Budget participation and budget pressure on managerial performance: Evidence from the Central Bureau of Statistics of North Sulawesi Province

Meilan Poae
Corresponding e-mail: meilan.poae@student.unsrat.ac.id
Sam Ratulangi University - Indonesia

Natalia Y. T. Gerungai
Sam Ratulangi University - Indonesia

Abstract
This study examines the effect of budgetary participation and budgetary pressure on managerial performance in a public-sector organization, using the Central Bureau of Statistics (BPS) of North Sulawesi Province as the research context. The study is motivated by the strategic role of the budgeting process in public organizations, where the extent of employee involvement in budget preparation and the pressure associated with achieving budget targets are presumed to shape the effectiveness of managerial performance. A quantitative approach with a causal-associative design was employed. Data were collected from 48 respondents selected through purposive sampling among BPS North Sulawesi Province employees and analyzed using multiple linear regression. The findings show that, when tested individually, neither budgetary participation nor budgetary pressure exerts a statistically significant effect on managerial performance. When tested jointly, however, the two variables together have a significant effect on managerial performance, although the proportion of variance they explain remains relatively modest, indicating that managerial performance in this context is shaped predominantly by factors beyond the budgeting process, such as organizational commitment, leadership style, work motivation, and the internal control system. These findings suggest that efforts to strengthen managerial performance in public-sector agencies such as BPS should not rely solely on participative budgeting practices but should also address broader organizational and behavioral determinants. This study contributes empirical evidence on budgetary behavior in an Indonesian public-sector statistical agency, a setting that remains underexplored relative to private-sector budgeting research, and offers practical implications for budget-related managerial policy in similar institutions.

Keywords: agency theory, budget participation, budget pressure, managerial performance, public sector

Received
14 August 2024

Revised
13 September 2026

Accepted
14 September 2026

Published
15 September 2026

DOI: 10.58784/ramp.496

Introduction

Good governance is a fundamental demand that continues to be voiced in Indonesia's bureaucratic reform, particularly following regional autonomy and the strengthening of state financial accountability. Every government agency is required not only to carry out its functions procedurally but also to produce measurable performance with real impact on society. Managerial performance is one of the main parameters for assessing the effectiveness of public-organization management, encompassing officials' ability to plan, organize, direct, control, and evaluate resources to achieve organizational goals optimally (Santoso and Nugroho, 2020). Weak managerial performance not only lowers organizational achievement but also erodes public trust in government.

One of the main factors influencing managerial performance in public organizations is the budget-management system. A budget is not merely a formal financial document but also a strategic management instrument that functions as a tool for program planning, activity control, and communication between leaders and implementers across organizational levels. When the budgeting process runs well involving the right parties, setting realistic targets, and supported by adequate evaluation the budget can effectively drive performance. Conversely, a weak, non-participative budgeting process tends to produce budgets misaligned with field conditions, making it difficult for implementers to achieve targets (Sofyani and Ardiyanto, 2022).

Budget participation is the active involvement of managers or implementing officials in the budget-preparation process, from identifying needs and formulating programs to allocating resources and setting performance targets. Through participation, managers gain a sense of ownership over the budget, which fosters stronger commitment to realizing budget targets and, in turn, contributes positively to managerial performance (Amirullah and Ansari, 2021; Christy et al., 2021). Many empirical studies find that budget participation has a positive and significant effect on managerial performance (Muhsin and Dwita, 2022; Sopanah et al., 2023; Supranata and Jasman, 2025), though others show that the relationship is conditional, mediated or moderated by factors such as organizational commitment and psychological capital (Nugroho et al., 2021; Amirullah and Ansari, 2021).

Budget pressure refers to conditions in which managers feel significant pressure to meet predetermined budget targets, because the budget is used as a basis for performance evaluation, rewards, or sanctions. Excessive budget pressure may encourage opportunistic behavior such as budgetary slack (Nurhayati et al., 2022), so its effect on performance is not necessarily linear or positive. Empirical findings on budget pressure are mixed, ranging from positive and significant effects to weak or conditional ones, depending on organizational context and how the construct is operationalized (Natsir et al., 2023).

