




# “Local budgets in Ukraine during wartime: Challenges, adaptation strategies, and the role of participatory budgeting”

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# LOCAL BUDGETS IN UKRAINE DURING WARTIME: CHALLENGES, ADAPTATION STRATEGIES, AND THE ROLE OF PARTICIPATORY BUDGETING

## Abstract

The Russian invasion of Ukraine has reshaped the functioning of local budgets, creating fiscal challenges for municipalities while simultaneously testing the resilience of the decentralization reform launched in the pre-war period. This study examines the dynamics of local public finance in Ukraine during wartime (2022–2024), focusing on revenue fluctuations, expenditure restructuring, and the emerging role of participatory budgeting as an adaptive tool for community engagement. Using official data from the Ministry of Finance, the State Statistics Service, and the Open Budget Portal, the analysis compares fiscal indicators before and during the full-scale war. Case studies of selected municipalities highlight divergent strategies between frontline and rear communities in balancing defense-related needs, social support for internally displaced persons, and development priorities. Despite reduced revenues and rising security expenditures, local budgets remained stable, largely due to the decentralization framework. In addition to domestic revenues, local budgets increasingly relied on external inflows: international grants, loans, and non-repayable donor assistance. These instruments served as a critical buffer that compensated for the wartime decline in municipal revenues and stabilized key public services. We further examined how these external resources shaped the fiscal resilience of Ukrainian municipalities under wartime conditions. Moreover, participatory budgeting, though often suspended, proved to be a potential mechanism for maintaining public trust and civic involvement under crisis conditions. The study argues that “wartime participatory budgeting” represents a novel phenomenon with implications for both crisis governance and post-war reconstruction.

## Keywords

local budgets, Ukraine, war, fiscal resilience, participatory budgeting, decentralization, civil society

## JEL Classification

H72, H77, H84, H61, R58, D73

## INTRODUCTION

Russia’s full-scale invasion of Ukraine in 2022 generated one of the most severe economic and fiscal shocks in Europe since the Second World War. Ukraine’s GDP contracted by approximately 29.1% in 2022 (Tarasovsky, 2023), while direct infrastructure damages exceeded USD 152 billion by early 2023 according to the World Bank’s RDNA2 assessment (European Union et al., 2023). Local governments were disproportionately affected: massive population displacement, the destruction of municipal assets, and the decline of local business activity significantly reduced their revenue base. At the national level, Ukraine faced a record-high budget deficit of over 20% of GDP, much of which required coverage through external financial assistance (Ministry of Finance of Ukraine, n.d.).

These wartime pressures created unprecedented challenges for municipal service provision, fiscal management, and strategic planning. Local governments became frontline actors in ensuring civil protec-



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tion, emergency response, humanitarian support, and the maintenance of critical infrastructure. At the same time, territorial communities displayed varying levels of resilience: while some municipalities suffered dramatic contractions of own-source revenues, others adapted by reallocating expenditures, mobilizing community resources, or utilizing external support more effectively. Understanding these divergent fiscal trajectories is essential for assessing the broader capacity of Ukraine's multi-level governance system to withstand and recover from wartime shocks.

It is interesting to analyze the fiscal dynamics of local budgets under wartime conditions by comparing Lviv (a relatively secure western city) and Kharkiv (a heavily targeted frontline city). This study further advances the concept of wartime participatory budgeting as a governance mechanism that helps municipalities maintain transparency, citizen engagement, and adaptive financial decision-making during a crisis. By integrating fiscal data, municipal documentation, and comparative case analysis, this paper seeks to provide new empirical and conceptual insights into how Ukrainian local governments navigate extreme uncertainty while preserving core elements of democratic public finance.

## 1. LITERATURE REVIEW

The full-scale Russian invasion of Ukraine has been widely examined in the literature as a profound stress test for the country's public finance system. International organizations and scholars emphasize that the war exposed long-standing structural vulnerabilities while simultaneously accelerating adaptive fiscal responses shaped by prior decentralization and public finance reforms (European Union et al., 2023; Markuts & Roberto, 2025). At the macroeconomic level, Ukraine experienced a contraction of gross domestic product of nearly 30% in 2022, which significantly reduced the tax base and generated unprecedented financing needs at both national and subnational levels (Tarasovskyi, 2023).

According to the World Bank's Rapid Damage and Needs Assessment, direct damage to assets exceeded USD 135 billion during the first year of the full-scale war, while total economic losses approached USD 290 billion. Estimated recovery and reconstruction needs reached USD 411 billion, exceeding twice the country's pre-war GDP (European Union et al., 2023). These estimates are frequently cited in the literature as evidence of the scale of the fiscal shock confronting Ukraine's public finance system and the extraordinary constraints under which budgetary decisions were made.

Several studies characterize Ukraine's fiscal response to these shocks as a shift toward emergency budgeting. Markuts and Roberto (2025) define this process as a rapid reconfiguration of budgetary

priorities aimed at preserving core state functions under conditions of armed conflict. Empirical analyses indicate that central government expenditures were substantially reprioritized toward defense, security, and humanitarian needs, while allocations for non-essential sectors, such as culture, recreation, and capital infrastructure projects, were reduced or postponed (Patytska, 2024; USAID DOBRE, 2023). In parallel, changes in intergovernmental fiscal arrangements and constraints on transfers increased pressure on local governments, limiting their fiscal space and influencing the scope of municipal-level initiatives (Voznyak et al., 2023).

