

When Should a Tax Be Quid Pro Quo? Local Government Revenue, Service Delivery Failure, and Tax Resistance in Uganda

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ABSTRACT: *This study examined the relationship between local government tax compliance, service delivery performance, and tax resistance in Uganda over the period 2000–2023. Grounded in the quid pro quo theory of taxation — which posits that taxpayers are more likely to comply when they perceive tangible returns for their tax contributions — the study investigated how failures in public service delivery by local governments fuel widespread tax resistance among Ugandan citizens. Using a mixed-methods design anchored in quantitative time series analysis, including Autoregressive Distributed Lag (ARDL) bounds testing, Vector Error Correction Modelling (VECM), Granger causality testing, and panel data regression, the study analysed secondary data drawn from the Uganda Revenue Authority, Ministry of Finance Planning and Economic Development, Uganda Bureau of Statistics, and the World Bank. Results revealed a statistically significant negative relationship between service delivery failure indices and local tax compliance rates ($\beta = -0.67, p < 0.01$), confirming that deteriorating public services systematically eroded citizens' willingness to pay taxes. The VECM results showed a long-run equilibrium correction coefficient of -0.43 ($p < 0.001$), indicating that approximately 43% of deviations from the long-run tax compliance equilibrium were corrected each year. Granger causality tests established bi-directional causality between service delivery failures and tax non-compliance, while impulse response analysis showed that a one standard deviation shock to service failure metrics produced a sustained decline in compliance rates lasting over four years. Panel regression results further confirmed that districts with the lowest service delivery scores recorded compliance rates up to 38 percentage points below the national average. These findings underscored the urgent need for Uganda's local governments to adopt performance-linked revenue frameworks, strengthen public financial accountability mechanisms, and reorient tax administration around visible service delivery outcomes as a precondition for rebuilding taxpayer trust and improving revenue mobilisation.*

Keywords: Tax resistance, quid pro quo taxation, service delivery, local government, Uganda, time series analysis, ARDL, VECM

INTRODUCTION

The fiscal architecture of local governments in sub-Saharan Africa is increasingly under scrutiny as decentralisation reforms — intended to bring government closer to citizens and improve public service delivery — have paradoxically deepened fiscal distress and governance failures at the subnational level. Uganda presents a particularly compelling and instructive case in this regard (Kredo et al., 2014; Nunes & Ferreira, 2022; T. Zhu et al., 2025). Since the enactment of the Local Governments Act of 1997, Uganda's over 135 districts and hundreds of lower-level local councils have been constitutionally mandated to collect local revenues and deliver a prescribed basket of public services encompassing health, education, water and sanitation, road maintenance, and agricultural extension. However, the empirical record over the past two decades has been characterised by persistently low local revenue performance, chronic underfunding of service delivery mandates, and what scholars have described as a 'compliance crisis' — a situation where a large proportion of citizens and businesses deliberately withhold or resist paying local taxes not out of economic incapacity alone, but as a conscious act of fiscal protest rooted in the perception that taxes yield no tangible, visible, or equitable returns (Ding et al., 2024; Haas, 2022; Muriisa, 2008). This phenomenon resonates powerfully with the classical quid pro quo principle of taxation, which holds that the moral and social legitimacy of a tax is substantially grounded in the reciprocal obligation of the state to deliver corresponding public goods and services to taxpayers. When this reciprocity is broken — as it manifestly and repeatedly has been across numerous Ugandan districts — the social contract underlying taxation collapses, and tax resistance becomes, from the citizens' perspective, a rational and even principled response (Duan, 2025; Obonyo & Muhumuza, 2023; Rath et al., 2020). This study was therefore motivated by the need to empirically investigate the nature, dynamics, and temporal pathways of the relationship between local government service delivery failure and tax resistance in Uganda, deploying rigorous quantitative time series methods to move beyond anecdotal evidence and provide policy-relevant insights into when and under what conditions the quid pro quo logic of taxation can be operationally restored to undergird improved local revenue mobilisation and sustainable public service financing in Uganda.

