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The Importance of Applying Performance-Based Budgets in Light of the Provisions of Financial Oversight as an Input to Rationalize Expenditures and Close the Government Deficit

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Abstract

The search problem stems from the limitations of the traditional system, which fails to account for the unique circumstances of financial and economic crises and their variables. Moreover, it overlooks the planning aspect of budgeting by not linking expenditure items to the objectives of administrative units. Consequently, assessing the efficiency and effectiveness of government programs and activities becomes challenging. To address this issue, the research aims to investigate how Performance-Based Budgeting (PBB) can improve the efficiency and effectiveness of financial control in government units, with a focus on rationalizing public expenditures to tackle the government deficit. A random sample of 44 participants, consisting of accountants, auditors, and administrators from the public sector, received experimental questionnaires. After a week, the same number of participants were given another set of experimental questionnaires to assess the consistency of their responses. A questionnaire was designed to explore the significance of implementing program and performance budgeting in relation to financial control measures as a means to streamline expenses and tackle government deficits. It comprised 61 items divided into three sections. The results showed a strong correlation coefficient of 0.81 between the two distributions, indicating stability in the participants' answers. The main conclusions drawn from the study indicate a significant positive impact of performance-based budgeting and its three dimensions (optimal utilization of available resources, requirements for implementing program and performance-based budgeting as a planning tool) on the dependent variable of rationalizing public expenses to address government deficit, with the mediating variable represented by financial oversight. The study recommends including developmental indicators to assess the performance of each activity within the programs to determine the effectiveness, efficiency, and quality of government units in achieving pre-defined goals.

Keywords: *Financial control, government deficit, Performance-Based Budgeting, rationalization of expenditures.*

Introduction

The general budget of the state holds significant importance in people's lives. It serves as a crucial tool for measuring democratic practice and achieving political, economic, and social objectives. Its application spans across various fields, reflecting the overall functioning of the government. Politically, the general budget showcases the government's work program within a specific timeframe and plays a fundamental role in implementing the state's plan. The approved expenditures in the general budget reveal the

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government's political direction. Economically, the general budget plays a vital role in distributing national income among different social classes and has an impact on individuals' finances. It collects a portion of individuals' income as public revenue and redistributes it in the form of goods and services.

Countries around the world are placing greater emphasis on enhancing their general budgeting process as a vital component of financial management reform. They are prioritizing the adoption of modern systems, such as program and performance budgeting, for effective planning and control. This approach aims to rationalize spending, allocate resources efficiently, and align expenditures with priorities. The underlying philosophy of this system is to maximize the role of program planning, performance measurement, and allocation, thereby promoting transparency and accountability in the budgeting process.

The program and performance budgeting system serves as a solid framework for making decisions that enhance the efficiency and effectiveness of government management. Its objective is to minimize the misuse of public funds, exercise control over public spending, and optimize the allocation of resources to achieve the most favorable utilization of available resources. This system can effectively address the challenge of rising budget deficits and ultimately result in improved long-term financial management. Based on the theory of recession, which explains the phenomenon of increasing public spending, a balanced economy with three sectors is an equilibrium between aggregate supply represented by income and aggregate demand represented by consumption, investment, and government spending. Therefore, the hypothesis of the study is as follows:

Main Hypothesis: There is no significant effect of PBB on rationalizing public expenditures to address government deficit under financial oversight. From this main hypothesis, the following sub-hypotheses can be derived:

1. The PBB's optimal use available resources have no significant effect on rationalizing public expenditures to address government deficit under financial oversight.
2. The requirements for implementing PBB have no significant effect on the dependent variable of rationalizing public expenditures to address government deficit under financial oversight.
3. PBB as a planning tool has no significant effect on rationalizing public expenditures to address government deficit under financial oversight.

Literature Review

Previous studies have examined various variables and the relationship between Performance-Based Budgeting (henceforth, PBB), cost containment, and public expenditure control to address government deficits and their relationship with financial oversight. Al-Baraki (2020) found that implementing the alternative system of program and performance has a positive impact on controlling and rationalizing public spending. This system links expenditures to achievements and benefits, activates the concept of administrative and financial accountability, and enables performance evaluation, thus contributing to the rationalization of public expenditures and reducing budget deficits. The researcher also concluded that setting performance indicators or measures has a positive effect and helps achieve planned results. Another study by Ahmed (2022) confirmed that the lack of implementation of PBB weakened financial accountability in the Ministry of Finance and Economic Planning. The study also found that the implementation of line-item budgeting led to weak administrative control in the Ministry of Finance and Economic Planning. The absence of PBB had an impact on the ability to improve efficiency and evaluate financial performance in the ministry. Furthermore,

Baidoo (2019) revealed that a small number of dedicated employees involved in budget preparation and implementation resulted in improved services provided by the public sector. Effective utilization of these services ensured the implementation of projects and activities within budget limits and at lower costs.

