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The Programme-Target Method as a Mechanism for Improving the Efficiency of Budget Expenditure

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Abstract Increasing pressure on public finances, combined with demands for greater accountability and transparency, has made the effectiveness of budget programmes a central concern of contemporary public administration. The programme-target method is intended to connect budget decisions more closely with public-policy objectives, although its practical application has produced uneven results under different institutional conditions. This study examines the operation of the programme-target method as a managerial mechanism and considers the reported effectiveness of selected public programmes in relation to expenditure planning, performance information, and the wider administrative environment. The stated empirical basis is a comparative assessment of 30 programmes in Ukraine, Poland, and Germany, covering social protection, health care, and education during 2020–2025. The analysis combines a composite efficiency index, produced by normalising and aggregating performance and expenditure-deviation indicators, with descriptive statistics, the Shapiro–Wilk normality test, one-way analysis of variance, and the Kruskal–Wallis test. The reported findings show descriptive variation among programmes and countries, with statistical differences between groups constructed from predetermined efficiency-index ranges ($p < 0.05$). Higher index values reflect more favourable combinations of target achievement and expenditure deviation, whereas lower values describe greater discrepancies between programme plans and their reported implementation. The results are compatible with the argument that effective monitoring, clear programme objectives, reliable performance information, and administrative capacity are important for public-budget management. However, because the groups compared statistically were defined using the same index analysed in those tests, the significance findings cannot independently demonstrate the effect of institutional capacity or the efficacy of programme-target budgeting. In addition, the reported data do not establish that funding volume is unrelated to performance, and some summary figures require reconciliation with the original observations. The article therefore interprets the comparison as exploratory evidence rather than definitive causal proof. Its contribution is to develop a management-oriented perspective on programme budgeting and to identify priorities for stronger monitoring, transparent indicator definitions, reliable cross-country comparisons, and the systematic incorporation of evaluation results into public decision-making. These improvements offer a practical agenda for strengthening public financial governance when supported by reproducible programme-level evidence.

Index Terms programme-target method, budget expenditures, effectiveness of programmes, public finances, budget planning, institutional capacity

I. Introduction

In contemporary conditions of tighter fiscal constraints and increasing demands for transparency in public finances, the efficiency of budget expenditure has become a systemic public-administration concern. Although the programme-target method was introduced to shift attention from spending inputs towards measurable results, a persistent gap can arise between the stated objectives of budget programmes and the outcomes actually achieved. This gap is reflected in the formalistic use of performance indicators, the insufficient integration of analytical information into managerial decisions, and the limited capacity of some institutions to monitor the allocation and use of public resources effectively. Consequently, the existence of programme-based budgeting procedures does not, by itself, guarantee improvements in public expenditure efficiency. A more detailed assessment is required to distinguish the potential contribution of this method from the institutional conditions, implementation practices, and reporting arrangements that shape its performance.

Abbasov [1] reports that performance-based budgeting can contribute to more efficient public expenditure by creating a clearer relationship between resources allocated and results reported. However, the strength of that relationship depends on the wider managerial environment, administrative practices,

and the maintenance of financial discipline. Azam and Bouckaert [2] shift the focus towards the quality of performance information, examining how reforms influence the relevance and reliability of the indicators used by public organisations. Their findings suggest that changing budget procedures is insufficient when information quality remains weak or reporting practices do not support decision-making. Alhasnawi et al. [3] further investigate the relationship between performance-based budgeting and sustainability-related outcomes, considering the potential mediating roles of innovation and information quality. Taken together, these studies suggest that expenditure efficiency should be understood in relation to both budgetary design and the organisational processes through which information is produced, interpreted, and used.

Fitz Verploegh et al. [4] question whether conventional performance-based budgeting offers a universally effective way of linking public-policy priorities with the resources assigned to them. Drawing on the concept of policy control, they describe an alternative approach intended to strengthen coordination between the policy cycle and financial management. Another contribution is provided by Srithongrung-Kriz [5], who explores alternative measures of expenditure efficiency, including data envelopment analysis. These approaches draw attention to an important methodological point: evaluations of budgeting reform depend not only on how public programmes are managed but also on the adequacy of the indicators used to assess their achievements.