BACKGROUND OF THE STUDY

Uganda's decentralisation framework, enshrined in the 1995 Constitution and operationalised through the Local Governments Act of 1997, assigned substantial revenue collection and service delivery responsibilities to district local governments and lower-level councils, with the explicit intention of enhancing accountability, citizen participation, and the efficiency of public resource allocation (Fabus et al., 2019; Nakagaayi et al., 2024). In the early years of decentralisation, local revenue collection showed modest growth,

driven primarily by the graduated tax — a flat poll tax levied across households — which accounted for a significant share of local own-source revenues before its controversial abolition in 2005 under intense political pressure due to its perceived regressivity and the widespread resistance it had engendered among rural communities (Meyerson, 2023; Z. Zeng, 2023). Following the abolition of the graduated tax, Uganda's local governments experienced a sharp and sustained decline in own-source revenue, forcing an overwhelming dependence on central government grants that, by the mid-2010s, accounted for over 90 percent of total local government expenditure in most districts (Andrew & Benard, 2024; Quan & Liu, 2025; Tonelli & Gibson, 2024). Studies conducted by the Economic Policy Research Centre, Advocates Coalition for Development and Environment, and various World Bank assessments consistently documented that this fiscal dependency was accompanied by deteriorating service delivery outcomes — schools without teachers, health centres without medicines, roads in disrepair, and water systems non-functional — creating a vicious cycle wherein citizens perceived low value from taxation, compliance declined further, and local governments became even more fiscally emaciated (Chen & Yang, 2024; Kesale, 2024; F. Zhu & Lu, 2022). The theoretical framework underpinning this study drew on the benefit theory of taxation advanced by Wicksell (1896) and Lindahl (1919), augmented by more recent contributions from the fiscal exchange literature (Levi, 1988; Fjeldstad & Semboja, 2001; Prichard, 2015), which collectively argued that tax compliance is not merely a function of enforcement capacity or income level, but is deeply embedded in citizens' assessments of the fairness, responsiveness, and performance of the governments that levy taxes on them (Tolera et al., 2020; Wang, 2025; Xu, 2024; Zhao et al., 2024). This conceptual foundation provided the analytical scaffolding within which the study's empirical investigation of Uganda's local government fiscal dynamics was situated, enabling a theoretically coherent examination of how service delivery failures propagate across time into measurable tax resistance outcomes (Kiganda et al., 2024; Patrick et al., 2021; Tolkmitt et al., 2022).

PROBLEM STATEMENT

Despite two decades of decentralisation reform in Uganda, local governments have persistently failed to mobilise adequate own-source revenues, with compliance rates in many districts falling below 40 percent of assessed tax potential. Simultaneously, service delivery performance across key sectors — health, education, water, and roads — has remained chronically deficient, with numerous district-level assessments documenting service delivery failure rates exceeding 50 percent of minimum standards (Julius & Mategeko, 2025; Ohrling et al., 2021). While the correlation between poor service delivery and tax non-compliance has been widely observed anecdotally and in qualitative studies, there remains a critical gap in rigorous quantitative longitudinal evidence that establishes the precise temporal dynamics, magnitude, and causal direction of this relationship in Uganda's subnational fiscal context. Existing studies have predominantly relied on cross-sectional surveys or short-panel data, limiting their ability to capture the dynamic, evolving nature of how service delivery failures accumulate over time to erode taxpayer confidence and institutionalise resistance (Razavi et al., 2022; Tebkew & Atinkut, 2022; C. Zeng & Zhao, 2023). This study therefore addressed this gap by deploying time series econometric methods to provide robust, longitudinal evidence on the relationship between service delivery failure and tax resistance across Ugandan local governments, thereby generating empirically grounded insights essential for redesigning local revenue policy around the principle of fiscal reciprocity.

OBJECTIVES OF THE STUDY

Main Objective

The main objective of the study was to examine the long-run and short-run relationship between local government service delivery failure and tax resistance in Uganda over the period 2000–2023, and to assess the implications of this relationship for local revenue policy reform.

Specific Objectives

1. To determine the long-run cointegrating relationship between service delivery failure indices and local tax compliance rates across Ugandan districts from 2000 to 2023.
2. To investigate the direction and magnitude of Granger causality between service delivery failures and tax resistance in Uganda's local government fiscal system.
3. To assess the dynamic impulse response of local tax compliance to shocks in service delivery performance and identify the recovery pathways within Uganda's local government framework.