Theoretical framework

There are various logical theories that explain how program budgeting is related to performance, cost containment, and public expenditure control. These theories aim to address government deficits and improve financial oversight. In Arabic, the term "general budget" signifies a balance between two equal and fair things. In English, the term "budget" is derived from the French word "Bougette," which means a small leather bag. Over time, the term has evolved to refer to the estimation of public revenues and expenditures. During the Middle Ages, the English Treasurer Charcellore of the Exchequer used to carry a leather bag to the House of Commons, from which he would take out documents related to the state's expenditures and revenues during his statement before the council for the upcoming fiscal year (Al-Zubaidi, 2015). There are several definitions of the general budget. The general budget is a projected statement of the government's expenses and revenues for a specific period, which is approved by the appropriate authority. It involves the organized process of allocating and distributing limited financial resources to meet unlimited needs and requirements (Mohammed, 1977). The general budget can be described as a detailed plan, expressed in monetary terms, for a specific timeframe. It should include information about proposed amounts and expenses, as well as the objectives and purposes to be achieved through the allocation of those expenses. Additionally, it should outline the proposed means and methods for financing those expenses (Freeman & Shoulders, 2003: 70). The general budget in Iraq is defined as the compilation of estimates for revenues and expenditures for a fiscal year, as specified in the budget law. Initially, the Iraqi legislator considered the general budget as a set of tables showing general expenses and revenues without indicating their purpose. However, it was understood that these tables are authorized by the legislative authority and must be approved as a budget law for the upcoming year to be effective and valid (Al-Khazraji, 2016).

Performance-Based Budgeting, as defined by The Word Bank, involves allocating funds based on the achievement of measurable goals and results. It is the process through which managers ensure that funds are obtained and utilized efficiently to accomplish the desired goals and programs. Based on these definitions, we can infer that the budget serves as a financial program that estimates the revenues and expenses of the state for the upcoming fiscal year. It is prepared by state agencies, legally approved by the legislative authority, and represents the translation of the state's policy and ideas into a financial program (Hasnawi et al., 2019). From the information provided, we can deduce that the budget is essentially a financial program that estimates the state's revenues and expenses for the upcoming fiscal year. It is prepared by state agencies and legally approved by the legislative authority, and serves as a representation of the state's policy and ideas in a tangible form. Fayol and Sarah (2004) defined financial oversight as supervision, monitoring, internal control, performance measurement, setting standards, and comparing them to achievements. In other words, oversight is the process of achieving organizational goals, including the efficient use of resources by establishing performance standards, comparing actual performance against these standards, reporting progress towards goals, and taking action to correct deviations and enhance success" (Davies & Aston, 2011).

The development of financial oversight in ancient civilizations was influenced by the evolution of governance in various countries. Iraq, for instance, began implementing financial oversight in the early 20th century. The Ministry of Finance had two general

administrations, namely the "General Accounts Audit Directorate" and the "Public Accounts Inspectorate," which were established in 1948 and later merged into the "General Inspector for Accounts" department. Financial oversight went through four stages between 1927 and 1958, marked by significant changes such as the emergence of the new Iraqi state and the issuance of the basic law (the Iraqi Constitution) in 1925. This law was amended in 1935, and the General Auditor was appointed by the Prime Minister with the Cabinet's approval. The law was revised again in 1951 to expand the department's jurisdiction (Al-Zubaidi, 2015).

The second phase of financial oversight in Iraq lasted from 1958 to 2003 and saw significant developments in the field. During this period, Law No. 42 of 1968 established the Council of Financial Control to manage the financial oversight department. Subsequently, Law No. 194 of 1980 was issued, which granted the financial oversight department the authority to oversee all government departments, including public, joint, or mixed ones, and removed its administrative judiciary authority. Additionally, this law provided immunity to the head and deputies of the department. Later, Law No. 6 of 1990 was introduced as a new law for financial oversight, which did not bring about any significant changes compared to previous laws. However, it did provide technical assistance to the department in accounting and oversight areas, as well as related administrative and regulatory matters.

The third stage was after the year 2003. During this stage, orders were issued that had a significant impact on the work of financial control, most notably:

In 2004, the Integrity Commission was established by Order No. 55, and the Office of the Inspector General was established in each ministry by Order No. 57. Additionally, Law No. 77 of 2004 was issued to amend Law No. 6 of 1990, which governs the Financial Control Department.

