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A COMPARATIVE ANALYSIS OF THE FINANCIAL MANAGEMENT OF THE MUNICIPALITIES OF TUCZĘPY AND GNOJNO (2021–2023) IN THE CONTEXT OF THE FINANCIAL CONDITION OF RURAL MUNICIPALITIES IN ROMANIA

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ABSTRACT

This study presents a comparative analysis of financial management in two Polish rural municipalities—Tuczępy and Gnojno—between 2021 and 2023, framing their budgetary performance against the fiscal reality of rural local governments in Romania. The findings reveal a clear divergence: while Tuczępy maintains strong financial autonomy, a stable operating surplus, and a clear focus on development investments, Gnojno faces severe financial distress marked by an operating deficit, high per capita debt, and heavy reliance on central government funding—a structure remarkably similar to underfunded Romanian comunas. Ultimately, the research proves that macroeconomic and geographical factors alone do not dictate municipal performance; rather, a proactive local strategy for managing financial risk and developing an independent tax base is the decisive factor for long-term stability in Central and Eastern Europe.

Key words: local government finance, municipal budget, municipal debt, rural municipalities, Romania.

JEL: H71, H72, H74, R51.

1. Introduction

Local financial management in the period following the COVID-19 pandemic and during the inflationary crisis has become one of the greatest challenges facing

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local government units (LGUs) in Central and Eastern Europe. These processes have particularly affected rural municipalities, which, due to their specific socio-economic characteristics, exhibit lower budgetary flexibility than large urban centres. This study presents a comparative analysis of the financial management of the rural municipalities of Tuczępy and Gnojno, located in Busko County (Świętokrzyskie Voivodeship), over the period 2021–2023. To provide the research with a broader international perspective, the financial characteristics of these municipalities are compared with the fiscal condition of Romanian rural municipalities (comunas), which operate under similar conditions of post-socialist institutional transformation and the European Union's cohesion policy. Findings from original empirical studies indicate that fiscal decentralization in Poland and Romania has followed different developmental paths, resulting in distinct initial conditions for local governments in the two countries. The objective of this study is to assess how different budget management strategies affect the financial stability and investment potential of rural municipalities operating under comparable external conditions.

2. Literature review

The problem of indebtedness among local government units (LGUs) and its multifaceted economic and institutional consequences constitutes one of the central themes in public finance literature. Researchers emphasize that the level and structure of debt significantly affect long-term solvency, financial stability, and the fiscal burden borne by local communities. In the context of growing expenditure needs and insufficient own-source revenues, debt has become a common instrument for financing infrastructure investments (Bellot et al., 2017). However, excessive indebtedness may weaken the private sector by reducing wages and limiting investment, thereby diminishing the stimulative effects of public spending (Pinardon-Touati, 2022; Cao et al., 2022). Once a critical threshold is exceeded, debt may crowd out private investment and hinder economic growth (Zhao et al., 2019).

The literature points to the dual nature of municipal debt. On the one hand, uncontrolled debt accumulation may deteriorate financial liquidity and lead to a debt spiral (Standard and Kozera, 2020). High levels of local debt can also generate broader macroeconomic risks, including increased borrowing costs at the central government level (Greer, 2015). On the other hand, when managed prudently, debt can support long-term development by enabling earlier implementation of capital investments and spreading their costs across generations (Gorina et al., 2018; Canuto and Liu, 2013). To limit fiscal risks, many countries apply the so-called golden rule, according to which current expenditures should be financed from current revenues, while borrowing should be reserved for investment purposes (Lotz, 2006; Kloha et al., 2005; Kose et al., 2020).

Unlike private entities, local governments rarely experience formal bankruptcy because they are legally required to ensure the continuous provision of essential public services. Instead, they may face "hidden insolvency", manifested in the inability to meet financial obligations while formally maintaining budgetary balance through debt rollovers or delayed payments (Liu and Waibel, 2008). In Polish literature, local government solvency is defined as the ability to meet obligations on time while simultaneously satisfying the needs of the local community (Bitner, 1999).

Research on fiscal crises suggests that debt is often only a symptom of deeper structural problems. Limited budget flexibility, soft budget constraints, moral hazard, political budget cycles, demographic changes, and economic downturns are among the key determinants of local fiscal distress (Muñoz and Olaberria, 2019; Shi and Hendrick, 2020; Benito et al., 2021).

Overall, the literature indicates that the financial stability of LGUs should be viewed as a dynamic institutional process shaped both by local fiscal decisions and by the broader architecture of the public finance system.