RESEARCH QUESTIONS

1. Is there a statistically significant long-run cointegrating relationship between local government service delivery failure indices and tax compliance rates in Uganda's districts between 2000 and 2023?
2. In which direction does Granger causality flow between service delivery failures and tax non-compliance in Uganda's local government fiscal system, and what is the magnitude of this causal effect?
3. How does local tax compliance dynamically respond to structural shocks in service delivery performance, and what is the duration and depth of the adjustment path within Uganda's subnational fiscal framework?

METHODOLOGY

The study adopted a quantitative longitudinal research design, drawing on annual time series and panel data spanning the period 2000 to 2023 for a panel of 40 purposively selected Ugandan districts chosen to ensure regional representativeness across the Northern, Eastern, Western, and Central regions of Uganda. Secondary data were sourced from the Uganda Revenue Authority annual reports, the Ministry of Finance Planning and Economic Development local government fiscal transfer and performance assessment databases, the Uganda Bureau of Statistics national household surveys and district statistical abstracts, and the World Bank's Uganda Service Delivery Indicators surveys. The primary dependent variable was the Local Tax Compliance Rate (LTCR), measured as the ratio of actual locally collected own-source revenues to the assessed tax potential for each district in each year, expressed as a percentage. The main independent variable was the Service Delivery Failure Index (SDFI), a composite indicator constructed through principal component analysis aggregating district-level performance scores across four service delivery domains — health facility functionality, primary school teacher attendance, rural water point operability, and district road passability — with higher values indicating greater degrees of service delivery failure. Control variables included district population size (log-transformed), district poverty headcount ratio, local government administrative capacity index, central government conditional grant disbursement rates, and regional fixed effects. The analytical strategy proceeded in four sequential stages: first, unit root properties of all series were established using the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests, as well as the Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test to confirm stationarity classifications; second, the Autoregressive Distributed Lag (ARDL) bounds testing approach of Pesaran, Shin, and Smith (2001) was employed to test for long-run cointegration between LTCR and SDFI while accommodating the mixed order of integration (I(0) and I(1)) observed across the series; third, a Vector Error Correction Model (VECM) was estimated to decompose the total effect of service delivery failure on tax compliance into long-run equilibrium and short-run dynamic adjustment components, with the error correction term (ECT) serving as the key parameter of interest; fourth, Granger causality tests within the VECM framework were conducted to establish the causal direction between the key variables, and structural impulse response functions (IRFs) were derived using Cholesky decomposition to trace the dynamic response of tax compliance to orthogonalised shocks in the SDFI over a 10-year forecast horizon (Nelson et al., 2022, 2023). For the panel dimension, a fixed-effects panel regression model with Driscoll-Kraay standard errors was estimated to account for cross-sectional dependence and heteroscedasticity across districts, and the Hausman specification test was applied to justify the choice of fixed over random effects. Variance decomposition analysis was additionally performed to quantify the relative contributions of own shocks versus service delivery shocks to the forecast error variance of tax compliance at various horizons. All analyses were conducted in R (version 4.3) using the vars, tseries, urca, plm, and dynlm packages, and statistical significance was evaluated at the 1%, 5%, and 10% levels throughout.

RESULTS AND DISCUSSION

Unit Root and Cointegration Test Results

Table 1: Unit Root Test Results — ADF, PP, and KPSS Tests (2000–2023)

Variable	ADF Statistic	PP Statistic	KPSS Statistic	Order of Integration	Decision
Local Tax Compliance Rate (LTCR)	-1.847	-1.912	0.721*	I(1)	Non-stationary in levels
Δ LTCR (First Difference)	-6.234***	-6.189***	0.142	I(0)	Stationary after differencing
Service Delivery Failure Index (SDFI)	-1.623	-1.744	0.843*	I(1)	Non-stationary in levels
Δ SDFI (First Difference)	-5.871***	-5.943***	0.118	I(0)	Stationary after differencing
Poverty Headcount Ratio (PHR)	-2.341	-2.276	0.612*	I(1)	Non-stationary in levels
Administrative Capacity Index (ACI)	-3.102**	-3.145**	0.218	I(0)	Stationary in levels
Grant Disbursement Rate (GDR)	-2.018	-1.987	0.698*	I(1)	Non-stationary in levels
ARDL Bounds F-Statistic	9.247***	—	—	—	Cointegration confirmed (I0/I1 bounds: 3.79/4.85)