The fourth stage took place in 2005 when the permanent Iraqi Constitution was issued, transforming Iraq from a centralized state to a federal system. The Constitution included a special section on independent bodies, including the Financial Control Department. During this stage, which occurred after the U.S. occupation, there was a state of regulatory chaos in Iraq due to the presence of multiple types of financial oversight. This included political oversight conducted by the parliament and administrative oversight carried out by the executive authority through auditors, accountants in government departments, and inspector general offices. Additionally, there was a contentious dispute between the executive and legislative branches regarding the jurisdiction of these entities.

In 2011, a new law for financial oversight, Law No. 31 of 2011, was enacted by parliament, along with Law No. 30 of 2011 for the Integrity Commission. To sum up, financial oversight is defined as the total expenditures that the state spends in the form of a specific amount of money during a specific period of time, with the aim of satisfying certain general needs of the society organized by this state) (Diab, 2019).

The researcher views financial oversight as the process of supervising, examining, and monitoring the economic activity of the state by comparing the actual performance with predetermined plans to identify deviations and address them in order to preserve public funds from waste and extravagance and improve the efficiency of work in government units. This is carried out by an independent body that represents the legislative authority and is not subject to the executive authority.

Budget deficit is defined as the amount of money that a government spends in a certain period of time, which exceeds the taxes, fees, and revenues it collects. It has become a structural characteristic of the economic structure in some developing countries due to the increasing role of the state and its functions and responsibilities. There are several reasons that lead to budget deficits, including unexpected expenses, economic recession, poor money management, excessive spending, or insufficient revenue inflows. To address the

budget deficit, the establishment must either increase its revenues, reduce its spending, or both.

Budget deficit refers to the situation where a government's spending exceeds the taxes, fees, and revenues it collects in a given year (Ali & Kashkoul, 2021). It represents the difference between the total public expenditures and the general revenues of the state, indicating negative savings when expenses surpass revenues (Kindersley et al., 2009). Additionally, budget deficit can also indicate the surplus of public sector spending over revenues and is sometimes referred to as national debt when associated with government spending (Nayab, 2015). It reflects the financial condition of a country where the government's receipts are insufficient to cover its expenditures, resulting in negative savings (Al-Hilu & Shakir, 2019). The researcher affirms that financial deficiency is one of the plight that the state could not identify, avoid, and address. Government deficits can be challenging for states, often leading them to borrow from internal and external sources to bridge the revenue shortfall and finance public expenses. To summarize, budget deficit signifies the shortfall between a government's expenditures and its revenues, highlighting a deficiency in a country's projected general revenues to cover public expenditures. When expenses exceed revenues, negative savings occur, necessitating borrowing to fund public expenses.

Methods

This section of the study outlines the research methodology, which comprises the field study tool and an examination of demographic variables such as gender, age, years of experience, educational level, and type of bank. Furthermore, the research hypotheses will undergo statistical analysis using various measures such as mean, standard deviation, variance, correlation coefficient, chi-square, determination coefficient, simple regression model, multiple regression model, and other significant statistical indicators.

Instrument

The questionnaire in this study was designed as the main tool for collecting field data in order to achieve the study's objectives and test the hypothesis. To achieve this, the questionnaire was designed in the form of scientific and general questions related to a study on the importance of implementing program and performance budgeting in light of financial control measures as a fundamental approach to rationalizing expenses and addressing the government deficit. The respondent answers the questions by selecting one of the limited answers provided in the questionnaire. The questionnaire consisted of 61 questions, divided into three sections. The first section is concerned with general data, including five questions that addressed personal data such as gender, age, educational level, service, and job title. The second section of the questionnaire is related to the dimensions of the explanatory variable of program and performance budgeting, which included 30 items about optimal use of available resources, requirements for applying program and performance budgeting, and program and performance budgeting as a planning tool. The third section of the questionnaire is related to the intermediate variable indicators represented by financial control, which included seven questions. Finally, the dependent variable indicators related to rationalizing public expenditures to address the government deficit were included in 19 questions. The responses were formulated on a five-point Likert scale, with five options: strongly disagree, disagree, neutral, agree, and strongly agree. These alternatives were given numbers from 1 into 5 respectively.

To ensure the questionnaire's validity and reliability, it was presented to professors and experts for their opinions on the clarity, coherence, and relevance of the questionnaire items to the study topic. The researchers considered their guidance in revising the preliminary version of the questionnaire form to align with the study objectives and hypotheses. The validity and reliability of the questionnaire were analyzed using

Cronbach's alpha test, which resulted in a value of 0.782, indicating that the questionnaire form is valid and reliable for the study. This value is consistent with the study's objectives and the reviewers' opinions. The validity and reliability of the questionnaire were analyzed using Cronbach's alpha test, which resulted in a value of 0.782, indicating that the questionnaire form is valid and reliable for the study. This value is consistent with the study's objectives and the reviewers' opinions.