This study focuses on BPS North Sulawesi Province, a vertical central-government statistical agency overseeing all regencies/cities in North Sulawesi, from urban areas such as Manado to island regions such as the Sangihe, Talaud, and Sitaro Islands. The agency routinely conducts national censuses and surveys with tight deadlines from monthly price and inflation monitoring to the National Labor Force Survey (Sakernas) and the large annual National Socioeconomic Survey (Susenas). The high frequency and diversity of statistical activities, combined with a geographically dispersed working area, demand careful budget planning that relies on field knowledge held by managers at the division and section levels, making their participation crucial, while the commitment to timely data release creates its own pressure.

Although research on budget participation and budget pressure is abundant, several gaps remain. First, most studies focus on regional governments, whereas research on vertical central-government agencies such as BPS with their distinctive DIPA-based budgeting and performance-accountability systems is very limited. Second, studies that simultaneously examine budget participation and budget pressure within one integrated model are still rare. Third, the inconsistency of prior findings calls for re-testing in a different context. Accordingly, this study examines the effect of budget participation and budget pressure, partially and simultaneously, on managerial performance at BPS North Sulawesi Province.

Literature review

Agency theory

This study is grounded in agency theory (Jensen and Meckling, 1976), which explains the relationship between principals and agents and the need for control mechanisms to align organizational and individual goals. In the budgeting context, budget participation and budget pressure serve as mechanisms that direct agents' behavior toward established targets, encouraging coordination, accountability, and responsibility in carrying out managerial tasks.

Budget participation and managerial performance

Budget participation reflects the degree of involvement of managers or employees in preparing, discussing, and setting the organization's budget. When goals are set participatively, individuals develop a sense of responsibility and treat budget targets as personal commitments, which can enhance managerial performance (Muhsin and Dwita, 2022; Ningsih and Fitriasuri, 2023). Based on this reasoning, the first hypothesis is proposed:

H_1: Budget Participation has a significant effect on Managerial Performance

Budget pressure and managerial performance

Budget pressure is a condition in which superiors pressure subordinates to implement the budget effectively, using sanctions for those who fail to meet targets and rewards for those who exceed them (Natsir et al., 2023). From an agency perspective, budget pressure functions as a monitoring mechanism that controls agent behavior. Prior studies find that budget pressure can positively affect managerial performance by guiding managers to complete their responsibilities (Ningsih and Fitriasuri, 2023), although effects are not always uniform. Based on this reasoning, the second hypothesis is proposed:

H_2: Budget Pressure has a significant effect on Managerial Performance

Budget participation and budget pressure simultaneously

Budget participation and budget pressure are closely related in the budget-management process and are expected to jointly influence managerial performance. Involvement in budget preparation creates more realistic targets and greater responsibility, while a reasonable level of budget pressure encourages managers to work effectively toward targets (Ningsih and Fitriasuri, 2023). Based on this reasoning, the third hypothesis is proposed:

H_3: Budget Participation and Budget Pressure simultaneously have a significant effect on Managerial Performance

Research method

This study uses a quantitative method with a causal-associative design to test the effect of the independent variables budget participation (X_1) and budget pressure (X_2) on the dependent variable, managerial performance (Y). The population comprises the 93 employees of BPS North Sulawesi Province. The sample size was determined using the Slovin formula with a 10% margin of error, yielding 48 respondents, selected through purposive (non-probability) sampling based on the following criteria: permanent employees or civil servants at BPS North Sulawesi Province; a minimum tenure of one year; and involvement in, or knowledge of, the budget-preparation process. Primary data were collected through questionnaires measured on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). The operationalization of each variable is summarized in Table 1.

Table 1. Variable operationalization and indicators

Variable	Definition	Indicators
Budget Participation (X_1)	The degree of employee involvement in preparing, discussing, and setting the organization's budget.	Involvement in budget preparation; opportunity to propose the budget; influence over budget decisions.
Budget Pressure (X_2)	A condition in which employees face demands to achieve high budget targets that may affect behavior and performance.	Challenging budget targets; pressure to achieve budget targets; budget-based performance evaluation.
Managerial Performance (Y)	The degree of success in carrying out managerial functions such as planning, coordinating, and evaluating.	Activity planning; work coordination; work supervision.