The concept of resilience has increasingly become a focal point in the study of public finance, particularly in the context of crises and armed conflicts. Scholars argue that resilience in fiscal governance is defined as the capacity of institutions to absorb shocks, adapt to changing circumstances, and continue delivering essential services under conditions of fiscal stress (Hochrainer-Stigler et al., 2024). In comparative studies, resilience is associated not only with macroeconomic stability but also with the fiscal flexibility of local and regional authorities to respond to unpredictable shocks such as wars, pandemics, or natural disasters. Voznyak et al. (2023) highlight that the financial determinants of regional resilience in Ukraine are shaped by both revenue-raising capacities and the adaptability of local expenditure systems, providing a foundation for analyzing local budgets under wartime conditions.

The role of external financing in sustaining Ukraine's public finances during wartime has been widely documented in international reports and academic analyses. Studies by international financial institutions indicate that large-scale financial assistance provided by bilateral and multilateral partners – including the International Monetary Fund, the European Union, the United States, Japan, and Canada – became a central component of Ukraine's fiscal framework after the onset of the full-scale invasion (European Union et al., 2023). This external support is commonly described in the literature as a key factor enabling the government to address immediate financing gaps and to stabilize budget execution amid a sharp decline in domestic revenues.

Empirical assessments suggest that external inflows were instrumental in supporting priority expenditures, including social transfers and the provision of essential public services, under conditions of severe fiscal stress (European Union et al., 2023). Financial assistance was accompanied by policy dialogue and conditionality, which influenced budgetary priorities and fiscal governance arrangements during the wartime period. Within the resilience literature, such external support is interpreted as enhancing the absorptive capacity of public finance systems, allowing governments to manage extreme shocks that exceed domestic resource constraints (Hochrainer-Stigler et al., 2024).

Ukrainian scientists have also emphasized the broader macroeconomic consequences of the war. Hryhorash and Puhach (2024) demonstrate that despite relatively stable indicators during the early months of 2022, Ukraine's fiscal system remains under heavy pressure due to currency depreciation, inflation, rising public debt, and the long-term impact of 2.5 years of full-scale war. They argue that the war has not only devastated infrastructure and the business environment but has also significantly reduced the financial sustainability of both the state and households. Demographic decline, military losses, and large-scale migration are identified as key constraints on regional financial stability.

The outbreak of the full-scale Russian invasion in 2022 generated unprecedented fiscal shocks for Ukraine. World Bank (European Union et al., 2023) reports show that Ukraine's GDP contracted dramatically in 2022, leading to a decline

in tax revenues, while budgetary priorities shifted almost entirely to defense and humanitarian needs. Markuts and Roberto (2025) analyze this transition as a form of “emergency budgeting,” arguing that Ukraine's capacity to reconfigure budgetary flows was essential for fiscal resilience under war. Similar conclusions are drawn by Patytska (2024): territorial communities adapted their local revenue structures to maintain financial viability during wartime, emphasizing the role of tax collection and fiscal decentralization. These findings are reinforced by case-based evidence that local authorities remain key actors in sustaining fiscal resilience, despite structural revenue shortfalls and heightened expenditure obligations.

At the subnational level, existing studies document significant territorial variation in the fiscal resilience of local budgets during wartime. International and domestic analytical reports indicate that municipalities located away from active hostilities were generally better able to preserve basic fiscal functionality. In particular, cities situated in relatively secure regions, such as Lviv, are reported to have maintained a degree of budgetary balance by reallocating expenditures toward social support measures, including assistance for internally displaced persons and the provision of essential public services (European Union et al., 2023).

By contrast, empirical assessments show that front-line municipalities experienced severe disruptions to their local revenue bases as a result of large-scale infrastructure destruction, business shutdowns, and population displacement. Studies note that cities such as Kharkiv became highly dependent on central government transfers and humanitarian assistance to sustain minimal levels of public service provision under wartime conditions (European Union et al., 2023; Voznyak et al., 2023). The literature thus characterizes wartime fiscal resilience at the local level as territorially differentiated, with municipal adaptive capacity closely linked to geographic location, exposure to violence, and the structure of the local economic base.

Existing research on Ukraine's wartime public finance suggests that fiscal resilience under conditions of full-scale war is neither static nor uniform, but rather evolves through the interaction of multiple institutional and financial factors.

International financial institutions and academic studies emphasize that wartime resilience reflects a dynamic adjustment process shaped by emergency fiscal responses, sustained external financial support, and governance arrangements that influence institutional credibility and trust (European Union et al., 2023; Hochrainer-Stigler et al., 2024; Markuts & Roberto, 2025).

The literature identifies three interrelated dimensions that structure Ukraine's wartime fiscal resilience.

First, numerous studies highlight the role of budgetary adaptation through emergency budgeting. Markuts and Roberto (2025) describe Ukraine's fiscal response as a rapid reconfiguration of expenditure priorities toward defense, security, and humanitarian needs, accompanied by the suspension or postponement of non-essential spending, including cultural, recreational, and infrastructure projects. Empirical analyses further indicate that adjustments to intergovernmental fiscal relations, including constraints on transfers, increased pressure on municipalities to rely on own-source revenues or to curtail local initiatives (Patytska, 2024; USAID DOBRE, 2023).