To measure the reliability of the questionnaire, a sample of 44 researchers consisting of accountants, auditors, and administrators working in the public sector was selected randomly. A total of 44 experimental questionnaire forms were distributed to them. After a week, another set of experimental questionnaire forms was distributed to the same number of researchers to measure the stability of the scale in their responses. By conducting the Spearman correlation coefficient between the responses of the researchers in the first and second distribution, a correlation coefficient of 0.81 was found. This strong correlation indicates the consistency of responses between the first and second questionnaire forms and the stability of the scale.

Table 1. Represents the measurement of questionnaire form stability.

First administration	**Second administration**	Spearman correlation coefficient	**Sig.**
44	44	0.81	0.0648

Statistical analysis of demographic factors

1. Gender

Table 2. Description of the research sample according to gender

Variable	Sample	Frequencies	Percentage
Gender	**Males**	**165**	**50.6**
	Females	**161**	**49.4**
Total		**326**	**100**

Based on the statistical analysis of the study sample's gender distribution, it is clear that the percentage of males is higher than that of females. Specifically, the percentage of males in the sample was 50.6%, while the percentage of females was 49.4%.

2. Age

Table 3. Description of the research sample according to age

Variable	Sample	Frequencies	Percentage
Age	Less than 25 years	**61**	**18.7**
	From 25 to 35 years	**95**	**29.2**
	From 35 to 45 years	**91**	**27.9**
	More than 45 years	**79**	**24.2**
Total		**326**	**100**

Table 3 indicates that the largest proportion of individuals in the research sample belongs to the age category of 25-35 years, accounting for 29.2% of the total sample. This is followed by the age category of 35-45 years, which accounts for 27.9%, while the age category of 45 and above represents 24.2%. The age category of less than 25 years comprises the smallest proportion of the sample at 18.7%.

3. Educational level

Table 4. The distribution of the study sample according to their educational level

Variable	Sample	Frequencies	Percentage
Educational level	Diploma	**36**	**11**
	Bachelor's degree	**161**	**49.4**
	Master's	**49**	**15**
	Ph.D	**39**	**12**
	Other	**41**	**12.6**
Total	**326**	**100**	

According to the table (4) above, the percentage of individuals in the research sample according to the educational level was as follows:

a. Bachelor's degree ranked first with a percentage of 49.4%.
b. Master's degree followed with a percentage of 15%.
c. Other degrees ranked third with a percentage of 12.6%.
d. Doctorate degree accounted for 12%.
e. Finally, diploma degree represented 11% of the sample.

4- Years of experience

Table 5. Description of the study sample according to the variable of years of experience

Variable	Sample	Frequencies	Percentage
Years of experience	Less than 5 years	**63**	**19.3**
	From 5 to 10 years	**101**	**31**
	From 10 to 15 years	**86**	**26.4**
	More than 15 years	**76**	**23.3**
Total		**326**	**100**

According to the Table 5 above, the percentage of individuals in the research sample according to their years of work experience was as follows:

a. The first rank was for those with 5-10 years of experience with a percentage of 31%.
b. The second rank was for those with 10-15 years of experience with a percentage of 26.4%.
c. The third rank was for those with more than 15 years of experience with a percentage of 23.3%.
d. Finally, the fifth category was for those with less than 5 years of experience with a percentage of 19.3%.

5- Job Title

Table 6. Description of the study sample according to the job title variable

Variable	Sample	Frequencies	Percentage
Job title	Accountant	109	33.4
	Auditor	101	31
	Legal accountant	61	18.7
	Administrative	55	16.9
Total		**326**	**100**

According to the Table 6, the percentage of individuals in the research sample according to their job title was as follows:

a. The first rank was for accountants with a percentage of 33.4%.
b. The second rank was for auditors with a percentage of 31%.
c. The third rank was for legal accountants with a percentage of 18.7%.
d. Finally, administrators represented 16.9% of the sample.

Results and Discussion

Hypotheses testing

MH1: There is no significant effect of PBB on rationalizing public expenditures to address government deficit under financial oversight

To examine the main hypothesis, multiple regression analysis and partial correlation were conducted. The results of the analysis of variance are presented in Table 7, as displayed below.

Table 7. The correlation between PBB and public expenditure rationalization

	Performance-based budgeting		Public expenditures to address government deficit	
Performance-based budgeting	0.00	1	0.00	0.547
Public expenditures to address government deficit	0.00	0.547	0.00	1

The result in Table 7 indicates a moderate positive correlation between PBB, and the rationalization of public expenditure in addressing government deficit under financial control. The partial correlation coefficient and significance value of the correlation test (0.00) show that the relationship is statistically significant at a significance level of 0.05. Therefore, we can accept the hypothesis as there is a moderate correlation between PBB and public expenditure rationalization in addressing government deficit under financial control. Table 8 displays the t-test and multiple linear regression model.

