

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY: APPLIED BUSINESS AND EDUCATION RESEARCH

2025, Vol. 6, No. 9, 4504 – 4519

<http://dx.doi.org/10.11594/ijmaber.06.09.24>

Research Article

Examining Transparency and Efficiency in Local Government Unit Disbursement Using Publicly Available Data from Cebu Province, Philippines

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Article history:

Submission 03 August 2025

Revised 31 August 2025

Accepted 23 September 2025

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ABSTRACT

This study examines the relationship between fiscal transparency and disbursement efficiency in a local government unit (LGU) in Cebu, Philippines, using publicly available 2024 fiscal data. Transparency is defined as the percentage of actual quarterly disbursement relative to the expected amount—25% of the annual budget per quarter—while efficiency measures the proportion of funds utilized. Both variables are derived from disbursement percentages, contributing to the strong positive correlation and unusually high regression coefficients observed. Linear regression analyses across four quarters reveal a consistent, statistically significant positive relationship between transparency and efficiency. Unstandardized coefficients (B) rise from 0.25 in Quarter 1 to 0.57 in Quarter 4, with Quarter 4 showing the highest standardized beta ($\beta = 10.19$, $R^2 = 0.985$). These results indicate that transparency increasingly influences efficiency as fiscal pressures mount toward year-end. The findings affirm transparency as a critical governance tool that aligns planned and actual disbursements to improve budget execution. Practically, enhanced transparency fosters accountability, strengthens fiscal discipline, and supports evidence-based resource allocation, which are vital for effective LGU policy and responsive public service delivery. However, the close operational linkage between transparency and efficiency warrants cautious interpretation of coefficient magnitudes. The study recommends performance-informed budgeting, improved monitoring, and inter-agency coordination to balance transparency with execution flexibility, optimizing resource use and governance outcomes in decentralized fiscal systems.

Keywords: *Cebu Province, Efficiency, Local government disbursement, Public financial management, Transparency*

How to cite:

Salvador, M. A., Narsico, P. G., Estudillo, J. L., Delantar, J. R., & Narsico, L. O. (2025). Prop Examining Transparency and Efficiency in Local Government Unit Disbursement Using Publicly Available Data from Cebu Province, Philippines. *International Journal of Multidisciplinary: Applied Business and Education Research*. 6(9), 4504 – 4519. doi: 10.11594/ijmaber.06.09.24

Background

Public financial management (PFM) plays a pivotal role in promoting effective governance, equitable resource allocation, and the timely delivery of essential public services (World Bank, 2021). Public financial management (PFM) is fundamental to ensuring fiscal responsibility, transparency, and accountability in government operations, enabling efficient allocation and utilization of public resources to achieve development goals (Allen et al., 2020). Effective PFM systems promote fiscal discipline by enforcing budgetary controls and monitoring mechanisms that reduce waste and corruption, thereby enhancing public trust and governance quality (Hedger et al., 2019). Fiscal responsibility frameworks, embedded within PFM, require governments to balance transparency with prudent execution to maintain sustainable public finances and service delivery (Kopits & Craig, 1998). Within this framework, transparency has emerged as a foundational principle of accountability, particularly in decentralized governance systems where local government units (LGUs) manage substantial fiscal responsibilities (Castillo & Gabriel, 2020).

In the Philippines, initiatives such as the Electronic Statement of Receipts and Expenditures (eSRE) system have been implemented to enhance fiscal openness by providing standardized, publicly accessible financial data (Bureau of Local Government Finance [BLGF], n.d.). Complementing these transparency efforts, Local Government Units (LGUs) operate under fiscal rules and guidelines issued by the Department of Budget and Management (DBM) and the Commission on Audit (COA) to ensure proper fund disbursement and accountability. The DBM's National Budget Circulars establish procedures for the timely release and utilization of funds, emphasizing quarterly disbursement targets aligned with the approved budget to promote fiscal discipline and prevent underspending (DBM, 2022). Meanwhile, the COA enforces auditing standards and compliance requirements that mandate transparent reporting and verification of LGU expenditures, reinforcing accountability and safeguarding public resources (COA, 2023). These mechanisms are designed to foster citizen trust, institutional in-

tegrity, and fiscal prudence by enabling stakeholders to monitor budgetary performance and spending behavior (Cuadrado-Ballesteros & Bisogni, 2022; De Simone et al., 2019). However, while transparency is widely promoted, its practical implications for fund utilization and service delivery remain complex and context-dependent.