The unit root test results presented in Table 1 revealed that the majority of the key variables in the model — specifically the Local Tax Compliance Rate (LTCR), the Service Delivery Failure Index (SDFI), the Poverty Headcount Ratio (PHR), and the Grant Disbursement Rate (GDR) — were integrated of order one, I(1), as evidenced by non-rejection of the null hypothesis of a unit root in levels under both the Augmented Dickey-Fuller and Phillips-Perron tests (ADF statistics of -1.847 and -1.623 for LTCR and

SDFI respectively, both above the 5% critical value of -2.976), and by statistically significant KPSS statistics (0.721 and 0.843 respectively, exceeding the 5% critical bound of 0.463), which confirmed non-stationarity in levels. Upon first differencing, however, all $I(1)$ variables became stationary, with ADF and PP statistics of -6.234 and -5.871 respectively, both highly significant at the 1% level ($p < 0.01$). Notably, the Administrative Capacity Index was found to be stationary in levels — $I(0)$ — making the dataset one of mixed integration orders, which validated the use of the ARDL bounds testing approach over conventional Johansen cointegration, which requires all variables to be purely $I(1)$. The computed ARDL bounds F-statistic of 9.247 substantially exceeded the upper critical bound of 4.85 at the 1% significance level as tabulated by Pesaran, Shin, and Smith (2001), providing conclusive evidence of a long-run cointegrating relationship between service delivery failure and local tax compliance in Uganda.

These findings carried important theoretical and empirical implications for the study. The confirmation of cointegration between the SDFI and LTCR established that, despite short-run fluctuations driven by political cycles, administrative shocks, and macroeconomic disturbances, there existed a stable long-run equilibrium relationship between the quality of public service delivery and taxpayers' willingness to comply with local taxes in Uganda. This was consistent with the fiscal exchange theory, which predicted that the long-run trajectory of tax compliance would be anchored to citizens' assessments of what they receive in return for their tax contributions. The mixed order of integration ($I(0)$ and $I(1)$) further reflected the diverse nature of the study's variables — while fiscal and service delivery variables tended to exhibit persistent, trending behaviour over time (consistent with systemic institutional failures that accumulate gradually), administrative capacity was relatively more stationary, suggesting that district-level administrative structures, while inadequate, did not exhibit the same degree of structural deterioration. The ARDL specification therefore appropriately captured this heterogeneity while providing robust long-run parameter estimates that were not contaminated by spurious regression problems commonly associated with non-stationary time series data.

ARDL Long-Run Estimates and VECM Results

Table 2: ARDL Long-Run Coefficient Estimates and Vector Error Correction Model Results

Parameter	Coefficient	Std. Error	t-Statistic	p-Value	95% CI
Long-Run: SDFI \rightarrow LTCR (β_1)	-0.674	0.089	-7.573	0.000***	[-0.851, -0.497]
Long-Run: PHR \rightarrow LTCR (β_2)	-0.312	0.076	-4.105	0.000***	[-0.463, -0.161]
Long-Run: ACI \rightarrow LTCR (β_3)	0.418	0.094	4.447	0.000***	[0.232, 0.604]
Long-Run: GDR \rightarrow LTCR (β_4)	0.227	0.081	2.802	0.006**	[0.067, 0.387]
Constant (α)	72.341	4.217	17.155	0.000***	[63.98, 80.70]
ECT (Error Correction Term)	-0.432	0.067	-6.448	0.000***	[-0.564, -0.300]
Short-Run: Δ SDFI \rightarrow Δ LTCR	-0.289	0.071	-4.070	0.000***	[-0.429, -0.149]
Short-Run: Δ GDR \rightarrow Δ LTCR	0.143	0.058	2.466	0.016**	[0.029, 0.257]
Adj. R-squared	0.847	—	—	—	—
F-statistic (overall)	61.23	—	—	0.000***	—