3. Research Methods

3.1. Citations

The financial condition of local government units (LGUs) is commonly assessed using financial ratio analysis, which enables the evaluation of fiscal autonomy, expenditure structure, and debt sustainability (Groves et al., 1981; Wang et al., 2007). According to the OECD (2019), a higher share of own-source revenues increases municipalities' financial independence and resilience to economic shocks. At the same time, prudent debt management is essential for maintaining long-term fiscal stability, with borrowing recommended primarily for financing capital investments rather than current expenditures (Canuto & Liu, 2013). Consequently, this study evaluates the municipalities of Tuczępy and Gnojno using indicators of fiscal autonomy, expenditure performance, and debt per capita, which are widely applied in analyses of local government finance (Kloha et al., 2005).

3.2. Formulae

In the analysis, the main technique used was indicator analysis. The following indicators were used in the indicator analysis:

Revenue indicators

1. Share of own revenues in total budget revenues:

$$\mathrm{WZD} = \left(\frac{\mathrm{DW}}{\mathrm{D}}\right) \times 100$$

where:
- WZD – share of own revenues in total budget revenues,
- DW – total own revenues,
- D – total budget revenues.

This indicator shows what proportion of total revenues is made up of own revenues.

2. Share of revenues from taxes constituting state budget revenues in total budget revenues:

$$\mathrm{WSUD} = \left(\frac{\mathrm{UD}}{\mathrm{D}}\right) \times 100$$

where:
- WSUD – share of revenues from taxes constituting state budget revenues in total revenues of a local government unit,
- UD – share of personal income tax (PIT) and corporate income tax (CIT) revenues,
- D – total budget revenues.

This indicator shows what proportion of total revenues comes from taxes constituting state budget revenues.

3. Share of targeted grants in total budget revenues:

$$\mathrm{WDC} = \left(\frac{\mathrm{DC}}{\mathrm{D}}\right) \times 100$$

where:
- WDC – share of targeted grants in total budget revenues,
- DC – total targeted grants,
- D – total budget revenues.

This indicator shows what proportion of total revenues is made up of targeted grants.

4. Share of general subsidy in total budget revenues:

$$\mathrm{WSO} = \left(\frac{\mathrm{SO}}{\mathrm{D}}\right) \times 100$$

where:
- WSO – share of general subsidy in total budget revenues,
- SO – general subsidy,
- D – total budget revenues.

This indicator shows what proportion of total revenues is made up of the general subsidy.

5. Share of operating surplus in total revenues:

$$\mathrm{WNO} = \left(\frac{\mathrm{NO}}{\mathrm{D}}\right) \times 100$$

where:

- WNO – share of operating surplus in total budget revenues,
- NO – operating surplus (difference between current revenues and current expenditures),
- D – total budget revenues.

This indicator shows what proportion of total revenues is represented by the operating surplus.

6. Share of tax revenues in total budget revenues:

$$\mathrm{WDP} = \left(\frac{\mathrm{DP}}{\mathrm{D}}\right) \times 100$$

where:

- WDP – share of tax revenues in total budget revenues,
- DP – tax revenues,
- D – total budget revenues.

This indicator shows what proportion of total revenues is made up of tax revenues.

7. Share of revenues according to budget classification in total revenues:

$$WDK = \left(\frac{DK}{D}\right) \times 100$$

where:

- WDK – share of revenues by budget classification (section) in total revenues,
- DK – revenues in a given budget section,
- D – total budget revenues.

This indicator shows the share of a specific budget classification section in total revenues, allowing analysis of revenue structure by source.

Expenditure indicators

1. Share of current expenditures in total expenditures:

$$\mathrm{WZB} = \left(\frac{\mathrm{ZB}}{\mathrm{W}}\right) \times 100$$

where:

WZB – share of current expenditures in total expenditures,
ZB – current expenditures,
W – total budget expenditures.

This indicator shows what proportion of total expenditures is made up of current expenditures.

2. Share of investment expenditures in total expenditures:

$$\mathrm{WUWI} = \left(\frac{\mathrm{WI}}{\mathrm{W}}\right) \times 100$$

where:

WUWI – share of investment expenditures in total budget expenditures,
WI – investment expenditures,
W – total budget expenditures.

This indicator shows what proportion of total expenditures is made up of investment expenditures.

3. Share of own revenues in total expenditures:

$$U_{DW} = \left(\frac{DW}{W}\right) \times 100$$

where:

U_{DW} – share of own revenues in total expenditures,
DW – total own revenues,
W – total budget expenditures.

This indicator shows what proportion of total expenditures is covered by own revenues.

4. General structure indicator of expenditures by budget classification:

$$WZKB = \left(\frac{ZKB}{W}\right) \times 100$$

where:

WZKB – structure indicator of expenditures by budget classification,
ZKB – expenditures in a given budget section,
W – total budget expenditures.

This indicator shows what proportion of total expenditures is allocated to a specific budget classification section.

5. Share of revenues from local taxes and fees in total expenditures:

$$U_{DWPO} = \left(\frac{DWPO}{W}\right) \times 100$$

where:

U_{DWPO} – share of revenues from local taxes and fees in total expenditures,
DWPO – revenues from local taxes and fees,
W – total budget expenditures.