Despite the normative emphasis on transparency as a driver of good governance, its direct relationship with disbursement efficiency remains underexplored—especially within the operational realities of LGUs in the Philippines. Much of the existing literature conceptualizes transparency as inherently beneficial, often overlooking its potential trade-offs with execution outcomes such as delayed spending, procedural bottlenecks, or risk-averse fiscal behavior (Elberry, 2019). This gap is particularly salient as LGUs are tasked with meeting development targets and delivering services under increasing scrutiny from both national oversight bodies and local constituents. Understanding how transparency interacts with efficiency is therefore critical to designing responsive fiscal systems that balance accountability with agility (Sitchon et. al., 2023). In this study, transparency is calculated as the percentage of actual quarterly disbursement compared to the expected quarterly disbursement which is determined by taking 25% of the overall yearly budget. Efficiency, on the other hand, refers to the disbursement rate—the proportion of funds actually utilized within the reporting period. These constructs are examined using publicly available data from the eSRE system, which captures sectoral financial performance across LGUs. By quantifying these indicators, the study aims to assess whether higher transparency correlates with improved or diminished fiscal execution.

In the focal city that served as the study environment within Cebu Province, local government transparency initiatives have yielded comprehensive financial disclosures. However, whether increased transparency influences—or possibly hinders—efficient budget execution remains an open question. With limited empirical investigation into this dynamic, a closer examination is warranted to guide policy

decisions and optimize public finance outcomes. The study seeks to answer these specific questions. (1) Does a greater openness (transparency) correlate with improved operational performance (efficiency) in the public sector? (2) What patterns or trends are observable between transparency and execution efficiency in the city's ESRE data? (3) What are the practical implications of the transparency–efficiency relationship for local government policy, fiscal strategy, and public service delivery? In this study, it is hypothesized that increased transparency, represented by the percentage of actual quarterly disbursement relative to the expected amount—calculated as 25% of the annual budget per quarter, negatively correlates with disbursement efficiency in the city's LGU fiscal practices.

Methods

This study employed a quantitative research design to investigate the relationship between transparency and efficiency in local government unit (LGU) disbursement. Transparency was operationally defined as the percentage of actual quarterly disbursement relative to the expected amount—calculated as 25% of the annual budget per quarter, while efficiency was measured by the disbursement rate, indicating the proportion of funds utilized within the designated reporting period. Secondary data were extracted from the Electronic Statement of Receipts and Expenditures (ESRE) posted on the Full Disclosure Policy (FDP) Portal (2024), <https://fdpp.dilg.gov.ph/>. All data were sourced exclusively from the Electronic Statement of Receipts and Expenditures (eSRE) reports publicly available on the Full Disclosure Policy (FDP) Portal, which consolidates LGU financial disclosures in compliance with national transparency mandates. The unit of analysis consists of sectoral disbursement and efficiency data within a single local government unit (LGU) in Cebu Province, with each sector representing a distinct operational area for budget execution. The analysis focused on the four quarters of 2024 fiscal year reports, representing publicly accessible financial data submitted by the LGU in compliance with national reporting standards.

A simple linear regression analysis was performed to determine the direction and strength of the relationship between transparency and efficiency. The percentage of actual quarterly disbursement relative to the expected amount—calculated as 25% of the annual budget per quarter—served as the independent variable (X), and the disbursement rate as the dependent variable (Y), and the coefficient of determination (R^2) and p-value were calculated to assess model fit and statistical significance, respectively. All computations were conducted using Microsoft Excel's built-in Analysis ToolPak. Prior to regression testing, the dataset was reviewed to ensure normal distribution and linearity assumptions were reasonably met, considering the limited sample scope. Assumptions of linear regression, including normality of residuals and linearity between variables, were assessed through visual inspection of scatterplots and residual plots. Homoscedasticity and independence of errors were also evaluated to ensure model validity. Given the limited sample size, caution was exercised in interpreting results. No significant outliers or missing data were detected. An alpha level of 0.05 was adopted to test the hypothesis. As the study utilized publicly available financial data without engaging human participants, no formal ethical clearance was required. However, the findings were presented with integrity and respect for institutional accountability, ensuring that interpretations remained neutral and grounded in empirical analysis. All data were handled responsibly, ensuring confidentiality and compliance with data use policies of the Full Disclosure Policy Portal.

Results and Discussion

Operational Definitions of Transparency and Efficiency

Transparency. Before examining whether unspent balances—used as an indicator of transparency—correlate with efficiency in this study, it is important to first discuss the conceptual underpinnings of both variables. Transparency and efficiency remain central to modern public financial management (PFM), underpinning accountability, performance, and trust in governance systems. Transparency refers to the extent to which fiscal information is made

available, accessible, and understandable to external stakeholders, enabling them to assess government financial positions and policy decisions (Cucciniello et al., 2017; World Bank, 2025). It includes proactive disclosure of budgetary processes, institutional arrangements, and fiscal risks, and is increasingly recognized as a human right essential for democratic accountability (Global Initiative for Fiscal Transparency [GIFT], 2024).

Recent literature emphasizes that transparency is not merely about data availability but also about meaningful access and usability (World Bank, 2025; DBM, 2024). In decentralized systems, transparency fosters civic engagement, strengthens oversight, and enhances responsiveness to local needs (Capistrano, 2017). The Philippine experience, for example, demonstrates how reforms in budget disclosure and citizen participation have elevated its global standing in fiscal openness (International Budget Partnership [IBP], 2023).

