. The findings demonstrate that capital expenditure deviation cannot diminish the influence of bargaining power on budget implementation. We underscore the pivotal roles played by both bargaining power and deviation in capital expenditure in shaping the success of budget implementation. However, our study cautions against overreliance on deviation in capital expenditure as a panacea to counter the sway of bargaining power on budget implementation. In essence, a powerful entity or region may not be easily swayed by deviation in capital expenditure alone. These findings underscore the inescapable impact of bargaining power on budget implementation, which cannot be fully mitigated by deviation in capital expenditure.

It is worth noting that deviation in capital expenditure indicates a failure in regulatory planning, implementation, supervision, and budget accountability, leading to a budget surplus or a deficit (Patty, 2019). Despite this, the study suggests that deviation in capital expenditure cannot reduce the impact of bargaining power on budget implementation, as shown by the average bargaining power value of 38.44%. This value indicates that regional governments in Indonesia have strong fiscal independence to finance their regional spending. Even if there is a deviation in capital expenditure, regional governments in Indonesia can still finance regional expenditures without compromising their actions. However, it is crucial to note that deviations in capital expenditures may signify information asymmetry and regulatory inadequacies in the capital expenditure budget's planning, implementation, supervision, and accountability. Such deviations can impede the regional budget implementation process, and it is essential to tackle them through effective communication and transparency between agents and principals, adhering to the agency theory protocol.

It is essential to acknowledge that various factors may influence the lack of robust moderation of bargaining power and budget implementation by capital expenditure deviation. For instance, the presence of an inadequate check-balance mechanism in both the regions and central authorities could be a significant factor. Moreover, compromises in the political agenda could also hamper the effectiveness of capital expenditure deviation as a moderating mechanism. Other unidentified variables may also be at play, necessitating further research to uncover and analyze their potential impact.

6. Conclusion

This research aims to comprehensively examine the relationship between bargaining power and budget implementation while considering the moderating effect of capital expenditure deviation. The study concentrates on the provincial governments of Indonesia, spanning from 2019 to 2022. The formulated hypotheses are tested through a panel data regression analysis, and insightful discoveries are made.

The study's results reveal that (a) bargaining power has a significant positive effect on budget implementation, and (b) the deviation in capital expenditure does not diminish the impact of bargaining power on budget implementation. The study's results reveal that bargaining power has a significant positive effect on budget implementation. Additionally, the study found that the deviation in capital expenditure does not diminish the impact of bargaining power on budget implementation. Ultimately, these findings advance our comprehension of how bargaining power influences budget implementation, providing valuable insights for policymakers and government officials in Indonesia and beyond.

6.1. Implications

The findings of this study have significant implications for signal theory. This is because local governments signal the public that they can support regional spending requirements through fiscal independence. Fiscal independence, in turn, allows regional governments to optimize their regional revenues to finance their spending needs. Moreover, this research sheds light on agency theory by demonstrating that deviations in capital expenditure budgets do not decrease regional governments' capacity to finance regional spending needs due to their strong bargaining power. The influence of bargaining power on budget implementation underscores the efficacy and efficiency of local governments in managing budgets. Choi et al. (2021) posit that regional independence serves as a tangible manifestation of bargaining power. As Ratmono and Sholihin (2017) explain, budgets play a vital role in accounting and financial reporting by serving as a statement of public policy, fiscal targets, and a control tool.

The practical implication of this study is that regional governments need to manage their own revenue optimally to finance their spending needs. This can be achieved through regional tax intensification and extensification policies. Therefore, to manage local original income effectively, local governments must analyze the potential of local original income. As Mahmudi (2019) elucidates, analyzing regional revenue potential is critical for regional government management and prospective shareholders to consider regional revenues that can still be explored and potential profits from investing. The primary objective of analyzing potential regional original income is to determine the amount of regional taxes and levies the regional government can receive.

6.2. Limitations and future research

One limitation of this study is that the adjusted R^2 value remains relatively low, with a main effect test range of 6.2% and a moderating effect of 18.8%. This suggests that the proxies and variables utilized in this research are limited and that future studies should explore additional factors of budget implementation, such as accountability, and local government overconfidence. This suggests that the proxies and variables utilized in this research are limited and that future studies should explore additional factors such as bargaining power, budget implementation, and budget stress. Furthermore, it should be noted that this study only examines the provincial governments of Indonesia between 2019 and 2022 due to data availability. It may be

beneficial to consider district/city governments or ministries/institutions when selecting a sample for further research to expand the scope of research.

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Data availability statement: The data supporting this study's findings are openly available in the Directorate General of Fiscal Balance (DJPK), the Ministry of Finance, at www.djpk.kemenkeu.go.id. The authors also confirm that they will provide the data upon a reasonable request.

Conflict of interest: The authors declare no conflict of interest.

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