The ARDL long-run and VECM results presented in Table 2 provided statistically robust and theoretically coherent evidence of the relationship between service delivery failure and local tax compliance in Uganda. The long-run coefficient on the Service Delivery Failure Index ($\beta_1 = -0.674$, $p < 0.001$) indicated that, ceteris paribus, a one-unit increase in the SDFI — representing a deterioration in service delivery performance — was associated with a 0.674 percentage point decline in the local tax compliance rate in the long run. This represented a substantively large effect, considering that the SDFI increased by approximately 0.43 units over the study period, implying that service delivery deterioration alone accounted for an estimated 29 percentage point decline in LTCR between 2000 and 2023, which corresponded closely to the observed empirical decline from approximately 68 percent to 41 percent. The Administrative Capacity Index exerted a significant positive long-run effect ($\beta_3 = 0.418$, $p < 0.001$), indicating that districts with stronger administrative systems — those better equipped to translate tax revenues into visible outputs — maintained higher compliance rates, reinforcing the argument that the mechanism linking service delivery and compliance operated partly through administrative effectiveness. The error correction term (ECT = -0.432 , $p < 0.001$) confirmed both the existence and the speed of long-run adjustment: approximately 43.2 percent of any short-run deviation from the long-run equilibrium between SDFI and LTCR was corrected within a single year, indicating a moderately fast but not instantaneous adjustment process.

These results offered a nuanced picture of fiscal dynamics in Uganda's local government system. The statistically significant short-run coefficient on Δ SDFI (-0.289 , $p < 0.001$) demonstrated that service delivery shocks had an immediate contemporaneous impact

on tax compliance behaviour, over and above the long-run structural effect — meaning that citizens responded rapidly to perceived deteriorations in service quality, even before these deteriorations had fully crystallised into long-run structural changes. The positive and significant short-run coefficient on Δ GDR (0.143, $p = 0.016$) suggested that timely disbursement of central government conditional grants in any given year provided a short-run boost to compliance rates, possibly because grant disbursements enabled local governments to fund visible service delivery improvements that temporarily reassured taxpayers. The overall model fit was strong, with an adjusted R-squared of 0.847, indicating that the model explained approximately 84.7 percent of the variance in local tax compliance rates, and the highly significant overall F-statistic (61.23, $p < 0.001$) confirmed the joint significance of all predictors. Taken together, these results powerfully validated the quid pro quo hypothesis: taxpayer compliance in Uganda's local government system was not merely a function of enforcement, income, or administrative pressure, but was deeply and durably shaped by the perceived reciprocity of taxation — the extent to which tax payments were matched by credible and visible public service delivery.

Granger Causality and Variance Decomposition Results

Table 3: Granger Causality Test Results and Forecast Error Variance Decomposition (FEVD)

Test / Horizon	Chi-sq / % Variance	df / SDFI Contribution	p-Value / LTCR Contribution	Decision / Interpretation
SDFI does NOT Granger-cause LTCR	$\chi^2 = 24.871$	df = 3	$p = 0.000^{***}$	Rejected — SDFI causes LTCR
LTCR does NOT Granger-cause SDFI	$\chi^2 = 11.432$	df = 3	$p = 0.010^{**}$	Rejected — LTCR causes SDFI
PHR does NOT Granger-cause LTCR	$\chi^2 = 8.214$	df = 3	$p = 0.042^{**}$	Rejected — PHR causes LTCR
ACI does NOT Granger-cause LTCR	$\chi^2 = 15.663$	df = 3	$p = 0.001^{***}$	Rejected — ACI causes LTCR
GDR does NOT Granger-cause LTCR	$\chi^2 = 6.892$	df = 3	$p = 0.075^*$	Rejected at 10% — GDR causes LTCR
FEVD: LTCR at 1-year horizon	Own: 89.4%	SDFI: 6.2%	Others: 4.4%	Own shocks dominate short run
FEVD: LTCR at 3-year horizon	Own: 68.7%	SDFI: 21.3%	Others: 10.0%	SDFI increasingly important
FEVD: LTCR at 5-year horizon	Own: 52.1%	SDFI: 33.8%	Others: 14.1%	SDFI major driver at medium term
FEVD: LTCR at 10-year horizon	Own: 38.4%	SDFI: 46.7%	Others: 14.9%	SDFI dominant driver long run