Despite a substantial and growing body of research, several gaps remain in the understanding of how the programme-target method relates to public expenditure efficiency. First, many studies rely on theoretical argument or the examination of individual national settings, which limits the generalisability of their conclusions to other institutional environments. Second, the relationships among performance-information quality, administrative capacity, budgeting procedures, and measurable programme outcomes remain insufficiently established by comparable empirical evidence. Third, there is no single universally accepted approach to the measurement of programme efficiency, which can produce fragmented assessments and complicate comparisons between sectors or countries. These limitations support the need for research that combines explicit operational definitions, transparent programme selection, careful data harmonisation, and an assessment of institutional conditions. Such research should also distinguish descriptive associations from causal claims concerning the effectiveness of budget reforms.

The purpose of this study is to examine how the programme-target method operates as an instrument for managing public budget resources and to assess the relationship between reported programme performance and public expenditure efficiency. Particular attention is given to the consistency of reported results with expenditure plans, the quality and comparability of budget information, and the institutional conditions under which programmes are implemented. The analysis is framed as a cross-country comparison rather than as a direct causal test of the adoption of programme-target budgeting.

To achieve this purpose, five interrelated research tasks are considered. First, the study synthesises theoretical approaches to programme-target budgeting and the concept of public expenditure efficiency. Second, it specifies the indicators used to describe planned results, actual implementation, and departures from expenditure plans. Third, it examines how the availability and quality of reported budget information influence the interpretation of programme performance. Fourth, it considers institutional factors that may affect the implementation of budgeting and monitoring procedures, including coordination, accountability, and management capacity. Fifth, it compares the reported effectiveness of selected public budget programmes and discusses what these comparisons can, and cannot, establish about the efficient use of financial resources.

II. Literature Review

Contemporary research generally identifies programme-targeted or performance-based budgeting as a potentially important instrument for improving the accountability and efficiency of public finance. However, empirical findings are not uniform: reported benefits in transparency, planning, and administrative performance vary with the institutional environment, the quality of managerial procedures, and the skills of the personnel responsible for implementation. The thematic review by Mohd Gharib et al. [6] identifies recurring themes in this literature, while also recognising that the findings are shaped by differences in research design and institutional context. These observations indicate that the successful introduction of performance budgeting should not be equated automatically with improved programme outcomes; implementation quality remains essential.

Comparative research by Grossi et al. [7] shows that the development of performance-based budgeting is shaped by both internal managerial considerations and external institutional pressures. Their analysis of Finland and Sweden illustrates why ostensibly similar reforms may evolve differently across national settings. Mauro et al. [8] further examine the gap between formal reform principles and everyday implementation, showing how communication failures and conflicting organisational assumptions can undermine intended outcomes. Studies focused on administrative capacity reach related conclusions: He and Ismail [9] examine staff capacity and organisational performance in Chinese public universities, while Kuntadi and Velayati [10] identify managerial and procedural factors that may influence performance-budgeting implementation. These contributions collectively underscore the importance of treating the institutional setting as an explanatory context rather than as a background characteristic.

At the applied level, Ismail [11] examines the relationship between financial-management practices and the performance-based budget of a local health office. Lasiewa et al. [12] similarly consider how budgeting reforms are implemented in an administrative organisation, highlighting the practical importance of management behaviour and institutional arrangements. Manta [13] discusses the conditions

under which performance-based budgeting can become a meaningful public-sector reform rather than a purely formal requirement. Taken together, these contributions suggest that a budgeting framework can be present without being used effectively to improve service delivery, accountability, or the interpretation of programme outcomes.

Azam and Bouckaert [14] investigate whether reform efforts lead public managers to use performance information in budget-related decisions. Their evidence indicates that expectations concerning the immediate effects of such reforms should remain realistic. Azzahro et al. [15] examine the relationship between budget efficiency and public-sector performance accountability, while Afronisa and Erawati [16] explore the roles of performance-based budgeting, accounting control, and reporting arrangements. These studies extend the discussion beyond the allocation of funds to the wider information and accountability systems that help public organisations interpret and respond to performance results.

At the macroeconomic level, Chrysanthakopoulos et al. [17] examine the economic consequences of public-sector efficiency, reinforcing the potential importance of improvements in fiscal governance. Damayani et al. [18] discuss the evolving role of performance-based budgeting in public-sector organisations, while Alkhuzaie et al. [19] develop a conceptual framework for its adoption. Hijal-Moghrabi [20], by contrast, highlights the challenges encountered in the practical use of performance budgeting in large United States cities. The literature therefore supports a nuanced conclusion: programme-target budgeting may facilitate more informed budget decisions, but its effects are conditioned by information quality, organisational capacity, and the actual use of evaluation results. This motivates the present comparative assessment and the explicit discussion of its evidentiary limitations.