Source: Processed data, 2026

Data were analyzed using descriptive statistics, instrument tests (validity via Pearson correlation and reliability via Cronbach's alpha), classical assumption tests (normality, multicollinearity, heteroscedasticity, and autocorrelation), and multiple linear regression, processed with the jamovi statistical software. The regression model is specified as:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + e$$

where Y = managerial performance, X_1 = budget participation, X_2 = budget pressure, α = constant, β_1 and β_2 = regression coefficients, and e = error term. Hypotheses were tested using the individual parameter significance test (t-test) and the simultaneous test (F-test) at the 5% level, with the coefficient of determination (R^2) used to assess explanatory power.

Results and discussion

Descriptive statistics

The questionnaire was completed by 48 respondents. Descriptive statistics for the three variables are presented in Table 2.

Table 2. Descriptive statistics

Variable	N	Mean	Std. Dev.	Minimum	Maximum
Budget Participation (X_1)	48	31.9	6.60	19	46
Budget Pressure (X_2)	48	32.8	5.46	14	43
Managerial Performance (Y)	48	41.9	4.45	30	50

For all three variables, the mean exceeds the standard deviation, indicating that responses are relatively well concentrated around the mean and the data spread is reasonable.

Instrument tests: validity and reliability

The validity test using Pearson correlation shows that all 27 questionnaire items are valid, with correlation coefficients ranging from 0.294 to 0.889 and significance values below 0.05. The reliability test shows that all variables have Cronbach's alpha above 0.70, as presented in Table 3, confirming that the instrument is reliable.

Table 3. Reliability test results

Variable	Cronbach's Alpha	Standard	Conclusion
Budget Participation (X_1)	0.864	0.70	Reliable
Budget Pressure (X_2)	0.723	0.70	Reliable
Managerial Performance (Y)	0.875	0.70	Reliable

Classical assumption tests

The results of the classical assumption tests are summarized in Table 4. Normality is supported by the Shapiro-Wilk ($p = 0.173$), Kolmogorov-Smirnov ($p = 0.920$), and Anderson-Darling ($p = 0.278$) tests, all above 0.05. Both independent variables have a tolerance of 0.856 (> 0.10) and a VIF of 1.17 (< 10), indicating no multicollinearity. The Breusch-Pagan ($p = 0.643$), Goldfeld-Quandt ($p = 0.656$), and Harrison-McCabe ($p = 0.608$) tests indicate no heteroscedasticity, and the Durbin-Watson statistic of 1.72 ($p = 0.282$) indicates no autocorrelation. All classical assumptions are therefore satisfied.

Table 4. Summary of classical assumption tests

Test	Statistic / Criterion	Result	Conclusion
Normality (Shapiro-Wilk)	$p > 0.05$	0.173	Normal
Multicollinearity	Tolerance > 0.10; VIF < 10	0.856; 1.17	None
Heteroscedasticity (Breusch-Pagan)	$p > 0.05$	0.643	None
Autocorrelation (Durbin-Watson)	$-2 < DW < +2$	1.72	None

Multiple linear regression and hypothesis testing

The results of the multiple linear regression and the individual parameter significance test (t-test) are presented in Table 5.

Table 5. Multiple linear regression and t-test results

Predictor	Estimate (B)	SE	t	p	Conclusion
(Intercept)	30.905	4.113	7.51	< 0.001	—
Budget Participation (X_1)	0.103	0.101	1.02	0.313	H_1 rejected
Budget Pressure (X_2)	0.234	0.122	1.92	0.061	H_2 rejected

Dependent variable: Managerial Performance (Y)

Based on Table 5, the regression equation is $Y = 30.905 + 0.103X_1 + 0.234X_2 + e$. Both coefficients are positive, but neither is statistically significant. Budget participation has a t-value of 1.02 with $p = 0.313$ (> 0.05), so H_1 is rejected budget participation has no significant partial effect on managerial performance. Budget pressure has a t-value of 1.92 with $p = 0.061$ (> 0.05), so H_2 is rejected budget pressure has no significant partial effect. The simultaneous test (F-test) and coefficient of determination are presented in Table 6.