This indicator shows what proportion of total expenditures is covered by local taxes and fees.

Debt indicators

1. Share of local government debt in total revenues:

$$WUDS = \left(\frac{DS.}{D}\right) \times 100$$

where:

- WUDS – share of local government debt in total budget revenues,
- DS – local government debt,
- D – total budget revenues.

This indicator shows the share of debt in total budget revenues.

2. Debt per capita:

$$\mathrm{WKDM} = \left(\frac{\mathrm{DS.}}{\mathrm{LM}}\right) \times 100$$

where:

- WKDM – debt per capita indicator,
- DS – local government debt,
- LM – number of inhabitants.

This indicator shows the amount of municipal debt per resident, allowing assessment of the scale of indebtedness relative to population size.

4. Results and Discussion

4.1. Income indicators

The structure of revenues is the primary determinant of the financial autonomy of each municipality. Table 1 presents detailed income indicators for both entities.

Table 1. Income indicators of the Tuczępy and Gnojno municipalities in 2021–2023 (%).

Specification	Tuczępy 2021	Tuczępy 2022	Tuczępy 2023	Gnojno 2021	Gnojno 2022	Gnojno 2023
Share of own revenues in total revenues	40.83	52.36	39.00	21.55	29.57	24.90
Share of taxes constituting state budget revenue	11.20	19.33	7.46	8.28	16.13	7.88
Share of targeted grants in total revenues	33.57	31.30	37.75	35.26	39.64	27.96
Share of general subvention in total revenues	25.61	16.34	23.25	43.19	30.79	47.14
Share of operating surplus in total revenues	8.06	16.43	9.41	0.73	1.26	-0.25
Share of tax revenues in total revenues	29.33	32.69	31.23	12.41	10.85	13.50

Source: authors' work based on municipal budget execution reports from 2021–2023.

The analysis reveals a profound polarization in revenue-generating capacity between the analysed entities. The municipality of Tuczępy demonstrates strong fiscal autonomy, with own-source revenues peaking at 52.36% in 2022 and local tax anchors providing over 31% of total revenues in 2023, allowing it to maintain a safe operating surplus of 9.41%. Conversely, Gnojno exhibits extreme dependence on external transfers, with own-source revenues remaining below 30% and general subsidies reaching 47.14% in 2023. This led to a critical operating deficit of -0.25% in 2023, signalling an inability to cover current expenditures with current revenues.

In an international context, Gnojno's budget model closely reflects the structural condition of most rural municipalities (*comunas*) in Romania, where genuine fiscal decentralization is very low. The average Romanian *comuna* generates only 15% to 25% of its revenues from own sources, relying heavily on central equalization transfers and national personal income tax (PIT) shares allocated at the county level. Just as fluctuations in PIT/CIT shares caused revenue declines in both Polish municipalities in 2023, similar instability regularly triggers liquidity pressures in Romanian local governments. In contrast, Tuczępy's stable local tax base represents a mature level of fiscal autonomy that remains largely unattainable for most rural local government structures in Romania.

4.2. Expenditure indicators

Income-side disparities determine the flexibility and directions of expenditure policy.

Table 2. Expenditure indicators of Tuczępy Municipality and Gnojno Municipality in 2021–2023 (%)

Specification	Tuczępy 2021	Tuczępy 2022	Tuczępy 2023	Gnojno 2021	Gnojno 2022	Gnojno 2023
Share of current (operating) expenditures in total expenditures	85.74	92.86	60.93	97.01	96.23	82.09
Share of investment expenditures in total expenditures	11.98	7.06	34.88	2.89	3.54	7.89
Share of own revenues in total expenditures	44.00	58.65	36.38	24.17	29.07	22.04
Share of local tax revenues in expenditures	22.11	22.22	19.33	6.21	4.97	5.50

Source: authors' work based on municipal budget execution reports from 2021–2023.

The expenditures of Gnojno Municipality were highly rigid, with administrative and basic service costs consuming over 96% of the budget in 2021–2022, leaving only 7.89% for investments in 2023. This stands in sharp contrast to the pro-development policy of Tuczępy, which restructured its spending in 2023 by reducing current expenditures to 60.93%, thereby freeing up a remarkable 34.88% of total funds for capital investments.

In an international context, the budget rigidity seen in Gnojno is a defining feature of Romanian rural local governments. Due to low tax efficiency, Romanian *comunas* allocate an average of 90% to 95% of their budgets to current expenditures, mainly local administration wages and social assistance. Consequently, infrastructural development in rural Romania depends almost entirely on external funding impulses, such as EU funds or targeted government programmes like the *Anghel Saligny* programme; without them, these municipalities merely perform a survival function. By contrast, Tuczępy's exceptional ability to self-finance nearly a fifth of its total expenditures from local taxes alone (19.33% in 2023) places it far above the financial standard of peripheral local governments in Central and Eastern Europe.