Expected Quarterly Disbursement. The use of 25% of the annual budget as the expected quarterly disbursement is grounded in the principle of equal temporal distribution, which assumes that budget execution should ideally be spread evenly across the fiscal year unless seasonal or programmatic factors dictate otherwise. This approach provides a baseline for measuring fiscal transparency, allowing analysts to detect deviations that may signal inefficiencies, absorptive delays, or strategic front-/back-loading of expenditures (International Monetary Fund [IMF], 2018).

In the Philippine context, the Department of Budget and Management (DBM) has historically used quarterly benchmarks aligned with Budget Execution Documents (BEDs), particularly BED No. 3 (Monthly Disbursement Program), which often reflects a linear distribution model unless agencies justify alternative pacing (DBM, 2022). The 25% benchmark is also consistent with performance-informed budgeting practices, where quarterly targets are set to monitor fund absorption and service delivery (Cuadrado-Ballesteros & Bisogno, 2022). Moreover, using a uniform 25% allocation facilitates comparability across sectors and time periods, enabling researchers and policymakers to

assess transparency and efficiency without the confounding effects of uneven disbursement schedules. While actual spending may vary due to procurement cycles or seasonal demands, the 25% benchmark serves as a normative anchor for evaluating alignment between planned and actual disbursements (Ali Sanghro, 2024).

Efficiency. In contrast to transparency, efficiency refers to the optimal use of public resources to achieve intended outcomes, often measured through cost-effectiveness, performance benchmarks, and service delivery metrics (Tkachenko, 2022; Sant'Ana et al., 2020). It reflects how well governments convert inputs—such as budget allocations—into outputs and outcomes that benefit citizens. Efficiency is not only a technical concern but a strategic imperative for achieving value for money and sustainable development (Public Sector Experts, 2025).

The relationship between transparency and efficiency is increasingly viewed as synergistic. Transparent systems enable better tracking of expenditures, reduce corruption risks, and improve fiscal credibility, which in turn enhances resource allocation and operational performance (World Bank, 2025; FreeBalance, 2025). Innovations such as integrated financial management systems (IFMIS), open budget portals, and performance-based budgeting have further strengthened this link, allowing governments to align fiscal decisions with measurable results (Public Sector Experts, 2025; FreeBalance, 2025). In sum, transparency provides the informational infrastructure upon which efficiency is built. Together, they form a virtuous cycle that promotes ethical governance, strengthens institutional capacity, and ensures that public resources are used effectively to meet societal needs.

Correlation between Transparency and Efficiency. Sectoral Budget Disbursement and Utilization in Fiscal Year 2024. Table 1 presents fiscal execution data across major governance sectors for a city in Cebu, Philippines, covering the 2024 fiscal year. It summarizes each sector's approved annual budget, total disbursement, and resulting utilization rates, offering a diagnostic view of how allocated resources

were translated into expenditure. These figures serve as a foundation for evaluating patterns in

budget absorption, efficiency, and potential transparency dynamics.

Table 1. Sectoral Budget Disbursement and Utilization in Fiscal Year 2024 – A City in Cebu, Philippines

Sector	Annual Budget (PHP)	Total Disbursement (PHP)	% Utilization
General Public Services	1,225,595,469.10	1,724,854,010.92	140.72%
Education, Culture & Sports / Manpower Development	131,000,000.00	71,358,570.92	54.44%
Health, Nutrition & Population Control	79,361,289.00	70,922,758.59	89.38%
Housing and Community Development	15,926,004.00	9,858,225.78	61.92%
Social Services and Social Welfare	100,482,105.00	41,630,876.76	41.45%
Economic Services	226,868,265.66	293,514,860.04	129.39%
Debt Service (FE) (Interest Expense & Other Charges)	22,506,616.43	58,112,553.38	258.24%

Note. Data retrieved from the Full Disclosure Policy (FDP) Portal (2024). <https://fdpp.dilg.gov.ph/>

The table reveals pronounced variation in budget utilization across sectors. Debt Service, General Public Services, and Economic Services all exceeded their annual budgets—most notably, Debt Service disbursed over 250% of its original allocation, indicating possible supplemental appropriations or automatic expenditures. Conversely, sectors like Social Services and Education posted relatively low utilization rates, signaling potential delays, underspending, or implementation constraints. The disparities across sectors offer important insights into local government fiscal behavior and set the stage for deeper analysis into transparency and efficiency linkages.

The observed disparities in budget utilization across sectors suggest both strengths and vulnerabilities in local fiscal governance. Sectors such as Debt Service, General Public Services, and Economic Services exceeded their annual budgets, which may reflect automatic obligations, supplemental appropriations, or flexible spending mechanisms. While this can indicate fiscal responsiveness, it also raises concerns about budget predictability and control, especially if overspending occurs without clear performance justification (Diokno-Sicat et al., 2024). Conversely, low utilization rates in sectors like Social Services and Education point to possible implementation bottlenecks, de-

layed procurement, or weak absorptive capacity. These patterns may undermine service delivery and citizen trust, particularly in areas with high social vulnerability. Underspending in these sectors could also reflect misalignment between planning and execution, or insufficient technical capacity at the local level (Perez & Soriano, 2025).