Table 6. Simultaneous test (F) and coefficient of determination

R	R Square	Adjusted R^2	F	df1	df2	Sig.
0.373	0.139	0.101	3.63	2	45	0.035

Table 6 shows an F-value of 3.63 with a significance of 0.035 (< 0.05), so H_3 is accepted budget participation and budget pressure simultaneously have a significant effect on managerial performance, and the model is fit. The R^2 of 0.139 (Adjusted R^2 0.101) indicates that the two variables jointly explain 13.9% of the variation in managerial performance, while the remaining 86.1% is explained by other factors outside the model, such as organizational commitment, leadership style, work motivation, and the internal control system.

Discussion

The effect of budget participation on managerial performance.

Budget participation has no significant partial effect on managerial performance, so H_1 is rejected. Employees are given the opportunity to participate in budget preparation, but this involvement has not become a decisive factor for managerial performance budget preparation may be perceived more as an administrative routine than as a means of improving effectiveness. This suggests that other factors outside participation play a larger role. This result is consistent with Riyadh et al. (2023) and Heski et al. (2017), who also found that budget participation does not significantly affect managerial performance.

The effect of budget pressure on managerial performance.

Budget pressure has no significant partial effect on managerial performance, so H_2 is rejected. Although employees face demands to meet budget targets and deadlines, this pressure does not significantly change managerial performance. A plausible explanation is that BPS North Sulawesi Province already has a systematic planning, supervision, and evaluation system, with clear task division, inter-unit coordination, and sound internal control, allowing employees to work effectively despite budget pressure. This result is consistent with Afifi and Zuliyati (2016), who found that budget pressure does not significantly affect managerial performance because other factors such as individual ability, organizational commitment, and the management control system also shape performance.

Simultaneous effect of budget participation and budget pressure

Although both variables are insignificant individually, the F-test shows they are jointly significant ($F = 3.63$; Sig. = 0.035), so H_3 is accepted. Consistent with agency theory, the combination of employee involvement in budget preparation and the presence of budget targets together fosters coordination, accountability, and responsibility, which collectively influence managerial performance. The two variables are complementary: participation alone may not raise performance without the drive to meet targets, and pressure alone is not optimal without the opportunity to participate. This result aligns with Ningsih and Fitriasuri (2023).

Conclusion

Based on the analysis of the effect of budget participation and budget pressure on managerial performance at BPS North Sulawesi Province, three conclusions can be drawn. First, budget participation has no significant partial effect on managerial performance (Sig. = 0.313), indicating that employee involvement in budget preparation has not yet significantly improved managerial performance. Second, budget pressure has no significant partial effect on managerial performance (Sig. = 0.061), indicating that the level of budget pressure perceived by employees is not a significant determinant of performance. Third, budget participation and budget pressure simultaneously have a significant effect on managerial performance (F = 3.63; Sig. = 0.035), indicating that the combination of the two variables jointly explains variation in managerial performance, even though their partial effects are not significant.

This study recommends that the agency continue to improve the quality of the budget-preparation process by encouraging communication, coordination, and stakeholder involvement, while attending to other factors that may affect managerial performance, such as leadership style, work motivation, employee competence, organizational culture, the internal control system, and rewards. Employees are encouraged to participate actively in budget preparation and to treat budget pressure as a challenge rather than a burden. Future research is encouraged to add independent variables such as organizational commitment, work motivation, leadership style, organizational culture, the internal control system, and job satisfaction, to enlarge the sample, and to examine different locations and objects, given that the two variables in this model explain only a modest share of the variation in managerial performance.

References

Afifi, Z., & Zuliyati. (2016). Pengaruh tekanan anggaran, partisipasi anggaran, terhadap kinerja manajerial. *In Seminar Nasional Multi Disiplin Ilmu Unisbank 2016*. Stikubank University. https://www.unisbank.ac.id/ojs/index.php/sendi_u/article/view/4286

Amirullah, S., & Ansari, M. I. (2021). Pengaruh partisipasi anggaran terhadap kinerja manajerial pemerintah daerah dengan psychological capital sebagai variabel moderasi. *Akrab Juara: Jurnal Ilmu-ilmu Sosial*, *6*(4), 63–74. https://www.akrabjuara.com/index.php/akrabjuara/article/view/1654