Second, the stabilizing role of external financial support is widely documented in international assessments. Reports by the World Bank and the International Monetary Fund show that large-scale bilateral and multilateral assistance provided by partners such as the European Union, the IMF, the United States, Japan, and Canada played a critical role in offsetting the collapse of domestic tax revenues and financing essential welfare and administrative expenditures (European Union et al., 2023). This external assistance was accompanied by policy dialogue and conditionality, which influenced wartime budgetary strategies and fiscal governance practices (Hochrainer-Stigler et al., 2024).

Third, recent scholarship emphasizes the importance of transparency and accountability mechanisms in sustaining fiscal credibility under wartime conditions. Studies point to the expansion of reporting requirements, monitoring instruments, and digital governance tools as key factors in maintaining donor confidence and domestic

trust in public institutions (Waeraas et al., 2024; Razumkov Centre, 2024). Within this perspective, fiscal legitimacy is understood as a product of both international confidence and internal societal trust, rather than solely of balanced budget outcomes.

At the subnational level, the literature consistently reports territorial asymmetries in fiscal resilience. Analytical reports indicate that municipalities located away from active hostilities, such as Lviv, were generally better positioned to maintain fiscal stability, redirecting resources toward social support and services for internally displaced persons. In contrast, frontline cities such as Kharkiv experienced severe revenue disruptions due to infrastructure destruction and population displacement, becoming highly dependent on central government transfers and humanitarian assistance (USAID DOBRE, 2023; European Union et al., 2023; Voznyak et al., 2023). These findings underscore that local fiscal resilience during wartime is strongly conditioned by geographic exposure to violence and the underlying structure of local economies.

More detailed empirical evidence on wartime local finance is provided by the USAID DOBRE (2023) analytical study, which examined budget indicators of 60 territorial communities across ten Ukrainian regions. The findings reveal multiple systemic constraints.

First, many local financial departments face shortages of qualified personnel, particularly in communities affected by occupation, de-occupation, or active hostilities. Staff are overloaded with emergency tasks and administrative changes, undermining institutional capacity.

Second, the lack of reliable local statistics – especially real population numbers – complicates expenditure planning and weakens financial forecasting.

Third, frontline and temporarily occupied communities experienced severe disruptions: a significant number of educational, cultural, and sports institutions ceased functioning due to destruction or security risks, although many were partially restored through remote modes.

Fourth, legislative changes had mixed effects. Some amendments enhanced flexibility – such as enabling executive committees and military administrations to reallocate funds without council approval – while others, like the reconfiguration of PIT revenues from military personnel, forced repeated adjustments and spending cuts.

Fifth, although most communities formally met their revenue plans, many revenues remained lower than 2021 levels. Own-source revenues dropped sharply in the most affected regions due to business closures, tax exemptions, and broad wartime fiscal relief measures.

Sixth, intergovernmental transfers increased substantially, becoming a primary stabilizing source for many communities, often exceeding their own tax revenues. Additional support came through humanitarian assistance, grants, and donor contributions.

Finally, wartime expenditure patterns shifted: spending on social protection and public order rose significantly, while capital expenditures dropped sharply in 2022 and only partially recovered in 2023. Reduced funding for culture, sports, and economic development reflects an inevitable focus on short-term survival rather than long-term growth.

Since the 1990s, approximately 35 countries have undergone wartime or post-conflict recovery phases, offering comparative insights relevant to Ukraine. Case studies from Korea, Cyprus, Vietnam, Afghanistan, Syria, Georgia, and the Balkan states show recurring patterns in wartime public finance (KPMG, 2023; Shults & Lutskiv, 2023). Common challenges identified in the global scientific sphere include:

- substantial contractions in formal employment, leading to reduced purchasing power and soaring unemployment;
- expansion of informal economic activity, as seen in Afghanistan, where opium production employed nearly 20% of the population;
- weakened institutional capacity as governments prioritize military demands over civilian functions;

- heightened food insecurity due to land contamination, disrupted supply chains, and constrained agricultural activity;
- environmental degradation resulting from combat operations;
- lack of fiscal capacity to maintain social transfers, pensions, and wage payments.

These international lessons highlight the structural vulnerabilities that typically emerge during prolonged conflicts and underscore the importance of external financial assistance in maintaining basic state capacity.

The involvement of non-state actors further complicates and enriches the picture of resilience in public finance. Kushnir (2025) illustrates how civil society organizations (CSOs) and informal networks have complemented formal institutions in Ukrainian cities, enhancing the resilience of urban governance under wartime conditions. Evidence from international comparative research confirms that CSOs provide added value in public service delivery, not only by reducing administrative costs but also by increasing social trust and perceived legitimacy (Waeraas et al., 2024). Co-production literature also demonstrates that involving citizens in service provision and decision-making processes enhances efficiency and accountability (Pwint et al., 2021). These insights underscore the relevance of embedding civil society into fiscal decision-making as a means of strengthening resilience.

Participatory budgeting has emerged as one of the most widely recognized instruments of participatory governance, linking fiscal transparency with citizen engagement. Classical studies emphasize its impact on service delivery and social equity (Cabannes, 2015; Wampler & Hartz-Karp, 2012), while more recent works explore its role in advancing local development and equity (Schugurensky & Mook, 2024). Comparative analyses highlight both the potential and pitfalls of scaling participatory budgeting, stressing the need for robust institutional arrangements (Falanga, 2024). In Central and Eastern Europe, participatory budgeting has been studied as a practical instrument of local democracy (Sonta, 2023), although its implemen-

tation in wartime remains under-explored. The Ivano-Frankivsk case (Brovko, 2023) provides rare empirical evidence of participatory budgeting adaptation under martial law, showing how priorities shifted from traditional development projects to urgent wartime needs such as shelters and support for displaced populations.