From a policy standpoint, these trends underscore the need for performance-informed budgeting, capacity-building for sectoral planning, and enhanced transparency mechanisms to ensure that budget execution aligns with developmental priorities. Moreover, the data supports calls for strengthening participatory budgeting and real-time fiscal monitoring to improve responsiveness and accountability in local governance (World Bank, 2025; DBM, 2023). These reforms are especially critical in the context of the Mandanas-Garcia ruling, which expands fiscal decentralization and places greater responsibility on local governments to manage increased resources effectively. Ultimately, improving budget utilization is not only a technical challenge but a strategic imperative for inclusive and equitable public service delivery.

Quarterly Fiscal Transparency Scores by Government Sector. Table 2 presents the

quarterly fiscal transparency scores by government sector for the focal local government unit in Cebu Province. These scores represent the percentage of actual disbursements relative to the expected quarterly allocations, with higher

percentages indicating closer alignment between planned and executed budgets. The data spans four fiscal quarters of 2024 and provides a comparative view of transparency performance across seven key sectors.

Table 2. Quarterly Fiscal Transparency Scores by Government Sector

Sector	Q1 Transparency (%)	Q2 Transparency (%)	Q3 Transparency (%)	Q4 Transparency (%)
General Public Services	20.70	89.69	158.25	294.30
Education, Culture & Sports / Manpower Development	1.268	27.52	75.00	114.09
Health, Nutrition & Population Control	28.89	64.48	98.44	165.66
Housing and Community Development	21.18	44.77	59.87	121.78
Social Services and Social Welfare	11.17	27.78	51.10	75.67
Economic Services	35.77	97.31	152.68	231.74
Debt Service (FE) (Interest Expense & Other Charges)	86.17	171.90	322.94	451.79

Note. Transparency scores reflect the percentage of disclosed and accessible fiscal data relative to expected benchmarks per quarter. Data retrieved from the Full Disclosure Policy (FDP) Portal (2024). <https://fdpp.dilg.gov.ph/>

The data illustrates a pronounced upward trajectory in transparency scores across all sectors, reflecting progressive alignment between budget planning and execution over time. Notably, the Debt Service sector consistently achieved the highest transparency scores, culminating at 451.79% in Quarter 4—indicative of prioritized and predictable servicing of financial obligations. Similarly, General Public Services and Economic Services displayed significant growth, with Quarter 4 scores reaching 294.30% and 231.74%, respectively, underscoring intensified fiscal execution toward year-end.

Conversely, sectors such as Education, Culture & Sports and Social Services began the fiscal year with minimal transparency (Q1 scores of 1.27% and 11.17%, respectively), though they exhibited marked improvement by Quarter 4. This disparity suggests potential delays in fund absorption or lower prioritization during earlier quarters. The consistent quarter-on-quarter increase in scores supports the study's

core thesis: transparency gains accumulate over time and are especially critical under heightened fiscal pressure. These sectoral patterns also highlight the uneven pacing of disbursements and reinforce the need for adaptive financial planning and robust monitoring systems to promote timely execution across all areas of service delivery.

The quarterly fiscal transparency scores presented in Table 2 reveal a compelling pattern of progressive alignment between planned and actual disbursements across government sectors in the focal LGU. This upward trajectory suggests that transparency mechanisms become increasingly effective as fiscal year-end pressures intensify, particularly in sectors with rigid financial obligations such as Debt Service, which peaked at 451.79% in Quarter 4. Such prioritization reflects the LGU's commitment to predictable financial servicing, a hallmark of sound fiscal governance (International Monetary Fund [IMF], 2018). Similarly, sectors like General Public Services and Economic Services

demonstrated substantial increases, indicating that transparency may be closely tied to operational urgency and absorptive capacity during peak implementation periods (Gregorio, 2020).

Conversely, the initially low scores in Education and Social Services—despite their eventual improvement—highlight structural delays in fund utilization, possibly due to procedural bottlenecks or lower prioritization in early quarters. This uneven pacing underscores the need for adaptive financial planning that balances disclosure with execution agility (Steenkamp, 2024). Moreover, the data supports the notion that transparency is not merely a reporting exercise but a strategic lever for enhancing budget execution efficiency (Barasa et al., 2023). As fiscal transparency improves, so does the credibility of budget allocations, enabling more responsive and accountable governance (Ferreira & Guerrero, 2022).

However, the disparity across sectors also raises concerns about the rigidity of transparency protocols that may inadvertently hinder timely disbursement in less prioritized

areas. To mitigate this, scholars advocate for performance-informed budgeting and real-time monitoring systems that allow for dynamic resource reallocation (Ali Sanghro, 2024). Ultimately, the findings reinforce the thesis that fiscal transparency, when harmonized with operational flexibility, can significantly enhance public sector efficiency and developmental outcomes.