Christy, Y., Natalia, M., Setiana, S., & Anthony, R. (2021). Pengaruh partisipasi anggaran terhadap kinerja manajerial dengan komitmen organisasi dan motivasi kerja sebagai variabel moderasi. *Jurnal Nusantara Aplikasi Manajemen Bisnis*, *6*(2), 149-165. https://doi.org/10.29407/nusamba.v6i2.16273

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, *3*(4), 305–360. https://doi.org/10.1016/0304-405X(76)90026-X

Muhsin, R., & Dwita, S. (2022). Pengaruh partisipasi anggaran dan akuntabilitas publik terhadap kinerja manajerial: Studi empiris pada satuan kerja perangkat daerah kota padang. *Jurnal Eksplorasi Akuntansi*, *4*(1), 150-164. https://doi.org/10.24036/jea.v4i1.441

Natsir, M., Yamin, N. Y., Saleh, F. M., Jamaluddin., & Rizaldi. (2023). Electronic participatory budgeting, budget emphasis, and job tension: Implications for managerial performance. *International Journal of Data and Network Science*, *7*(4), 1463-1470. http://dx.doi.org/10.5267/j.ijdns.2023.8.016

Ningsih, D. A., & Fitriasuri. (2023). Pengaruh partisipasi, tekanan anggaran, dan faktor-faktor organisasi terhadap kinerja manajerial KAI. *Jurnal Akuntansi Keuangan dan Bisnis*, *16*(2), 285-293. https://doi.org/10.35143/jakb.v16i2.6137

Nugroho, P. S., Turmudhi, A., & Prasetya, A. Y. (2021). Pengaruh partisipasi anggaran, dan kejelasan sasaran amggaran terhadap kinerja manajerial dengan komitmen organisasi sebagai pemediasi (Studi kasus pada pemerintah daerah di jawa tengah). *Jurnal Akuntansi, Manajemen, Bisnis dan Teknologi*, *1*(2), 174-185. https://doi.org/10.56870/ambitek.v1i2.22

Nurhayati, Y., Sari, D. W., & Pradesa, E. (2022). Pengaruh partisipasi anggaran, tekanan anggaran locus of control, Asimetri informasi, dan komitmen organisasi terhadap kesenjangan anggaran pada perusahaan BUMN di Kota Lubuklinggau. *EKOMBIS REVIEW: Jurnal Ekonomi Dan Bisnis*, *10*(1), 237-248. https://doi.org/10.37676/ekombis.v10i1.1633

Heski, P., Purwanti, D. T., & Fidayati, A. (2017). Partisispasi penyusunan anggaran, kejelasan sasaran anggaran, akuntabilitas publik, dan struktur desentralisasi terhadap kinerja manajerial. *Jurnal Analisis Bisnis Ekonomi*, *15*(2), 117-125. https://journal.unimma.ac.id/bisnisekonomi/en/article/view/1837

Riyadh, H. A., Nugraheni, F. R., & Ahmed, M. G. (2023). Impact of budget participation and leadership style on managerial performance with organizational commitment as intervening variable. *Cogent Business & Management*, *10*(1), 2175440. https://doi.org/10.1080/23311975.2023.2175440

Santoso, A., & Nugroho, A. S. (2020). Managerial performance improvement strategy based on budget participation. *Journal of Business and Political Economy: Biannual Review of The Indonesian Economy*, *2*(2), 167-180. https://doi.org/10.46851/56

Sofyani, H., & Ardiyanto, I. (2022) Determinan kinerja manajerial pemerintah desa di kabupaten bantul. *Jurnal Akademi Akuntansi*, *5*(2), 149-165. https://doi.org/10.22219/jaa.v5i2.18424

Sopanah, A., Harnovinsah., Sulistyan, R. B., & Mulyono. (2023). Job relevant information: model partisipasi penyusunan anggaran, kinerja manajerial dan budgetary slack. *Jurnal Reviu Akuntansi Dan Keuangan*, *13*(1), 18-34. https://doi.org/10.22219/jrak.v13i1.25321

Supranata, M., & Jasman. (2025). The influence of budget participation on managerial performance. *Jurnal Akuntansi dan Pajak*, *26*(1). https://doi.org/10.29040/jap.v26i1.16546