The Granger causality test results in Table 3 established a statistically significant bi-directional causal relationship between the Service Delivery Failure Index and the Local Tax Compliance Rate in Uganda over the study period. The null hypothesis that SDFI did not Granger-cause LTCR was rejected at the 1% significance level ($\chi^2 = 24.871$, $p < 0.001$), confirming that past values of service delivery failure contained statistically significant predictive information for current and future tax compliance rates, beyond what was explained by the own past history of compliance rates. Equally importantly, the null hypothesis that LTCR did not Granger-cause SDFI was also rejected at the 5% level ($\chi^2 = 11.432$, $p = 0.010$), revealing a reverse causality: declining tax compliance — by reducing local government revenues — further undermined the fiscal capacity of local governments to fund service delivery, creating a self-reinforcing downward spiral consistent with what the fiscal federalism literature has described as a 'low-compliance, low-service' trap. The forecast error variance decomposition (FEVD) results further illustrated the growing dominance of SDFI shocks in explaining the variability of LTCR over time: while at the one-year horizon, only 6.2% of LTCR forecast error variance was attributable to SDFI innovations (with 89.4% attributable to own shocks), this proportion rose dramatically to 33.8% at the five-year horizon and reached 46.7% at the ten-year horizon — surpassing the contribution of own LTCR shocks (38.4%) — underscoring the long-term structural dominance of service delivery performance as a determinant of tax compliance behaviour.

The bi-directional Granger causality findings were particularly significant from a policy standpoint, as they revealed that the relationship between service delivery and tax compliance in Uganda was not a simple linear mechanism but a dynamic feedback loop with compounding negative effects. The FEVD results enriched this picture by showing that the explanatory power of service delivery failure was not contemporaneous but accumulated progressively over time, becoming the single most important driver of tax compliance variance in the long run. This temporal pattern was consistent with the theory that trust erosion — the fundamental mechanism through which service delivery failure translates into tax resistance — is a gradual, cumulative process: citizens may initially absorb short-term service failures with patience or deference, but as failures persist and become entrenched patterns of governance, trust erodes irreversibly, and tax resistance becomes institutionalised as a cultural norm rather than an individual economic calculation. The significant causal effect of the Poverty Headcount Ratio ($\chi^2 = 8.214$, $p = 0.042$) indicated that economic deprivation operated as an independent structural constraint on compliance, mediated but not fully explained by service delivery

failure — suggesting that poverty reduction and service delivery improvements needed to be pursued simultaneously rather than sequentially as components of a comprehensive local revenue reform strategy in Uganda.

Panel Fixed-Effects Regression Results by District Service Delivery Quartile

Table 4: Panel Fixed-Effects Regression — LTCR by District Service Delivery Performance Quartile (2000–2023, N = 40 Districts)

Variable / Quartile	Q1 (Worst SD)	Q2 (Below Avg SD)	Q3 (Above Avg SD)	Q4 (Best SD)	Pooled FE
SDFI Coefficient	-0.812***	-0.641***	-0.489***	-0.301**	-0.674***
SE (Driscoll-Kraay)	(0.094)	(0.088)	(0.079)	(0.112)	(0.089)
ACI Coefficient	0.287**	0.374***	0.491***	0.563***	0.418***
PHR Coefficient	-0.398***	-0.311***	-0.274**	-0.198*	-0.312***
GDR Coefficient	0.187**	0.214**	0.248***	0.271***	0.227***
District Fixed Effects	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Hausman Test (χ^2)	31.44***	28.17***	26.83***	22.91***	41.62***
Within R-squared	0.791	0.823	0.851	0.874	0.847
Mean LTCR (%)	29.4%	38.7%	51.2%	67.6%	46.7%
Observations	240	240	240	240	960

The panel fixed-effects regression results stratified by district service delivery performance quartile, presented in Table 4, provided granular evidence of how the relationship between service delivery failure and tax compliance varied systematically across districts with different baseline service delivery capacities. The Hausman test was statistically significant across all quartiles (pooled $\chi^2 = 41.62$, $p < 0.001$), confirming that fixed effects estimation was preferable to random effects, as the unobserved district-specific heterogeneity — including historical revenue administrative culture, geographic accessibility, and local political economy dynamics — was systematically correlated with the regressors. The SDFI coefficient was largest in absolute magnitude for the worst-performing quartile (Q1: $\beta = -0.812$, $p < 0.001$), and declined progressively across quartiles, reaching -0.301 ($p < 0.01$) in the best-performing quartile (Q4), revealing a non-linear dose-response relationship: the marginal cost of service delivery failure in terms of tax compliance loss was greatest in districts already characterised by the most severe service deficiencies. The mean LTCR varied dramatically across quartiles — from 29.4% in Q1 districts to 67.6% in Q4 districts — a 38.2 percentage point gap that was statistically and economically enormous, confirming that service delivery performance was a first-order determinant of fiscal performance at the district level, not a secondary or marginal factor.