III. Materials and Methods

The study is presented as an empirical comparative examination of the programme-target method as a component of public administration and of the reported effectiveness of selected budget programmes. Its observation period covers 2020–2025, allowing comparisons across changing economic and fiscal circumstances. The stated empirical sources include publicly available budget documents and reports from Ukraine, Poland, and Germany, as well as materials from international organisations, particularly the Organisation for Economic Co-operation and Development (OECD), the World Bank, and relevant official statistical repositories. The programme areas are social protection, health care, and education. The analysis was reportedly conducted using Microsoft Excel and IBM SPSS. Because the manuscript does not provide a programme-by-programme source inventory, extraction dates, original data, or analysis files, the reported summary results cannot be independently reconstructed from the information supplied. Such documentation would be required to evaluate the reproducibility and comparability of the cross-country calculations.

The sample was selected purposively and consisted of 30 reported budget programmes, with 10 programmes attributed to each of the three countries. The selected programmes were intended to cover major central-government responsibilities in social policy, health care, and education. The stated eligibility criterion was the availability of sufficiently complete information on planned funding and achieved results during the observation period; programmes with incomplete reporting or missing indicators were excluded. This approach sought to support comparisons across different administrative environments, although purposive selection does not produce a statistically representative sample of government programmes. The budget programme was defined as the unit of analysis. To establish comparability fully, the final study should identify every selected programme, its responsible public body, the relevant accounting basis, and the source used for each observed variable.

The study operationalises reported programme effectiveness through indicators covering achievement of planned results, the deviation of actual expenditure from planned expenditure, and a composite efficiency index produced by normalising and aggregating these measures. The index is described as an unweighted arithmetic mean, with the cost-deviation indicator reverse-coded so that larger deviations do not mechanically increase the measured efficiency score. Applying a common scale is intended to facilitate cross-country and inter-programme comparisons. However, the manuscript does not report the detailed extraction rules, the direction assigned to every variable, the reference minima and maxima, or the treatment of incomplete programme series. These decisions affect the resulting ranks and require a transparent calculation specification. Institutional context is addressed conceptually through the reported use of performance information, the degree of accountability, and the extent to which budgeting and evaluation are integrated into administrative decision-making. These contextual characteristics were not independently measured as regressors in the reported statistical tables.

The research procedure comprised four principal stages. In the first stage, the authors assembled and reviewed the publicly available programme information. In the second stage, they organised the indicators into comparable categories and applied the stated normalisation procedure. The third stage consisted of descriptive comparisons among programmes, sectors, and countries, with particular attention to differences in reported execution levels and expenditure deviations. Finally, the reported index values were subjected to distributional and group-comparison tests. Although this sequence is appropriate as a general analytical outline, the availability of an auditable dataset and a reproducible calculation protocol would strengthen the transparency of every stage.

The statistical analysis uses descriptive measures, including means, medians, and standard deviations, together with the Shapiro–Wilk test to assess normality of the reported efficiency-index distribution. One-way analysis of variance (ANOVA) and the Kruskal–Wallis test were then applied to compare programmes assigned to high-, medium-, and low-

efficiency categories, with statistical significance defined as $p < 0.05$. However, these categories were themselves created from predetermined intervals of the same efficiency index. Accordingly, tests comparing index values between the resulting categories are intrinsically affected by how those categories were defined; statistically significant results from such tests cannot serve as an independent validation of institutional differences or of the programme-target method's impact. A more informative design would compare countries or independently defined institutional characteristics, subject to the assumptions of the chosen test and the availability of original programme-level observations.

IV. Results

A. Comparative characteristics of budget programmes in the context of countries and sectors

The reported comparison of the selected budget programmes (n = 30; 10 per country) suggests differences in the financial and performance indicators presented for Ukraine, Poland, and Germany. These differences concern achievement of stated targets, deviations between planned and actual expenditures, and the distribution of the composite index. They may reflect variations in fiscal circumstances, administrative procedures, programme design, or methods of recording budget information. However, the available tables do not isolate any of these possible influences. The comparisons should therefore be interpreted as descriptive findings within the selected sample, rather than as direct measures of institutional capacity or proof of the causal effect of particular national budgeting practices.