Moreover, recent scientific research argues that participatory mechanisms may play a stabilizing role during crises, enhancing transparency and maintaining public trust when institutional legitimacy is under strain. The transparent and participatory allocation of scarce local resources not only enhances fiscal resilience but also consolidates democratic governance and public trust under crisis conditions.

Despite the breadth of scientific research, several gaps remain. First, while resilience in public finance has been widely studied, there is limited research on its concrete manifestation in Ukrainian local budgets during active wartime. Second, although civil society involvement is theoretically associated with trust and efficiency, its specific contribution to wartime fiscal governance in Ukraine remains empirically underexplored. Third, the notion of “wartime participatory budgeting” has yet to be systematically conceptualized in either Ukrainian or international literature, despite emerging municipal practices.

The aim of this study is to analyze the fiscal dynamics of local budgets in Lviv and Kharkiv under wartime conditions and to assess participatory budgeting as an adaptive mechanism of local governance during armed conflict. Based on the existing literature on wartime public finance and subnational fiscal resilience, this study formulates the following hypotheses:

- H1: Wartime conditions generate pronounced fiscal asymmetry between frontline and rear municipalities, resulting in significantly lower execution rates of own-source revenues in frontline cities compared to rear-area cities.*
- H2: Under wartime fiscal constraints, municipalities reallocate expenditures toward housing and communal services and other survival-oriented functions, leading to systematic*

*over-execution of these categories relative to planned budgets.*

- H3: War leads to a contraction of capital and development-oriented expenditures at the local level, regardless of a municipality’s pre-war fiscal capacity or geographic location.*

While the fiscal hypotheses are tested through quantitative analysis of municipal budget execution data, the role of participatory budgeting is examined through a qualitative comparative assessment of municipal governance practices under wartime conditions.

## 2. METHODOLOGY

This study adopts a comparative case study design to examine fiscal resilience and participatory governance in Ukrainian municipalities under wartime conditions. The methodological framework is grounded in comparative public finance and subnational resilience analysis, which emphasize territorial differentiation, institutional capacity, and adaptive fiscal behavior in crisis settings (Markuts & Roberto, 2025; Voznyak et al., 2023). The empirical focus is placed on two large Ukrainian cities, Lviv and Kharkiv, which represent contrasting municipal contexts as, respectively, a rear-area and a frontline city.

The selection of these cases is analytically justified by their markedly different geographic exposure to hostilities, economic structures, and fiscal trajectories during the full-scale invasion. Together, these characteristics allow for the capture of territorial asymmetries in wartime fiscal resilience and for the identification of how varying degrees of security risk and economic disruption shape local budgetary adaptation. The comparative design enables both the identification of common wartime fiscal responses and the detection of structural divergences in revenue performance, expenditure priorities, and governance practices.

In addition to fiscal outcomes, the comparative approach facilitates an examination of how changes in local budgetary conditions correspond to the evolution, suspension, or adaptation of participatory budgeting mechanisms across municipali-

ties. This dual focus allows the study to link quantitative budgetary dynamics with institutional changes in participatory governance under crisis conditions.

The analysis is based on a mixed set of empirical sources, combining official financial data, macroeconomic assessments, and analytical documentation. Official municipal budget execution reports for 2022 from the Lviv City Territorial Community and the Kharkiv City Territorial Community provide detailed information on planned and actual revenues and expenditures across major budgetary categories:

- Lviv City Council (2022): Official budget execution reports accessed through the Lviv City Council's public financial portal.
- Kharkiv City Council (2022): Official municipal financial reports published by the Department of Budget and Finance of the Kharkiv City Council.

Macroeconomic and fiscal data from the World Bank's Ukraine Rapid Damage and Needs Assessment (European Union et al., 2023) are used to contextualize municipal-level fiscal performance within broader national economic contraction and wartime shock dynamics.

Peer-reviewed scholarly literature on fiscal resilience, emergency budgeting, decentralization, and participatory governance informs the analytical framework and supports the interpretation of empirical findings.

Analytical reports and institutional documentation produced by the Analytical Center Observatory of Democracy (2024) and official local participatory budgeting platforms document the operational status, suspension, or continuation of participatory budgeting initiatives during wartime.

The Open Budget Portal of Ukraine, an official government database administered by the Ministry of Finance of Ukraine, provides standardized national and subnational budget data. The portal was used to cross-verify municipal financial indicators and to ensure consistency in revenue and expenditure classifications across cases.

All financial data were cross-validated using at least two independent official sources: municipal budget execution reports and the Open Budget Portal of Ukraine. To ensure comparability between municipalities and across fiscal indicators, all monetary values were standardized to million UAH. Only officially published and publicly accessible data were employed in the analysis, ensuring transparency, replicability, and methodological rigor.

### 3. RESULTS

Budget execution data for 2022 reveal a pronounced wartime fiscal divergence between the two municipalities. On the revenue side, Kharkiv underperformed planned tax revenues (78.3%) and local taxes (63.4%), while Lviv exceeded planned tax revenues (112.5%) and local taxes (112.1%). On the expenditure side, both cities expanded housing and communal services above plan (Kharkiv: 150.3%; Lviv: 134.9%) while sharply compressing development-oriented spending, with construction and regional development executed at only 10.4% in Kharkiv and 7.1% in Lviv.