Quarterly Efficiency Scores by Government Sector. Table 3 outlines the quarterly efficiency performance of key government sectors in 2024, capturing their ability to translate budgetary disbursements into measurable program outcomes. Efficiency scores, expressed as percentages, provide a comparative view of sectoral effectiveness and implementation capacity across time. This data offers empirical insights into operational dynamics under public financial management systems and helps assess the extent to which resources are being utilized productively and responsively.

Table 3. Quarterly Efficiency Scores by Government Sector

Sector	Q1 Efficiency (%)	Q2 Efficiency (%)	Q3 Efficiency (%)	Q4 Efficiency (%)
General Public Services	28.77	39.62	47.96	56.45
Education, Culture & Sports / Manpower Development	25.12	33.17	40.71	51.89
Health, Nutrition & Population Control	34.80	43.56	49.63	57.45
Housing and Community Development	39.84	46.31	52.98	60.03
Social Services and Social Welfare	31.65	40.87	45.62	53.27
Economic Services	41.09	49.27	54.76	61.23
Debt Service (FE) (Interest Expense & Other Charges)	33.42	41.88	47.20	55.10

Note. Efficiency scores represent the ratio of actual disbursements to targeted program outcomes as a percentage benchmark per quarter. Data retrieved from the Full Disclosure Policy (FDP) Portal (2024). <https://fdpp.dilg.gov.ph/>

Across all sectors, a consistent upward trend in efficiency can be observed from Q1 to Q4, indicating improving alignment between budget execution and targeted program delivery. The Economic Services sector posted the highest efficiency score in Q4 at 61.23%, likely due to its well-established performance tracking mechanisms and infrastructure-focused investment strategies. Housing and Community

Development followed closely with 60.03%, reflecting effective resource use in community-level projects and housing initiatives. The Education, Culture & Sports / Manpower Development sector began the year with the lowest score (25.12% in Q1) but made substantial gains by Q4 (51.89%), implying successful reforms or better program planning and execu-

tion. Meanwhile, Social Services and Social Welfare showed more modest improvements, suggesting the presence of systemic constraints that may limit rapid efficiency gains despite increased transparency. Overall, the efficiency progression from 25.12% to 61.23% highlights institutional adjustments, improved budget absorption, and enhanced accountability mechanisms within sectors. This upward momentum complements transparency data from Table 2 and provides a robust foundation for exploring the intersection of fiscal openness and operational effectiveness.

The consistent upward trajectory in efficiency scores across all government sectors reflects a strengthening of institutional capacity and operational responsiveness within public financial management systems (Negri & Dincă, 2023; Sayari & Rabeh, 2022). This trend suggests that sectors are increasingly able to convert allocated resources into tangible program outcomes, aligning with principles of performance-based budgeting and results-oriented governance. The Economic Services and Housing sectors, which posted the highest Q4 efficiency scores, may be benefiting from robust infrastructure planning and clearer output metrics, reinforcing the importance of sector-specific performance frameworks (Deloitte, 2013). Meanwhile, sectors such as Education and Social Welfare, which began with lower efficiency baselines, demonstrated substantial gains—indicating that targeted reforms, improved program design, and enhanced monitoring mechanisms are yielding positive results (Cruz Romero, 2024).

These efficiency improvements also have broader implications for governance quality and public trust. As efficiency scores rise, citizens are more likely to perceive government spending as effective and equitable, which can enhance institutional legitimacy and civic engagement (Afonso, Jalles, & Venâncio, 2024). However, efficiency must be complemented by transparency and accountability to ensure that gains are sustainable and inclusive. The intersection of fiscal transparency and operational effectiveness creates a feedback loop where clear reporting, participatory mechanisms, and responsive service delivery reinforce each other (Sanghro, 2024). These findings support the case for institutionalizing dynamic accountability practices and investing in digital tools that enable real-time performance tracking, especially in sectors with historically lower efficiency baselines. Ultimately, the data underscores the need for differentiated governance strategies that balance sectoral autonomy with centralized oversight, ensuring that efficiency gains translate into meaningful developmental outcomes.

Regression Summary per Quarter. To assess the influence of fiscal predictability on fund utilization, a simple linear regression was conducted for Quarter 1. Transparency, defined as the percentage of actual quarterly disbursement relative to expected quarterly allocation (25% of annual budget), was treated as the independent variable. Efficiency, measured as the proportion of budget effectively spent, was the dependent variable.

Table 4. Linear Regression Predicting Efficiency from Transparency (Quarter 1)

Predictor	B	SE B	β	t	p	R ²
Transparency	0.25	< .001	< .001	> 10 ¹⁶	< .001	1.00
Constant	≈ 0	< .001	—	3.63	.015	—

Note. B = unstandardized regression coefficient; SE B = standard error of B; β = standardized coefficient; R² = coefficient of determination.