For Ukraine, the manuscript reports target-achievement values ranging from 81–87% in 2024, with possible influences including the fiscal disruption associated with the war and challenges in maintaining consistent administrative procedures [21], [22]. Corresponding ranges of 89–93% are reported for Poland [23], and 92–96% for Germany [24], [25]. These figures are presented as indicative of differences in programme execution, but the underlying budget programmes, denominators, and exact official tables from which the percentages were derived are not identified. Furthermore, Table 1 presents aggregate values for 2020–2025, whereas this paragraph refers specifically to 2024. That distinction must be maintained when interpreting the results. Without harmonised programme definitions and programme-level supporting calculations, the observed ranking should not be treated as a verified ranking of the effectiveness of the three national public-administration systems.

The reported deviations between actual and planned expenditures also differ across the three countries. Ukraine is described as having deviations of 11–14%, which may reflect adjustments to financing during implementation and the uncertain fiscal environment [26], [27]. The manuscript reports smaller ranges for Poland (5–7%) and Germany (3–5%) [25], [28]. These figures may be relevant to the predictability of programme budgets, but expenditure deviations are not, by themselves, a comprehensive measure of value for money, policy effectiveness, or administrative competence. Deviations may arise from economic shocks, legislative reallocations, differences in accounting scope, or deliberate responses to changing service needs. Interpretation therefore requires information about whether the departures were authorised, the direction of each deviation, and whether programme outputs were achieved.

To place these programme-level comparisons in a wider fiscal context, the manuscript also considers the functional structure of public expenditure. It reports social-expenditure shares of 44–46% for Ukraine, 41–43% for Poland, and more than 50% for Germany [29], [30]. Education and health spending are also compared using indicators expressed as percentages of gross domestic product [31]. These functional spending measures may illustrate differences in public-policy priorities, but they are not equivalent to the performance results of the particular 30 programmes included in the sample. Cross-country comparisons should distinguish central-government budgets from general-government expenditure and should specify whether national accounting, COFOG, or World Bank series were used. The reported country values have been retained pending confirmation against consistently defined source series.

Taken together, the descriptive patterns suggest that the selected programmes differ in budget execution, expenditure deviations, and the reported effectiveness index. Variations in institutional capacity and the management of performance information are plausible explanations that deserve further investigation. Nevertheless, this comparison does not directly measure those explanations and therefore cannot establish that one country's administrative practices caused higher index values. Any assessment of the programme-target method as a governance instrument should account for programme objectives, national financing arrangements, fiscal shocks, and measurement differences before drawing wider comparative conclusions.

A summary of the author-reported comparative indicators is provided in Table 1; the precise primary-data extraction and denominators require confirmation.

Table 1: Comparative indicators for selected budget programmes across countries and policy sectors

Indicator	Ukraine	Poland	Germany
Average level of reported programme execution, %	84.3	91.2	94.5
Deviation of actual expenditure from planned expenditure, %	12.1	6.4	4.3
Share of social expenditures in total expenditures, %	45.0	42.3	50.9
Education spending, % of GDP	5.5	6.0	6.7
Health expenditure, % of GDP	7.0	6.6	8.2

Note: Author-reported aggregate estimates for social policy, health care, and education, described as averages for 2020–2025. The manuscript states that COFOG classifications were used. The original programme inventory, denominators, and extraction worksheet were not supplied for independent verification.

Source: author-reported compilation on the basis of the Ministry of Finance of Ukraine [21], Ministry of Finance of Poland [23], Federal Ministry of Finance of Germany [24], Eurostat [29], International Monetary Fund [30], World Bank [31], Centre for Economic Strategy [22], [26], Bundesrechnungshof [25], Supreme Audit Office of Poland [28].

The reported results are consistent with the view that pro-

gramme effectiveness may depend on more than the absolute volume of allocated funding, including how objectives are defined, how outputs are monitored, and how information is incorporated into administrative decisions. At the same time, the descriptive tables alone do not estimate the independent association between funding volume and programme outcomes. A properly specified expenditure–performance analysis would be required to test that relationship and distinguish the effects of resource levels from differences in planning and managerial processes.

B. Integral assessment of the effectiveness of budget programmes based on the normalized index (min–max)

An aggregate assessment of the 30 selected programmes was developed using a composite index based on the stated study methodology. The index combines normalised achievement of planned outputs or results with a measure of departure from planned expenditure, thereby attempting to capture aspects of both programme implementation and financial management. The cost-deviation component is described as inverted so that greater discrepancies from the budget plan contribute adversely to the combined score. Equal weighting was applied because the study did not identify an independent empirical or policy basis for preferring one indicator over another. This operational choice is transparent in principle, but a replicable assessment also requires the precise normalisation formula, original values for every programme, a clear definition of the planned-result measure, and an explanation of how the calculations were pooled across years and countries.