While these mechanisms have enabled Ukraine to preserve a degree of functionality amid systemic collapse, they also raise questions about long-term sustainability, particularly given the structural dependence on external aid and the foregone investments in development. Thus, Ukraine's fiscal resilience should be understood as adaptive but fragile, requiring continuous recalibration as the war endures.

The evidence from both the World Bank's Rapid Damage and Needs Assessment (European Union et al., 2023) and the emergency budgeting analysis by Markuts and Roberto (2025) demonstrates that fiscal resilience in Ukraine is not a singular concept but rather a multi-dimensional phenomenon. It incorporates rapid budgetary reallocation at the national level, extensive reliance on international financial support, and institutional reforms to secure transparency and accountability. At the same time, resilience is territorially differentiated, with rear municipalities such as Lviv showing adaptive stability while frontline cities like Kharkiv rely heavily on central transfers and humanitarian aid.

**Table 1.** Revenues of Kharkiv and Lviv in 2022 (planned vs actual)

Source: Kharkiv City Council (2022), Lviv City Council (2022).

Category	Kharkiv			Lviv		
	Planned	Actual	Execution (%)	Planned	Actual	Execution (%)
Tax revenues (including local taxes)	16,742.0	13,112.36	78.3	10,271.79	11,558.23	112.5
Local taxes (subset of tax revenues)	5,522.2	3,498.48	63.4	3,080.17	3,452.38	112.1
Non-tax revenues	476.0	201.11	42.3	264.71	243.30	91.9
Income from property / entrepreneurial activity	43.3	12.46	30.2	74.1	68.22	91.9
Official transfers	2,974.56	2,432.65	81.8	1,718.3	1,630.28	94.9

The study integrates quantitative and qualitative analytical methods to capture both fiscal and institutional dimensions of resilience. Descriptive statistical analysis of municipal budget execution rates compared planned and actual revenues and expenditures across key functional categories (Tables 1–2). Execution ratios were calculated as the share of actual spending relative to approved plans, providing an indicator of fiscal stress and adaptation. Comparative evaluation between Lviv and Kharkiv highlighted structural differences in revenue performance (tax, non-tax, transfers) and expenditure priorities (social protection, infrastructure, utilities). This comparison was interpreted through the lens of territorial exposure to war.

To further illustrate the asymmetry of fiscal resilience between a frontline and a rear city, we compared the planned and actual execution of local budgets in Kharkiv and Lviv for 2022. The data capture both the revenue side, where the war disrupted tax collection and intergovernmental transfers, and the expenditure side, where emergency budgeting compelled municipalities to reprioritize spending.

The comparative assessment of Kharkiv and Lviv in 2022 vividly illustrates the asymmetric impact of war on municipal finances. On the revenue side (Table 1), Kharkiv experienced a structural collapse of its fiscal base. The city collected less than four-fifths of planned tax revenues and underperformed drastically in non-tax revenues, which amounted to less than half of their projected value. Particularly striking was the near-total erosion of income from property and entrepreneurial activity, executed at only 30.2% of the plan. This reflects the combined effect of physical destruction of economic assets, population displacement, and the paralysis of small and medium enterprises un-

der conditions of constant shelling. Even official transfers, which typically function as stabilizing mechanisms, were executed at only 81.8%, underscoring the limits of intergovernmental support when fiscal pressures were overwhelming.

Lviv, by contrast, demonstrated relative resilience and even expansion of its revenue base. The city exceeded its planned tax revenues by 12.5%, supported by over-performance in local taxes. This suggests that the inflow of internally displaced persons and the relocation of enterprises not only compensated for potential losses but generated new taxable activity. While non-tax revenues and property-related income underperformed slightly, the magnitude of the shortfall was minor compared to Kharkiv's collapse. A plausible hypothesis is that Lviv's status as a relatively safe urban hub in western Ukraine allowed it to attract new businesses, NGO activity, and international organizations, all of which reinforced the municipal tax base. Thus, while Kharkiv's fiscal narrative was one of contraction, Lviv's was paradoxically one of expansion during wartime.

A more granular look at revenue components indicates that Kharkiv's shortfall was concentrated in the most economically sensitive sources. The city fell short of the tax revenue plan by 3,629.6 (planned vs actual), while local taxes were executed at only 63.4%, signaling a weakened municipal revenue base. The steepest decline occurred in income from property and entrepreneurial activity (30.2% of plan), consistent with the disruption of local economic transactions and the contraction of municipal asset-based revenues under direct hostilities. Non-tax revenues were also executed at only 42.3%, reinforcing the pattern that administrative fees, service payments, and other discretionary receipts deteriorate strongly during acute insecurity.

In contrast, Lviv shows an opposite revenue trajectory: tax revenues overperformed the plan by 1,286.4 and local taxes reached 112.1% of the planned level, indicating that the city's taxable base remained operational and potentially expanded during the period. At the same time, the relatively high execution of non-tax revenues (91.9%) and property-related revenues (91.9%) suggests that municipal service activity and asset-related flows largely remained functional. Compared with Kharkiv, this revenue pattern implies a substantially stronger capacity to finance municipal obligations from own-source revenues, reducing immediate dependence on compensatory mechanisms.

The revenue-side evidence confirms a wartime fiscal asymmetry hypothesis: rear-area municipalities can preserve or even exceed planned own-source revenues, while frontline municipalities experience pronounced under-execution, especially in non-tax and property-related revenue streams.