Table 8. t-test and multiple linear regression model

Variables	Parameter	Standard deviation	t-test	Sig
Constant	1.674	0.153	10.932	0.000
X_1	0.398	0.043	9.228	0.000
X_2	0.201	0.032	6.212	0.000

$$Y_i = 1.674 + 0.398\,X_{1i} + 0.201\,X_{2i}$$

Based on the multiple linear regression model (MLRM), the results indicate a positive influence of the independent variable of performance-based budgeting, which includes aspects such as optimal resource utilization, budgeting requirements, and its role as a planning tool. Additionally, the second independent variable of financial control also shows a positive impact on the dependent variable of rationalizing public expenditure to address the government deficit. Therefore, accepting the hypothesis that there is a significant effect of PBB on rationalizing public expenditure to address government deficit under financial oversight, as shown in Figure.

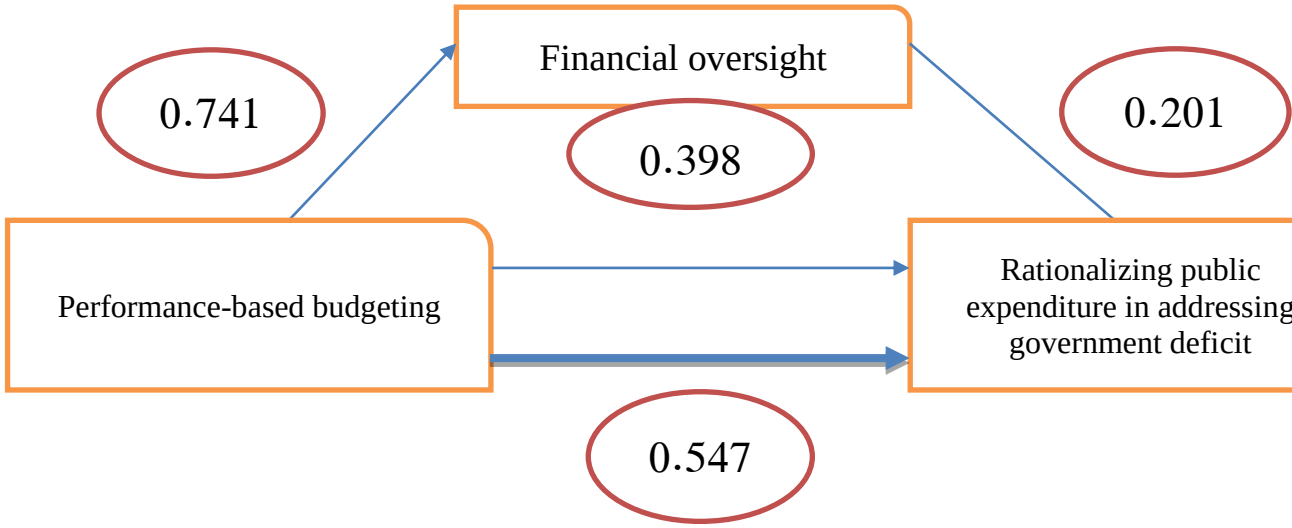

Figure 1. The relationship between PBB on rationalizing public expenditure to address government deficit under financial control

Based on the above results, it is evident that there is a partial mediating effect. Table 9 presents the analysis of variance and the F-test for the significance of the multiple regression model (MRM).

Table 9. Analysis of variance and F-test for the significance of MRM

Source of variation	**Sum of squares**	**df**	**Variance**	**F- test**	**Sig**
Between groups	20.851	2	10.426	135.711	0.000
Within groups	24.814	323	0.077		
Total	45.665	325			

Table 9 indicates that the F-test value was 135.711, with a significance level of 0.000. This value is less than the significance level of 0.05, which suggests that the estimated model is statistically significant. This hypothesis branches into three sub-hypotheses, each of which is tested as follows:

Sub-hypothesis 1

The PBB's optimal use available resources have no significant effect on rationalizing public expenditures to address government deficit under financial oversight. To test this hypothesis, the researcher used t-tests, F-tests, as well as multiple linear regression analysis and partial correlation. The results are presented in Table 10 .