The manuscript reports an overall index range of 0.43–0.90, indicating substantial dispersion among the selected programmes. Within this reported distribution, German programmes are described as having index values of 0.79–0.90, while Polish programmes fall within 0.66–0.83 [23]–[25], [28]. These differences may be consistent with variation in the alignment of policy objectives, financing, and administrative monitoring, but the index itself measures only the variables included in its calculation. It does not directly quantify managerial quality, institutional maturity, or the causal contribution of programme budgeting. The published programme-level data and calculation worksheet should therefore accompany the article before stronger explanatory conclusions are drawn.

For Ukraine, the text reports an index range of 0.43–0.72, suggesting wider dispersion among the selected programmes [21], [22]. However, Table 2 simultaneously classifies three Ukrainian programmes in the high-efficiency interval of 0.75–1.00. These statements cannot both be correct under the stated category definitions. Accordingly, the reported range and the programme counts have been retained as supplied, but the discrepancy requires reconciliation from the original programme-level dataset before any conclusion is drawn about the share of high-performing Ukrainian programmes. More generally, departures from planned outputs or spending may reflect external fiscal constraints as well as administrative practices, and the present tables do not separate those explanations.

The sectoral discussion provides further context for the cross-country results. The manuscript reports index values of 0.87–0.89 for selected German health programmes, 0.76–0.81 for Polish education programmes, and 0.65–0.70 for certain Ukrainian education programmes. It also describes relatively lower results for some Ukrainian social-policy programmes. These comparisons may offer useful directions for a sector-specific investigation; however, the selected programme names, sectoral sample sizes, and within-sector distributions are not supplied. Consequently, the reported ranges should be regarded as author-reported descriptive summaries rather than independently reproducible estimates of the performance of entire national sectors.

The distribution of index-defined efficiency categories is summarised in Table 2; the underlying programme-level calculations should be reported to support independent validation.

Table 2: Composite efficiency-index assessment of selected budget programmes (min–max normalisation)

Programme category	Ukraine	Poland	Germany
High efficiency (0.75–1.00)	3	6	8
Medium efficiency (0.50–0.74)	5	4	2
Low efficiency (0.00–0.49)	2	0	0
Average index value	0.60	0.74	0.85

Note: The author-reported composite index uses min–max normalisation and an unweighted arithmetic mean, with expenditure deviation inverted. Counts refer to programmes in each category. The Ukrainian counts require reconciliation with the index range reported in the Results.

Source: author-reported compilation on the basis of the Ministry of Finance of Ukraine [21], [32], Ministry of Finance of Poland [23], Federal Ministry of Finance of Germany [24], Eurostat [29], International Monetary Fund [30], World Bank [31], Centre for Economic Strategy [22], [26], Bundesrechnungshof [25], Supreme Audit Office of Poland [28].

The resulting index distributions suggest differences among the selected programme groups, but the extent to which those differences reflect managerial practice, fiscal conditions, or the construction of the index remains unresolved. The concentration of high index scores among some of the programmes from Poland and Germany may provide a useful starting point for examining the use of performance information in budget decisions. Nevertheless, the underlying measure and the country-specific observations must first be documented consistently. Without those checks, the analysis is best interpreted as an exploratory comparison rather than a causal demonstration of the superiority of particular institutional models.

C. Statistical Analysis of Differences between Groups of budget programmes by Level of Efficiency

The final analytical stage compared programmes assigned to three efficiency categories on the basis of predefined intervals of the composite index. This procedure was intended to describe the distribution of performance across the full sample of 30 programmes. The categories were designated as high, medium, and low according to the index thresholds reported in Table 2. Importantly, because category membership is determined by the same index analysed in the subsequent hypothe-

sis tests, the tests do not provide an independent assessment of the causes or consequences of performance differences. Their main descriptive value lies in illustrating the separation built into the categorisation scheme.

The distribution of the composite index was first assessed using the Shapiro–Wilk test. The reported result for the full sample was $W = 0.94$, $p = 0.032$, indicating evidence against normality at the stated five-per-cent significance threshold. The manuscript also refers to departures from normality in individual countries, although separate country-specific test statistics are not provided. The choice to report a non-parametric comparison is therefore understandable, but interpretation should take account of the small number of observations within some groups and the way those groups were formed. The original index observations are required to check these test results independently.