On the expenditure side, both cities displayed the logic of emergency budgeting (sacrificing long-term investment to protect immediate consumption) but the structure of reallocation diverged sharply. Kharkiv slashed capital development spending, with construction and regional development executed at only 10.4% of the plan, while culture and sports were reduced to 57.1 and 38.1%, respectively. Education, health care, and social protection were cut relative to plans but still preserved at a functional level, reflecting the need to sustain core services despite constrained revenues. The surge in housing and communal services to 150.3% is particularly telling. It likely represents

emergency spending on utility repair, shelter maintenance, and debris clearance, as essential survival measures in a city under constant bombardment. This suggests that fiscal resilience in Kharkiv took the form of radical reorientation towards maintaining minimal functionality in the face of near-collapse.

Lviv's expenditure profile reveals a very different form of resilience. Like Kharkiv, the city curtailed capital projects, with construction and regional development executed at only 7.1% of planned values and road spending at 41.7%. Yet, unlike Kharkiv, Lviv dramatically expanded social and health functions, with health care executed at 151.1% and social protection at 158.2% of planned levels. These figures indicate the city's role as a humanitarian hub, absorbing hundreds of thousands of internally displaced persons and meeting their needs through expanded welfare programs, shelter provision, and health infrastructure. A remarkable increase in the category of "other economic programs" to 370.7% likely reflects the adoption of extraordinary measures to stabilize local businesses, support relocation, and maintain economic vitality. This suggests that while Kharkiv focused on survival under siege, Lviv leveraged its relative stability to expand adaptive functions, thereby consolidating its role as a rear logistics and humanitarian center.

Expenditure execution patterns indicate a common wartime reprioritization mechanism in both municipalities: development and discretionary spending categories were compressed, while survival- and welfare-oriented categories expanded. The most consistent wartime signal is the over-

**Table 2.** Expenditures of Kharkiv and Lviv in 2022 (planned vs actual)

Source: Kharkiv City Council (2022) and Lviv City Council (2022).

Category	Kharkiv			Lviv		
	Planned	Actual	Execution (%)	Planned	Actual	Execution (%)
Public administration	214.68	114.16	53.2	941.16	791.85	84.1
Education	6,050.58	5,037.42	83.3	5,462.82	5,069.64	92.8
Health care	558.27	411.94	73.7	262.89	397.35	151.1
Social protection	608.07	411.36	67.6	486.56	769.83	158.2
Culture	483.05	276.01	57.1	277.61	251.80	90.7
Sports	480.73	183.00	38.1	167.17	130.82	78.3
Housing and communal services	2,931.46	4,409.27	150.3	1,386.27	1,869.52	134.9
Construction and regional development	1,677.80	174.16	10.4	1,802.52	128.51	7.1
Transport and road infrastructure	2,396.78	2,003.16	83.6	698.42	291.16	41.7
Other economic programs	678.59	246.90	36.4	401.02	1,486.68	370.7

shooting of housing and communal services – 150.3% in Kharkiv and 134.9% in Lviv – indicating that public infrastructure, utility stability, emergency repair, and basic functioning became dominant municipal priorities.

At the same time, capital and long-term development functions were minimized: construction and regional development accounted for 10.4% in Kharkiv and 7.1% in Lviv. This pattern supports the hypothesis of investment contraction under wartime constraints and demonstrates that even fiscally stable municipalities reallocate away from capital formation when uncertainty and rule-based spending constraints increase.

The functional composition of social expenditures diverged sharply. Lviv achieved health care at 151.1% and social protection at 158.2%, indicating expansion of welfare and service capacity. In contrast, Kharkiv achieved these categories at 73.7% and 67.6%, respectively, suggesting rationing of social spending amid revenue collapse and extreme emergency needs. These figures provide a measurable basis for differentiating the “adaptive” (service-expanding) profile from the “survival” (minimal-functionality) profile at the municipal level.

A further divergence is observed in “other economic programs”: Kharkiv executed 36.4% of the plan, while Lviv reached 370.7%. This extreme gap indicates fundamentally different policy space: Kharkiv’s fiscal room for discretionary economic measures was constrained, while Lviv adopted expanded extraordinary economic interventions relative to initial planning assumptions.

The expenditure-side evidence supports two hypotheses: (1) wartime growth of housing and communal spending, and (2) contraction of capital/development expenditures. It also reveals a strong divergence in welfare expansion capacity between rear and frontline municipalities.

The juxtaposition of Kharkiv and Lviv demonstrates two distinct models of wartime fiscal resilience, shaped primarily by geography and exposure to violence. Kharkiv represents a survival-oriented resilience model, characterized by revenue contraction, dependence on state trans-

fers, and radical expenditure reallocation toward utilities and immediate survival needs. Its financial system remained functional only by sacrificing development-oriented spending and narrowing the scope of social services. Lviv, by contrast, exemplifies an adaptive resilience model, in which revenue over-performance enabled the expansion of social and health programs, even as capital investment was curtailed.

Furthermore, we conclude that the Ukrainian case illustrates how local fiscal systems can evolve into adaptive governance frameworks under existential threats. Despite unprecedented expenditure pressures, municipalities showed capacity to reallocate up to 40% of their budgets toward defense, emergency housing, and humanitarian relief. Markuts and Roberto (2025) interpret this not as fiscal erosion but as an example of functional resilience – the ability to modify spending structures while maintaining administrative coherence.