Table 10. The PBB's optimal use available resources have no significant effect on rationalizing public expenditures

	Rationalizing public expenditure in addressing government deficit		Performance-based budgeting	
Rationalizing public expenditure in addressing government deficit	1	0.00	0.309	0.00
Performance-based budgeting	0.309	0.00	1	0.00

Based on the analysis results presented in the table above, there is a weak negative correlation between the variables being studied, specifically the optimal use of available resources and rationalizing public expenditure to address the government deficit under financial control. This is evident from the Pearson correlation coefficient and the correlation test value of 0.00, which is lower than the significance level of 0.05. Therefore, we can accept the hypothesis that there is a weak relationship between the optimal use of available resources and rationalizing public expenditure to address the government deficit under financial control, as indicated in Table 11.

Table 11. t-test and MLRM of the optimal use of available resources and rationalizing public expenditure

Variables	Parameter	Standard deviation	t-test	Sig
Constant	2.125	0.150	14.165	0.000
X_1	0.218	0.037	5.839	0.000
X_2	0.278	0.033	8.520	0.000

$$Y_i = 2.125 + 0.218\,X_{i1} + 0.278\,X_{i2}$$

From the above MLRM, it is evident that there is a positive effect of optimal use of available resources on rationalizing public expenditure to address government deficit under financial oversight. This relationship is further illustrated in Figure 2.

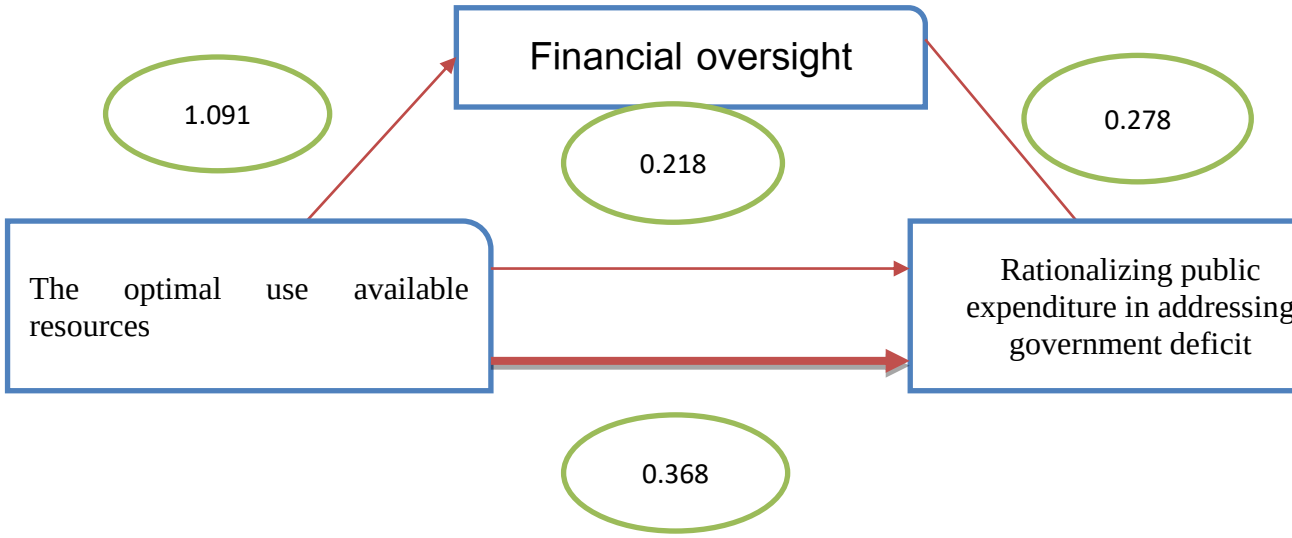

Figure 2. The relationship between rationalizing public expenditure to address government deficit under financial control and optimal use of available resources

Based on the aforementioned results, it seems that there is a partial mediating effect. Table 12 displays the analysis of variance and the F-test to assess the significance of the MRM.

Table 12. Analysis of variance and F-test for the significance of the MRM

Source of variation	Sum of squares	df	Variance	F	Sig
Between groups	17.303	2	8.652	98.528	0.000
Within groups	28.362	323	0.088		
Total	45.665	325			

Based on the analysis of variance in Table 12, it is evident that the F-test value is 98.528 with a significance level of 0.000, which is lower than 0.05. This indicates that the estimated model is statistically significant.

Second sub-hypothesis

The requirements for implementing PBB have no significant effect on the dependent variable of rationalizing. In order to test this hypothesis, the researcher utilized t-tests, F-tests, multiple linear regression analysis, and partial correlation. The results of these analyses are presented in Table 7, which illustrates the degree of correlation and its significance between the requirements for implementing PBB and rationalizing public expenditure to address the government deficit under financial control.