The Kruskal–Wallis test reportedly yielded $H = 11.27$ and $p = 0.003$ for comparisons between the predefined high-, medium-, and low-index groups. This value indicates a reported difference between the group distributions under the applied testing procedure. However, because membership in those groups is defined by the value of the index being tested, such a difference is expected by construction. The result should therefore not be used as evidence that institutional practices, national context, or the programme-target method caused superior public expenditure outcomes.

The manuscript also reports a one-way ANOVA result of $F(2, 27) = 8.64$ with $p = 0.001$, broadly consistent with the numerical distinction between the predefined index groups. Reporting both ANOVA and a non-parametric test may describe the same pattern using different statistical assumptions, but it does not resolve the circularity of the grouping procedure. In addition, no analysis of independent institutional indicators or causal comparison groups is presented. Therefore, the reported statistics should be treated as internal descriptions of the constructed index categories rather than as confirmation of a broader hypothesis about the institutional effectiveness of performance budgeting.

The largest reported contrasts occur between the high- and low-efficiency groups. The manuscript cites values of 0.83–0.86 for the high group, 0.44–0.48 for the low group, and 0.60–0.66 for the intermediate group. These figures may describe typical observations or a narrower subset, but they cannot be interpreted as the full observed ranges without clarification: the overall index range is reported as 0.43–0.90, and the category cut-offs cover much wider intervals. Future revisions should identify whether these figures represent medians, interquartile intervals, illustrative cases, or programme subsets. This distinction is necessary for correct statistical reporting and replication.

At the country level, Table 2 classifies eight of ten German programmes and six of ten Polish programmes in the high-efficiency category, compared with three of ten Ukrainian programmes. Two Ukrainian programmes are classified as low-efficiency, while no Polish or German programmes are placed in that category. These counts indicate the reported distribution of index categories in the selected sample, subject to the unresolved inconsistency between the Ukrainian range and its category counts. Because the sample was purposively selected, these proportions should not be generalised to all programmes funded by the respective governments without a broader sampling design.

The reported standard deviation of the composite index is 0.11 for the Ukrainian programmes, compared with 0.07 for Poland and 0.05 for Germany. These descriptive statistics suggest greater dispersion of the measured index within the selected Ukrainian sample. However, differences in dispersion do not, by themselves, prove that one administrative system is less predictable than another. Programme objectives, budget sizes, sectoral composition, exposure to fiscal shocks, and the details of indicator calculation could all contribute to the observed variability. Formal comparison of variability across national samples would also require the underlying observations and a clearly specified testing procedure.

Table 3 summarises the reported test statistics for the index-defined programme groups; the interpretation is necessarily descriptive because the groups are not independent of the index tested.

Table 3: Reported tests comparing index-defined groups of budget programmes

Indicator	Meaning
Number of observations (n)	30
Shapiro–Wilk (W)	0.94
Shapiro–Wilk p-value	0.032
Kruskal–Wallis (H)	11.27
p-value (Kruskal–Wallis)	0.003
One-way ANOVA (F)	8.64
p-value (ANOVA)	0.001

Note: The high, medium, and low groups were defined by cut-offs on the same index that was subsequently tested. Thus, the reported p-values do not provide an independent test of factors explaining programme effectiveness. Significance threshold: $p < 0.05$.

Source: author-reported calculation based on generalized data from the Ministry of Finance of Ukraine [21], [32], Ministry of Finance of Poland [23], Federal Ministry of Finance of Germany [24], Eurostat [29], International Monetary Fund [30], World Bank [31], Centre for Economic Strategy [22], [26], Bundesrechnungshof [25], Supreme Audit Office of Poland [28].

The statistical results indicate differences among programmes placed in the predefined index categories; however, because the index determines the groups, these results cannot independently substantiate the hypothesis that institutional capacity explains the observed efficiency scores. The reported country patterns remain potentially informative as exploratory descriptions, especially when interpreted alongside official information about budget procedures and fiscal conditions. Further testing should use independent measures of administrative capacity, clearly identified programme observations, and an appropriate cross-country or longitudinal design. These steps would make it possible to assess whether stronger performance-management practices are actually associated with more efficient use of public resources.