Several broader hypotheses emerge from this analysis. First, the war has intensified territorial asymmetries in Ukraine’s fiscal system, creating a dual reality of collapse in frontline regions and relative stabilization in rear cities. This divergence could deepen inequalities in development capacity between regions, potentially complicating post-war reconstruction. Second, the inflow of displaced populations, while a strain on infrastructure, paradoxically strengthened the fiscal base of safer cities, providing them with new taxable activity and opportunities to leverage external aid. Third, the data suggest that decentralization reforms implemented before the war provided municipalities with some autonomy to reallocate resources, but resilience was ultimately contingent on both local economic bases and external financial support.

The key implication is that wartime fiscal resilience cannot be understood solely as a matter of liquidity or balance sheets. It is a territorially differentiated process that combines elements of survival, adaptation, and innovation. In Kharkiv, resilience meant preserving a minimal level of functionality under existential threat; in Lviv, it meant adapting to new demands and expanding welfare provision to sustain community trust and stability. Together, these cases highlight the need for a differentiated approach to post-war fiscal policy, one that recog-

nizes the uneven geography of resilience and provides tailored instruments to support both front-line survival and rear-city adaptation.

As noted by Bartocci et al. (2022), participatory budgeting globally has evolved as a dynamic “idea journey” that depends not only on financial capacity but also on the social environment in which it develops, including “political dynamics, civic culture, and the professionalism and commitment of managers.” In other words, for participatory mechanisms to flourish, the surrounding ecosystem of trust, inclusiveness, and accountability must already be present.

From this perspective, rebuilding institutional legitimacy in Ukraine will require not merely administrative efficiency but genuine civic participation. Mechanisms that involve citizens directly in resource allocation can strengthen accountability and restore trust in local institutions, especially when traditional bureaucratic systems are weakened by crisis. Therefore, participatory budgeting emerges as a crucial tool for bridging the trust gap between citizens and local governments, transforming civic trust into fiscal legitimacy.

Hence, we explored how this logic materializes in practice through the example of Ivano-Frankivsk, a municipality that successfully reinstated its participatory budgeting initiative in 2023 and actively implements the Budget of Participation program. In contrast, Lviv and Kharkiv, despite their fiscal capacities and differing wartime realities, have not resumed such initiatives, highlighting the uneven landscape of participatory governance across Ukrainian municipalities during wartime.

The wartime period has exposed significant disparities in how Ukrainian municipalities approach participatory governance. Despite the shared decentralization framework, the degree to which local governments sustain or suspend participatory budgeting varies widely, reflecting differences in administrative priorities, political will, and local civic capacity.

In Kharkiv, the regional capital and a city severely affected by warfare, the local government has effectively halted its participatory budgeting program. Although the Kharkiv City Council for-

mally extended the Participatory Budget Program until 2025 by resolution on December 22, 2021, “to improve the process of public budgeting in the city,” no project competitions have been conducted since the full-scale invasion. Furthermore, no funds were allocated in the 2024 municipal budget to support participatory budgeting activities. This institutional stagnation undermines the development of civic engagement in the region, as Kharkiv traditionally served as a model for surrounding communities. The fact that smaller rural communities in the Kupiansk district, located near the front line, have shown more initiative in maintaining participatory budgeting processes than the regional center itself reveals a concerning erosion of participatory practices.

Research conducted by the Analytical Center Observatory of Democracy (2024) indicates that most local councils in the Kharkiv region currently ignore participatory budgeting mechanisms altogether. This absence of participatory instruments not only weakens citizen oversight but also narrows opportunities for local innovation and accountability. Reactivating participatory budgeting in such a context could have significant democratic and social value, i.e., rebuilding civic trust, encouraging community solidarity, and restoring a sense of shared responsibility for recovery. The center’s experts emphasize that municipalities and military administrations should prioritize the re-introduction of participatory budgeting in their 2024–2025 budgets as part of broader post-war democratic reconstruction.

Lviv, though geographically distant from the front line, has also suspended its participatory budgeting mechanism. This decision reflects a troubling stagnation in civic engagement rather than strategic adaptation. On August 15, 2023, the city’s official participatory budgeting website announced that, due to the ongoing martial law and in compliance with Cabinet of Ministers Resolution No. 590 (2021, June 9) and Mayor’s Order No. 252 (2023, July 19) on restricting non-priority expenditures, the acceptance of participatory budgeting project proposals for 2023 would not take place.

While the city government justified this decision by pointing to fiscal restrictions under wartime budgetary rules, the suspension of participatory

budgeting for two consecutive years has generated growing skepticism among residents. The working group on participatory budgeting publicly stated that it is considering possible models of adapting participatory budgeting to wartime conditions, yet no concrete steps, pilot projects, or public consultations have followed. As a result, the rhetoric of “future adaptation” has begun to lose credibility among citizens, who increasingly perceive it as a symbolic gesture rather than a genuine commitment to participatory governance.

This inaction undermines one of the key principles of fiscal transparency that had previously defined Lviv’s local governance. Before the war, the city was often regarded as a leader in implementing modern forms of civic participation and local democracy. The prolonged absence of participatory budgeting activities, combined with vague official statements about “possible future adjustments,” has eroded part of that reputation. From the standpoint of public trust, this is particularly problematic in a city that otherwise demonstrates high administrative capacity and relatively stable finances.

The situation reveals a paradox: while Lviv continues to promote its image as a progressive and transparent municipality, the suspension of participatory budgeting contradicts those very values. Citizens’ confidence in local institutions remains fragile, and the failure to reintroduce participatory budgeting – despite the absence of direct security threats – suggests institutional caution bordering on avoidance. In a broader sense, this reflects a “trust deficit” that mirrors national trends, where citizens increasingly believe that volunteer and civic initiatives manage public resources more effectively than formal authorities.