Table 13. Correlation between requirements for PBB and rationalizing public expenditure

	The requirements for implementing PBB		Rationalizing public expenditure in addressing government deficit	
The requirements for implementing PBB	1	0.00	0.393	0.00

Rationalizing public expenditure in addressing government deficit	0.393	0.00	1	0.00

Based on the analysis results presented in the Table 13, it is apparent that there exists a weak negative correlation between the requirements for implementing PBB and rationalizing public expenditure to address the government deficit under financial control. This is demonstrated by the partial correlation coefficient and correlation test value of 0.00, which is lower than the significance level of 0.05. Therefore, we can accept the hypothesis that there is a weak relationship between requirements for implementing PBB and rationalizing public expenditure to address the government deficit under financial control, as depicted in Table 13.

Table 14. T. test and MLRM for testing the second sub-hypothesis

Variables	Parameter	Standard deviation	t-test	Sig
Constant	2.182	0.128	17.095	0.000
X_1	0.283	0.037	7.690	0.000
X_2	0.208	0.035	5.985	0.000

$$Y_i = 2.182 + 0.283\,X_{i1} + 0.208\,X_{i2}$$

From the above MLRM, it is evident that there is a positive effect of PBB and financial control on rationalizing public expenditure to address government deficit. This relationship is further illustrated in Figure 3.

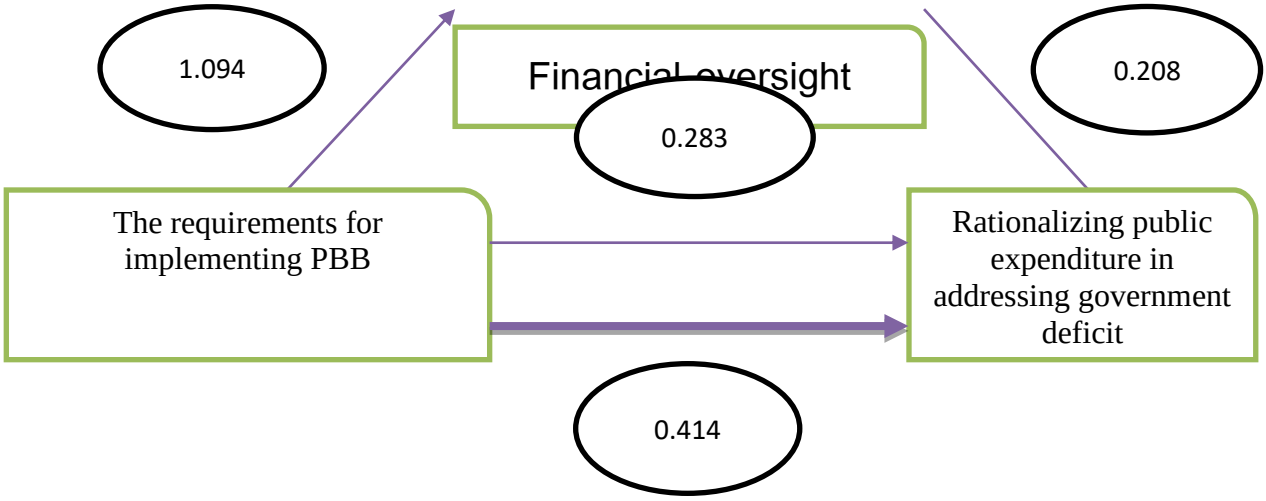

Figure 3. The relationship between PBB, financial control, and rationalizing public expenditure to address government deficit

Table 14 shows that there seems a partial mediating effect. Table 15 displays the analysis of variance and the F-test to assess the significance of the MRM.

Table 15. The analysis of variance and the F-test to assess the second sub-hypothesis

Source of variation	Sum of squares	df	Variance	F	Sig.
Between	19.161	2	9.581	116.761	0.000

groups					
Within groups	26.504	323	0.082		
Total	45.665	325			

The analysis of variance shows that the F-test value is 116.761 with a significance level of 0.000, which is less than 0.05. Therefore, the estimated model is statistically significant.

The third sub-hypothesis

PBB as a planning tool has no significant effect on rationalizing public expenditures to address government deficit under financial oversight.

To test this hypothesis, the researcher used t-tests, F-tests, as well as MLR analysis and partial correlation. The results are presented in Table 15 which represents the degree of relationship and its significance PBB as a planning tool and rationalizing public expenditure to address government deficit under financial oversight.