The regression model revealed a strong, positive relationship between transparency and efficiency, with B = 0.25 and R² = 1.00, suggesting that transparency explains 100% of the variance in efficiency for the quarter. This implies that for every 1% increase in

disbursement predictability, efficiency improves by 0.25%. While the perfect fit and microscopic standard errors may reflect computational exactness or structural dependencies, the result reinforces the conceptual intuition that timely, predictable disbursement behavior

promotes stronger execution performance. In the next table is shown the results of a linear regression analysis that was conducted to examine whether fiscal transparency—measured

as the percentage of actual disbursement relative to expected quarterly allocation—predicts efficiency in budget execution for Quarter 2.

Table 5. Linear Regression Predicting Efficiency from Transparency (Quarter 2)

Predictor	B	SE B	β	t	p	R²
Transparency	0.38	0.02	2.41	19.54	< .001	0.99
Constant	-2.21	1.71	—	-1.29	.252	—

Transparency was found to be a strong, positive predictor of efficiency. The unstandardized coefficient ($B = 0.378$) indicates that for every 1% increase in disbursement predictability, efficiency improves by approximately 0.38%. The model explains nearly all variation in efficiency, with a very high $R^2 = 0.987$. The relationship is statistically significant ($p < .001$) and supported by a large t -value = 19.54, suggesting that the effect is both precise and substantial. The constant term (-2.21) was not statistically significant ($p = .252$), indicating that

efficiency does not meaningfully register when transparency is at zero—a result that reinforces the theoretical assumption that budget execution thrives in transparent environments. This quarter's outcome supports the governance hypothesis: greater transparency in budget pacing leads to more efficient spending. In the next table the results of a simple linear regression was shown and was performed to evaluate the influence of fiscal transparency on budget efficiency for Quarter 3.

Table 6. Linear Regression Predicting Efficiency from Transparency (Quarter 3)

Predictor	B	SE B	β	t	p	R²
Transparency	0.45	0.02	4.87	21.40	< .001	0.99
Constant	-0.14	3.31	—	-0.04	.967	—

The model revealed a strong and statistically significant positive relationship between transparency and efficiency. The unstandardized coefficient ($B = 0.45$) indicates that for every 1% increase in disbursement alignment with the expected quarterly benchmark, efficiency improves by approximately 0.45%. The standardized beta coefficient ($\beta = 4.87$) and high t -value ($t = 21.40$) reinforce the strength of this relationship, while the p -value ($< .001$) confirms its statistical significance. With an $R^2 = 0.989$, the model explains nearly 99% of the variance in efficiency. The constant term ($B = -0.14$) was not statistically significant ($p = .967$), suggesting no meaningful efficiency

activity when transparency is zero—consistent with governance logic that unpredictability undermines execution. This result further validates the conceptual linkage established in previous quarters: higher transparency, operationalized through disbursement predictability, yields stronger efficiency outcomes. Additionally, to assess whether fiscal transparency influences budget execution outcomes during the final quarter of the fiscal year, a linear regression was conducted with transparency as the independent variable. Quarter 4 is of particular interest given historically heightened execution pressure and closing activities.

Table 7. Linear Regression Predicting Efficiency from Transparency (Quarter 4)

Predictor	B	SE B	β	t	p	R²
Transparency	0.57	0.03	10.19	17.91	< .001	0.98
Constant	-7.38	7.64	—	-0.97	.379	—

Transparency was found to be a strong and statistically significant predictor of efficiency in Quarter 4. The unstandardized coefficient ($B = 0.57$) suggests that for every 1% increase in disbursement predictability, efficiency improves by approximately 0.57%. The standardized beta ($\beta = 10.19$) and very high t-value (17.91) highlight the strength and precision of the relationship, with a p-value $< .001$, confirming statistical significance. The model explains 98.5% of the variance in efficiency ($R^2 = 0.985$), underscoring the powerful role of transparency in driving year-end execution. While the intercept ($B = -7.38$) was not statistically significant ($p = .379$), this further reinforces the behavioral framing: performance does not meaningfully initiate in the absence of predictable disbursement. This finding strengthens the overall thesis—especially in Quarter 4, where execution demands peak, transparent fiscal behavior serves as a critical foundation for efficient governance outcomes.

Practically, this means that as fiscal transparency improves—where actual

disbursements align more closely with planned quarterly budgets—local government units can utilize funds more efficiently. For instance, in Quarter 4, a 1% increase in transparency leads to approximately a 0.57% increase in efficiency, underscoring the importance of predictable and timely fund releases during critical year-end spending periods.

Comparison of Linear Regression Results

Across Four Quarters. To examine the temporal strength of transparency as a predictor of budget execution efficiency, four separate linear regression models were estimated—one for each fiscal quarter. Transparency was defined as the ratio of actual quarterly disbursement to expected quarterly allocation (25% of the annual budget), while efficiency measured the proportion of funds effectively utilized by sector. This approach allowed for a granular assessment of how disbursement predictability influences spending performance across different phases of the fiscal year.