V. Discussion

The evidence assembled in this study encourages an interpretation of the programme-target method as a management framework whose usefulness depends on the wider environment of budget preparation, implementation, and accountability. The selected programme summaries display meaningful descriptive variation, but they do not establish that adopting the same formal budget method will produce equivalent results across countries. Administrative capacity, clarity of objectives, quality of reported indicators, and the use of evaluation information all remain plausible influences requiring independent analysis. This more cautious interpretation is consistent with OECD guidance on performance budgeting, which emphasises the role of relevant indicators, managerial decision-making, and accountability procedures rather than an automatic link between expenditure and results [33]. The PEFA framework likewise offers a structured basis for evaluating public-financial-management systems without treating budgetary reform labels as direct measures of programme success [34].

The systematic review by Megah and Valiant [35] discusses the conditions under which performance-based budgeting may improve public financial management. Its emphasis on implementation conditions is compatible with the institutional interpretation developed here, although the present data cannot independently estimate the size of an institutional effect. Cross-country differences in selected programme scores may reflect fiscal shocks, administrative procedures, programme types, or reporting practices. The OECD's comparative governance studies illustrate why institutional arrangements require context-specific assessment [36]. PEFA reports identify public-financial-management strengths and weaknesses through a structured indicator framework [37], while OECD analysis of public administration in Ukraine points to continuing coordination and performance-management challenges [38]. These sources provide a useful interpretive background, but they do not verify the numerical programme scores reported in this article.

The findings may also be considered alongside Yasir's discussion of the role of programme and performance budgeting in the strategic allocation of public resources [39]. In the selected sample, programmes assigned higher index scores appear to have a more favourable combination of target achievement and expenditure deviation, as those variables are components of the score itself. It would therefore be inappropriate to regard this association as independent evidence that monitoring practices caused better performance. Nevertheless, it is reasonable to recommend clearer monitoring, control, and feedback procedures as institutional practices worthy of further investigation. OECD guidance on evaluation and performance budgeting provides a stronger basis for that practical recommendation [40].

Wang et al. [41] analyse performance-based budgeting and innovation in a corporate setting. Their research is relevant as a comparison concerning the use of targets and management information, but results obtained in the private sector cannot be transferred directly to public-budget programmes. Public-sector implementation involves additional constraints, including political accountability, statutory obligations, complex service outcomes, and the often indirect relationship between expenditure and social benefits. Such differences reinforce the need for carefully specified public-sector measures and transparent reporting of how programme effectiveness is assessed.

Zhou et al. [42] consider the relationship between strategic budgeting, evaluation, and performance in manufacturing companies. Their work reinforces the general importance of planning and evaluation, while also illustrating the limits of comparisons between corporate performance and public service delivery. In the present study, the constructed efficiency groups differ numerically because of their defined thresholds; therefore, the observed group separation cannot be used to validate an institutional mechanism. A more defensible conclusion is that programme-target budgeting should be examined as one component of an integrated management system, with its contribution assessed through independent outcome and institutional indicators.

The discussion by Munawir et al. [43] highlights potential tensions between expenditure restraint and the quality of public services. The present study does not directly measure service quality, beneficiary outcomes, or the distributional effects of budget reductions. It therefore cannot confirm or reject such tensions on the basis of the reported index alone. Budget efficiency and public-policy effectiveness should remain distinct analytical concepts: a programme can meet its expenditure plan while failing to deliver meaningful services, or depart from its initial spending plan for legitimate reasons while protecting essential outcomes.

The manuscript suggests that larger allocations do not necessarily coincide with higher efficiency scores. This interpretation is plausible, but the available results do not include a reported correlation, regression coefficient, or other independent statistical test relating programme funding levels to outcomes. Consequently, the study does not demonstrate the absence of a linear funding–efficiency relationship. The more appropriate conclusion is that funding volume alone may be insufficient to characterise programme effectiveness. In Ukraine, wartime fiscal pressures and changing expenditure priorities also complicate direct comparisons across years and policy areas [44], [45]. Future analysis should examine expenditure levels alongside target achievement, programme characteristics, and independently measured institutional practices.

The comparison also illustrates the importance of harmonising the definitions and measurement conventions used in cross-country assessment. A common indicator framework can improve comparability only when the underlying source data refer to equivalent government levels, accounting periods, programme functions, and outcome measures. In particular, general-government COFOG expenditure is not automatically interchangeable with central-government programme performance. Because the detailed harmonisation protocol was not provided, measurement differences cannot yet be ruled out as a source of the reported variation. OECD comparative

databases provide useful contextual benchmarks [46], but the programme-level dataset and its transformation rules must remain visible for an independently reproducible comparison.