Table 16. Correlation between PBB as a planning tool and rationalizing public expenditure to address government deficit under financial control

	PBB as a planning tool		Rationalizing public expenditure in addressing government deficit	
PBB as a planning tool	1	0.00	0.466	0.00
Rationalizing public expenditure in addressing government deficit	0.466	0.00	1	0.00

Based on Table 16 above, we can observe that there is a moderate negative relationship between the variables being studied, namely performance-based budgeting, as well as controlling public expenditures to address government deficit under financial supervision. This is indicated by the partial correlation coefficient and the correlation test value, which is found to be 0.00, lower than the significance level of 0.05. Therefore, we can conclude that there is indeed a moderate relationship between utilizing program budget for performance planning and effectively controlling public expenditures to tackle government deficit under financial supervision. Additionally, Table 17 provides further information through the t-test and MLRM.

Table 17. The analysis of variance and the F-test to assess the third sub-hypothesis

Variables	Parameter	Standard deviation	t-test	Sig
Constant	1.515	0.164	9.262	0.000
X_1	0.368	0.039	9.457	0.000
X_2	0.265	0.029	9.165	0.000

$$Y_i = 1.515 + 0.368\,X_{i1} + + 0.265\,X_{i2}$$

The MLRM above clearly indicates that using PBB planning as a tool and financial control has a beneficial impact on decreasing public expenditures to tackle government deficits. Figure 4 visually represents the correlation between PBB, financial control, and the reduction of public expenditures to address government deficits.

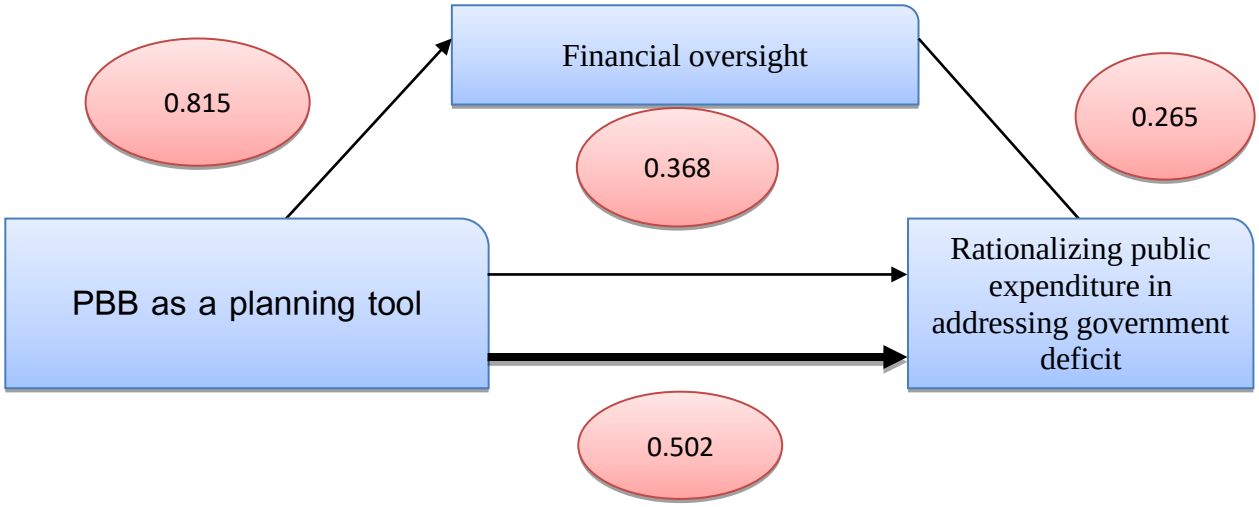

Figure 4. The relationship between as a planning tool, financial control, and rationalizing public expenditure to address government deficit

The findings in figure 4 indicate the presence of a partial mediating effect. Table 18 displays the analysis of variance and F-test to assess the significance of the regression model.

Table 18. The analysis of variance and the F-test to assess significance of LMRM

Source of variation	Sum of squares	df	Variance	F	Sig
Between groups	21.109	2	10.554	138.829	0.000
Within groups	24.556	323	0.076		
Total	45.665	325			

Based on the analysis of variance table, we observe that the F-test value is 138.829, indicating statistical significance at a significance level of (0.000), which is lower than the conventional threshold of (0.05). Consequently, we can conclude that the estimated model is statistically significant.

Conclusions and recommendations

One of the main findings suggests that the performance-based budgeting and its three dimensions optimal resource utilization, application requirements, and planning tool have a significant positive impact on public expenditure rationalization to address government deficit. This impact is partially mediated by the variable of financial control, rather than being entirely mediated, due to the significance of all explanatory variables and their dimensions. Based on these results, several recommendations were proposed. These include the implementation of performance indicators for each program activity to evaluate the effectiveness, efficiency, and quality of government units in achieving predefined goals. Furthermore, it is advised to introduce electronic systems and software that streamline the budget preparation process, allowing for the budget to be organized in terms of programs, activities, and implementation costs. This will facilitate better alignment between the services provided and the allocated budget categories

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