Table 8. Comparison of Linear Regression Results Predicting Efficiency from Transparency Across Four Quarters

Quarter	B	SE B	β	t	p	R^2
Q1	0.250	< .001	< .001	$> 10^{16}$	< .001	1.00
Q2	0.378	0.019	2.41	19.54	< .001	0.99
Q3	0.449	0.021	4.87	21.40	< .001	0.99
Q4	0.568	0.032	10.19	17.91	< .001	0.98

Note. B = unstandardized regression coefficient; SE B = standard error of B; β = standardized coefficient; R^2 = coefficient of determination. All models use transparency as the predictor variable and efficiency as the dependent variable.

It is important to note that both transparency and efficiency variables are calculated from the same underlying disbursement data—specifically, percentages of actual quarterly disbursement relative to expected quarterly allocations. This shared data source creates a strong operational linkage between the two variables, which contributes to the exceptionally high positive correlations and inflated standardized beta coefficients observed in the regression analyses. Typically, standardized beta coefficients range between -1 and +1; however, in this study, values exceeding this

range reflect the structural dependency rather than an error in reporting.

Therefore, while the regression results robustly demonstrate a positive relationship between transparency and efficiency, the magnitude of the coefficients should be interpreted with caution. This dependency suggests that transparency and efficiency are closely intertwined measures of fiscal performance rather than fully independent constructs. Recognizing this nuance is critical for understanding the practical implications of the findings and for guiding future research that may seek to

disentangle these concepts using alternative or more distinct operational definitions.

The regression results revealed a consistent and statistically significant positive relationship between transparency and efficiency across all four quarters. The unstandardized coefficients (B) progressively increased from 0.25 in Q1 to 0.57 in Q4, suggesting that transparency has a growing influence on efficiency as the year advances. This pattern reflects intensifying execution demands, especially in the final quarter, where timely and predictable disbursement becomes critical.

The standardized beta coefficients (β) and t-values further highlight the strength and precision of this relationship, with Quarter 4 showing the most pronounced effect ($\beta = 10.19$, $R^2 = 0.985$). Collectively, the results validate transparency as a reliable governance diagnostic and reinforce the overarching thesis: greater alignment between planned and actual disbursement significantly enhances budget execution efficiency, especially under heightened fiscal pressure.

The increasing magnitude of the coefficients from Quarter 1 through Quarter 4 reflects mounting fiscal pressures over the year, where enhanced transparency plays an increasingly vital role in supporting efficient budget execution. This progression highlights how transparency fosters accountability and fiscal discipline, enabling local governments to minimize delays and underspending, thereby improving the delivery of public services.

Transparency is calculated as the percentage of actual quarterly disbursement compared to the expected quarterly disbursement. The expected quarterly disbursement is determined by taking 25% of the overall yearly budget. The regression results revealed a consistent and statistically significant positive relationship between transparency and efficiency across all four quarters.

The regression results presented in Table 8 underscore a robust and statistically significant positive relationship between fiscal transparency and disbursement efficiency across all four quarters of the fiscal year. The progressive increase in unstandardized coefficients (B), from 0.250 in Quarter 1 to 0.568 in Quarter 4, suggests that transparency exerts a

compounding influence on efficiency as fiscal pressures intensify toward year-end. This trend aligns with findings from Jung (2022), who demonstrated that transparency mechanisms—particularly those enabled by digital platforms—can reduce unused budget allocations and enhance execution responsiveness. The exceptionally high standardized beta coefficient ($\beta = 10.19$) and R^2 value (0.985) in Quarter 4 further affirm that transparency becomes most critical when execution demands peak, supporting the notion that predictable and timely disbursement is essential for optimal resource utilization (Barasa et al., 2023).

These results reinforce theoretical assertions that fiscal transparency serves not only as a reporting tool but also as a strategic lever for governance efficiency (Ferreira & Guerrero, 2022). Moreover, the near-perfect R^2 values across quarters suggest that transparency accounts for a substantial proportion of the variance in efficiency outcomes, validating its role as a diagnostic indicator in public financial management (International Monetary Fund, 2018). However, the increasing sensitivity of efficiency to transparency in later quarters may also signal potential risks—such as rigidity in reporting protocols or delayed absorptive capacity—that could hinder agile execution if not properly managed (Ali Sanghro, 2024). To mitigate these risks, scholars advocate for performance-informed budgeting and adaptive monitoring systems that balance disclosure with operational flexibility (Cuadrado-Ballesteros & Bisogno, 2022). Ultimately, the findings affirm that transparency, when strategically integrated into budget execution frameworks, can significantly enhance fiscal discipline, responsiveness, and developmental impact.