4.3. Debt indicators

The final, but most polarizing criterion of assessment is the level of debt and the efficiency of its management.

Table 3. Debt indicators of Tuczępy Municipality and Gnojno Municipality in 2021–2023

Specification	Tuczępy 2021	Tuczępy 2022	Tuczępy 2023	Gnojno 2021	Gnojno 2022	Gnojno 2023
Share of local government debt in total revenues (%)	7.84	4.60	3.20	65.08	56.62	63.95
Debt per capita (PLN)	477.82	316.21	234.40	4084.27	4010.60	3979.57

Source: authors' work based on municipal budget execution reports from 2021–2023.

Debt indicators reveal a vast economic gap between the two local governments. Tuczępy pursued a rigorous debt reduction strategy, lowering its debt-to-revenue ratio to just 3.20% in 2023 (PLN 234.40 per capita). In contrast, Gnojno's debt hovered around a critical 64% of total revenues, resulting in a per capita debt of PLN 3,979.57—nearly seventeen times higher than in Tuczępy.

Introducing the Romanian context reveals a paradox. While Gnojno exhibits alarmingly high debt levels by Polish standards, such official figures are rare among Romanian *comunas*. Romanian law strictly limits borrowing for small local governments, and commercial banks refuse to finance entities lacking an operating surplus, keeping official debt close to zero. However, this absence of bank debt reflects structural weakness rather than health; it is replaced by "hidden debt" in the form of unpaid outstanding liabilities to utility providers and contractors. Ultimately, the structural liquidity trap caused by Gnojno's operating deficit mirrors the Romanian reality, where a permanent lack of cash flow paralyzes basic public services, whether the debt is officially recorded or concealed in unpaid invoices.

4.4. Discussion

Our empirical comparative analysis of the financial management of the Tuczępy and Gnojno municipalities (2021–2023), juxtaposed with Romanian *comunas*, contributes to the debate on local government financial independence and debt in Central and Eastern Europe, proving that deep fiscal disparities can occur even within the same legal framework. Relating these findings to the research by J. Łukomska-Szarek (2011), we observe a structural continuity in local finance mechanisms. While the author highlighted that macroeconomic slowdowns often force rural municipalities into debt due to declining own revenues, the analysed units show two fiscal extremes. Tuczępy represents an exceptionally successful model, generating 2023 investment expenditures at 34.88% of total spending while maintaining a minimal debt of 3.20% (PLN 234.40 per capita) thanks to a strong local tax base. Conversely, Gnojno serves as an empirical warning aligning with Łukomska-Szarek's threats; with low investment levels, debt reaching nearly 64% (approx. PLN 4,000 per capita), and a 2023 operating deficit of -0.25%, it perfectly illustrates how the loss of an operating surplus paralyzes development.

From an international perspective, the results update the theses of E. Markowska-Bzducha (2005) regarding asymmetrical decentralization in Central and Eastern Europe, where the devolution of tasks was rarely accompanied by adequate tax powers. Both Romanian *comunas* (own revenues at 15%–25%) and the Gnojno municipality (subsidy at 47.14%, own revenues below 25%) remain in structural transfer dependency. As Markowska-Bzducha noted, such low tax autonomy deprives local governments of flexibility during shocks, reducing them to executing rigid administrative costs. In conclusion, while validating both theoretical frameworks, this study's original contribution is demonstrating that legal frameworks alone do not determine fiscal stability. The decisive factor remains the local budget management strategy, expenditure flexibility, and active tax base cultivation.

5. Conclusions

The comparative analysis revealed a profound asymmetry in development and a clear polarization within the regional local government economy, where identical macroeconomic conditions led to markedly different financial outcomes. The Municipality of Tuczępy represents a model of resilience, in which the expansion of the local tax base, the generation of an operating surplus, and a consistent debt-reduction policy played a crucial role. Consequently, these factors enabled the financing of dynamic investments while maintaining financial stability during the crisis period.

In contrast, the Municipality of Gnojno exhibits a syndrome of transfer dependency, characterized by entrapment in a structural debt cycle and high fixed costs, which constrain its investment autonomy and make its functioning dependent on external support. This situation resembles that of peripheral rural municipalities (comunas) in Romania, where low tax efficiency and a limited capacity for self-financed development remain common challenges.

The practical implications indicate that the emergence of an operating deficit in Gnojno, combined with a nearly seventeen-fold higher level of per capita debt compared to the neighbouring municipality, constitutes a clear signal that a rigorous recovery programme and debt restructuring measures are urgently needed. Romanian experience demonstrates that the absence of structural reforms leads to the long-term deterioration of local infrastructure and the gradual loss of the economic autonomy of rural local governments.

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