The quartile-stratified results carried profound policy implications and demonstrated important nuances that the pooled estimates alone could not reveal. The finding that administrative capacity (ACI) had its largest positive effect in high-performing districts (Q4: 0.563, $p < 0.001$) versus low-performing districts (Q1: 0.287, $p < 0.01$) suggested the existence of a complementarity between service delivery quality and administrative effectiveness: improved administrative systems generated the largest compliance dividends in environments where service delivery was already strong, indicating potential diminishing returns to administrative reform in severely service-deprived districts unless accompanied by fundamental improvements in service provision. The consistently significant and negative effect of the Poverty Headcount Ratio across all quartiles — though declining in magnitude from Q1 (-0.398) to Q4 (-0.198) — suggested that while poverty imposed a structural constraint on compliance regardless of service delivery performance, its constraining effect was partially mitigated in districts with better services, consistent with the view that effective public services increase the perceived value of taxation even for economically marginalised households. The within R-squared values ranging from 0.791 to 0.874 across quartiles confirmed the high explanatory power of the models, indicating that the selected variables captured the dominant drivers of compliance variation within districts over time, and that the fixed-effects specification successfully controlled for time-invariant district characteristics that could otherwise confound the estimated relationships.

CONCLUSION

This study provided comprehensive, longitudinal, and statistically rigorous evidence that service delivery failure by local governments in Uganda was a primary, sustained, and causally dominant driver of tax resistance over the period 2000 to 2023, confirming the quid pro quo theory of taxation as empirically valid and policy-relevant in Uganda's subnational fiscal context. The ARDL bounds testing confirmed a long-run cointegrating relationship between the Service Delivery Failure Index and the Local Tax Compliance Rate, with a long-run coefficient of -0.674 indicating that service delivery deterioration exerted a large and durable negative effect on taxpayer compliance behaviour. The VECM error correction term of -0.432 confirmed that deviations from this long-run equilibrium were corrected at a moderately rapid rate of approximately 43% per year, while structural impulse response functions revealed that compliance remained depressed for more than four years following a service delivery shock, highlighting the persistent and slow-reversing nature of trust erosion as the key transmission mechanism. Bi-directional Granger causality established that the relationship was not one-directional but constituted a self-reinforcing fiscal spiral, wherein service delivery failure drove down compliance, and declining compliance further eroded local governments' capacity to fund services. Variance decomposition

showed that service delivery failure accounted for 46.7% of forecast error variance in tax compliance at the 10-year horizon — the single largest explanatory factor — while panel regression results confirmed that districts in the lowest service delivery quartile recorded compliance rates 38 percentage points below those in the highest quartile, underscoring the enormous fiscal cost of sustained service delivery failure. Collectively, these findings argued compellingly that Uganda's local government revenue crisis could not be resolved through enforcement-centric tax administration alone, but required the restoration of fiscal reciprocity — the credible, visible, and equitable delivery of public services — as the foundational condition for rebuilding taxpayer trust and achieving sustainable local revenue mobilisation.

RECOMMENDATIONS

Uganda's Ministry of Finance Planning and Economic Development and the Local Government Finance Commission should immediately develop and implement a Performance-Linked Revenue Framework (PLRF) that explicitly ties local government tax collection targets and administrative incentives to measurable service delivery outcomes across health, education, water, and roads sectors, so that districts demonstrating improved service delivery are rewarded with expanded revenue mandates and technical support, while persistently underperforming districts are subject to structured accountability interventions, thereby institutionalising fiscal reciprocity as an operational principle of local revenue governance.

District local governments should establish functional and accessible Public Expenditure Transparency Mechanisms — including quarterly public expenditure notices, community score cards, and real-time online dashboards displaying revenue collection and service delivery performance data — to enable citizens to directly verify that their tax contributions are being converted into tangible service improvements, rebuilding taxpayer trust incrementally through demonstrated accountability and reducing the information asymmetries that currently sustain widespread tax resistance.

The Government of Uganda should commission and fund a comprehensive Local Revenue Reform Programme that combines reforms to the local tax base — including exploration of property-based and business licence taxes to replace the lost graduated tax — with large-scale administrative capacity building for district revenue departments and targeted poverty-sensitive exemption schemes for the most economically marginalised households, recognising that sustainable compliance improvement requires simultaneously addressing economic incapacity, administrative weakness, and the fundamental service delivery failures that have structurally undermined the social contract of taxation at the local government level.

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