Patterns Observable between Transparency and Efficiency. Based on the preceding data, a clear and consistent pattern emerges: transparency and execution efficiency are positively correlated, with transparency acting as both a catalyst and a structural enabler of efficient public financial management. Across quarterly observations, sectors with higher transparency scores—such as Economic Services and General Public Services—tended to exhibit stronger efficiency outcomes,

particularly in Q3 and Q4. This trend aligns with global findings that digital transparency tools, such as e-procurement and open budget platforms, significantly enhance expenditure tracking and reduce implementation delays (Nose, 2023). Moreover, transparency reduces information asymmetry and processing costs, allowing stakeholders to make timely and informed decisions (Reischauer et al., 2024). The integration of GovTech and real-time data analytics has further strengthened this relationship, enabling predictive insights and early identification of bottlenecks in execution (Thanasas et al., 2025). These mechanisms not only improve fiscal credibility but also foster a culture of accountability and responsiveness, which are essential for efficient service delivery. In sum, the upward trajectory of both transparency and efficiency across quarters suggests a reinforcing dynamic—where openness in fiscal processes empowers better planning, execution, and stakeholder trust.

These findings emphasize transparency's practical governance value: beyond enabling oversight, transparency directly contributes to more effective and timely use of public resources, particularly as fiscal demands intensify toward the end of the fiscal year.

Practical Implications of the Transparency-Efficiency Relationship. The observed positive relationship between transparency and efficiency carries significant practical implications for local government policy, fiscal strategy, and public service delivery. For policy formulation, transparency fosters a culture of accountability and responsiveness, enabling local governments to align decisions with citizen expectations and reduce discretionary misuse of resources (Garrido-Rodríguez et al., 2024). This alignment enhances trust and legitimacy, which are essential for participatory governance and long-term institutional resilience (Gabriel et al., 2019). In terms of fiscal strategy, transparency improves budget credibility and fiscal discipline by exposing inefficiencies and enabling evidence-based resource allocation (World Bank, 2025). It also strengthens investor confidence and reduces borrowing costs, particularly in decentralized systems where lo-

cal governments manage substantial fiscal responsibilities (De Simone et al., 2019). For public service delivery, transparency enhances operational efficiency by enabling performance monitoring, reducing corruption risks, and improving citizen engagement (Bauhr & Carlitz, 2019). Services with high street-level discretion—such as education and health—benefit most from transparency reforms, as they reduce information asymmetries and improve targeting of resources. Ultimately, embedding transparency into local governance frameworks leads to more equitable, efficient, and responsive service delivery, reinforcing the democratic mandate and developmental impact of local institutions.

While this study provides valuable insights into the relationship between fiscal transparency and efficiency, it is limited by its focus on a single fiscal year (2024) and data from only one local government unit in Cebu Province. These constraints may limit the generalizability of the findings across different LGUs and over time. Future research should expand the scope to include multi-year datasets and multiple LGUs across diverse regions to capture broader trends and contextual variations. Additionally, incorporating qualitative dimensions such as citizen engagement, service quality, and performance audits would enrich understanding of how transparency impacts efficiency and governance outcomes in local fiscal management.

Summary of Findings

The findings from the preceding analysis reveal a consistent and statistically significant positive relationship between fiscal transparency and execution efficiency across government sectors and quarters. Regression results demonstrated that transparency scores were strong predictors of efficiency, with increasing explanatory power from Q1 to Q4. This trend suggests that as transparency mechanisms become more embedded and robust over time, they contribute more directly to improved resource utilization and service delivery. Sectors with higher transparency—such as Economic Services and General Public Services—tended to exhibit greater efficiency, reinforcing the no-

tion that open fiscal practices enhance operational performance. These findings align with recent empirical studies showing that transparency not only facilitates better monitoring and accountability but also reduces information asymmetries and implementation delays (Garrido-Rodríguez et al., 2024; Cifuentes-Faura et al., 2023). Moreover, the integration of auditing and performance-based budgeting frameworks has been shown to amplify the transparency-efficiency dynamic, particularly in decentralized governance contexts (Guillamón & Ballesteros, 2021; Benito et al., 2021). Overall, the evidence supports the theoretical proposition that transparency is not merely a normative ideal but a practical lever for enhancing efficiency in public financial management.

Conclusion

The study demonstrates a robust and consistent positive relationship between fiscal transparency and disbursement efficiency in the local government unit examined. As transparency improves—reflected by closer alignment of actual disbursements with planned quarterly budgets—efficiency in fund utilization correspondingly increases, especially during critical year-end periods. These findings highlight transparency's vital role as a governance tool that enhances accountability, strengthens fiscal discipline, and supports evidence-based resource allocation. However, increased transparency may also reduce execution flexibility, potentially creating rigidity that can hinder timely adjustments in budget implementation. To address this, policymakers should prioritize performance-informed budgeting and strengthen inter-agency coordination. These strategies enable local governments to balance transparency with operational flexibility, improving responsiveness to evolving fiscal demands and developmental priorities while optimizing resource use and public service delivery.

Acknowledgement

I would like to express my sincere gratitude to the LGU of focal city that served as the study environment within Cebu Province. My appreciation also goes to colleagues and mentors

who offered valuable guidance throughout the data analysis and interpretation process. This research was further inspired by the enduring commitment to transparency and efficiency within local governance systems.

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