VI. Conclusions and Recommendations

The study indicates that the programme-target method should be regarded not as a universally effective solution to inefficient public expenditure, but as a budget-management approach whose practical value may depend on institutional conditions and the quality of implementation. The reported comparison of 30 programmes from Ukraine, Poland, and Germany suggests differences in selected programme-efficiency measures and produces statistically distinguishable categories when programmes are grouped by their own composite-index scores. Because the categories were derived from the index being tested, however, these significance results cannot independently demonstrate the effectiveness of the budgeting method or explain the causes of cross-country variation. The descriptive findings are best interpreted as an initial basis for more detailed, independently verifiable analysis.

Higher scores on the constructed efficiency index correspond to a more favourable combination of planned-result achievement and expenditure deviation, reflecting the components built into the measure. This association illustrates how a transparent composite index can summarise selected aspects of budget execution. However, it does not independently prove that coordination, monitoring, or institutional capacity produced the observed scores. Those mechanisms remain analytically important hypotheses that would require separate measurement, stronger programme-level documentation, and appropriately specified statistical analysis.

The reported country comparisons display differing distributions of the efficiency index across the selected programmes. Some observations from Germany and Poland fall into higher categories, while the Ukrainian sample is described as having greater dispersion. Nevertheless, the sample is purposive, fiscal and programme contexts differ, and one Ukrainian index range is inconsistent with the associated category counts. These qualifications prevent the reported rankings from being interpreted as conclusive evidence of superior national administration. A more informative comparison would use equivalent programme definitions and examine relevant institutional characteristics directly.

The potential scientific contribution of the study lies in connecting the measurement of budget-programme results with a broader consideration of institutional processes and management practices. Rather than assuming that a change in budget format automatically improves public expenditure efficiency, the proposed perspective treats performance indicators, monitoring, feedback, and accountability as essential areas of inquiry. The current analysis provides a preliminary descriptive illustration of this perspective; establishing an empirical dependence on institutional capacity remains a task for subsequent research based on independently measured explanatory variables.

The practical significance of the analysis lies in identifying improvements that public-finance authorities can consider when implementing programme-target budgeting. These include clearer definitions of objectives and results, consistent monitoring and evaluation procedures, greater transparency regarding the calculation of indicators, and routine incorporation of performance evidence into management decisions. Strengthening administrative capacity and creating traceable links between programme plans, expenditure execution, and service outcomes would further support informed public accountability. Such recommendations are consistent with recognised good practice, even though the present sample does not establish their individual causal effects.

The study also has important limitations. First, the sample comprises only 30 purposively selected programmes, which restricts statistical generalisation beyond those observations. Second, the use of secondary administrative data makes the analysis dependent on the accessibility, coverage, and consistency of official reporting. Third, the programme names, raw observations, extraction dates, and full calculation instructions are not presented, preventing independent replication of the summary tables. Fourth, the index-defined efficiency categories are not independent groups for hypothesis testing; comparing the index between those categories does not identify an institutional effect. Fifth, the reported Ukrainian range is inconsistent with the programme counts in Table 2, and some country and sector statistics need further source-level validation. Finally, the study does not directly measure political, organisational, or programme-specific determinants of performance.

Future research should broaden the programme sample, include additional countries or policy sectors, and publish an auditable programme-level dataset with a clear source inventory and complete index-calculation protocol. Quantitative comparisons could then examine independently defined explanatory factors, such as institutional capacity, programme size, governance arrangements, and the frequency with which managers use performance indicators. Combining these analyses with qualitative research on the implementation of budgeting procedures would help distinguish formal compliance from substantive changes in administrative practice. Longitudinal analysis would also be valuable for determining how improvements in planning and monitoring relate to outcomes over time.

Ethics Statement

Ethical approval was not required for this study because it involved the analysis of publicly available data on budget programmes and did not involve human participants, personal data, or experimental procedures.

Competing interests

The authors declare no competing interests.

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Data Availability

The authors state that the programme-level data supporting the reported findings are available from the corresponding author upon reasonable request. The dataset is described as covering 30 budget programmes in Ukraine, Poland, and Germany, implemented in social policy, health care, and education during 2020–2025. The underlying data and statistical output were not supplied with the manuscript and should be made available for reproducibility and independent verification.

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