Unlike Kharkiv and Lviv, Ivano-Frankivsk has demonstrated remarkable continuity and adaptation of its participatory budgeting initiative, as noted by the Ivano-Frankivsk City Council (2024). The city not only resumed participatory budgeting after the initial shock of invasion but also reoriented it toward wartime needs and civic resilience.

For example, in 2023, citizens submitted 129 projects totaling 88.8 million UAH; 38 projects were implemented for a combined 25.7 million UAH,

nearly half of them in the education sector. In 2024, participation remained strong, with 112 submitted projects and 39 winners, totaling 30.2 million UAH, of which 34 projects have already been implemented. In 2025, the program expanded further: 82 winning projects were approved for a total of 50.2 million UAH, and notably, 42 of these (worth 20.2 million UAH) were directly dedicated to supporting the Armed Forces of Ukraine – including the purchase of drones, communication systems, camouflage materials, and other equipment vital for defense operations.

This evolution marks a paradigm shift in the philosophy of participatory budgeting. Traditionally aimed at improving urban infrastructure or public spaces, participatory budgeting in Ivano-Frankivsk has transformed into a tool for community defense and social solidarity. It demonstrates that, even amid martial law, citizens can co-determine the allocation of public funds to address the most urgent collective needs. The capacity of residents to mobilize resources for the armed forces through a transparent, democratic process indicates a high level of civic maturity and trust between the community and its local authorities.

The comparison among the three cities underscores a spectrum of institutional responses to crisis. Kharkiv represents the lower bound – a case of administrative inaction and civic disengagement, constrained by war damage and bureaucratic inertia. Lviv occupies a middle position: cautious and rule-bound, reflecting a balancing act between fiscal conservatism and the aspiration to preserve participatory values. Ivano-Frankivsk, in contrast, exemplifies an innovative, adaptive model of wartime participation where civic initiative complements public governance.

This pattern suggests that wartime participatory budgeting is not merely a financial procedure but a test of institutional adaptability and civic trust. The success of Ivano-Frankivsk’s model highlights the potential of participatory budgeting as a mechanism for moral and institutional reconstruction – transforming citizens from passive recipients of aid into active co-architects of local resilience. The symbolic and material impact of allocating 20.2 million UAH from the local budget to defense projects demonstrates that even in con-

ditions of war, democratic participation can coexist with national security priorities.

The experiences of these cities reveal a critical insight for Ukraine's post-war governance: participatory budgeting must not be viewed as a peacetime luxury, but as an essential component of social resilience. In times of war, such mechanisms can bridge the divide between citizens and local authorities, enhance transparency in the use of scarce public resources, and rebuild trust in institutions that have suffered legitimacy losses.

It is therefore vital to restore and expand participatory budgeting practices across Ukrainian municipalities. Reactivating these programs would not only democratize financial governance but also strengthen civic unity and local accountability during reconstruction. Emerging examples like Ivano-Frankivsk suggest the birth of a new paradigm, i.e., what can be termed a "wartime participatory budget." This concept reflects a hybrid governance model in which participatory budgeting becomes both a fiscal and moral instrument of defense, enabling communities to direct portions of their local budgets toward resilience, humanitarian support, and national security needs.

## 4. DISCUSSION

The results demonstrate that wartime fiscal resilience in Ukrainian municipalities is strongly shaped by territorial exposure to violence, structural economic characteristics, and institutional flexibility. When compared with existing research, several important patterns emerge that both confirm and extend previous findings.

First, the empirical asymmetry between Lviv and Kharkiv aligns with the broader theoretical understanding of multi-scalar resilience described by Hill et al. (2012), Mayor and Pamos (2020), and Kitsos et al. (2019). Their interpretation of resilience as a dynamic, adaptive process mirrors the fiscal behavior observed in this study: Kharkiv's survival-oriented expenditures under continuous shelling represent a minimal functional resilience. At the same time, Lviv's capacity to expand social services despite wartime pressures demonstrates a more advanced adaptive response. These findings

reinforce the claim that resilience is not a static equilibrium, but a continuous process of institutional reconfiguration.

Second, the results strongly confirm the conceptual model of fiscal resilience proposed by Hochrainer-Stigler et al. (2024). The study illustrates how both explicit and implicit fiscal liabilities – such as infrastructure destruction, demographic shifts, and emergency public service demands – materialize simultaneously during wartime. More specifically, the breakdown of Kharkiv's tax base and the city's reliance on transfers provide empirical evidence for the authors' risk-layering perspective: the war functions as an "extreme shock" requiring external assistance, while Lviv's moderate deviations from planned revenues reflect the capacity to absorb "mid-level shocks" through internal adaptation.

Third, the divergent trajectories of the two municipalities empirically validate the argument of Voznyak et al. (2023) that subnational resilience depends on the structural determinants of regional economic systems. Lviv's diversified tax base, strong institutional capacity, and influx of internally displaced persons correspond to the model of regions with robust endogenous resources. Conversely, Kharkiv's collapse in non-tax revenues and capital spending aligns with the vulnerabilities identified for territories dependent on narrow economic structures or exposed to direct conflict. This comparison reinforces their conclusion that the foundations of regional resilience predate crises and sharply determine wartime outcomes.

Fourth, the findings offer new insights regarding participatory governance under crisis conditions. While the broader participatory budgeting literature – such as Cabannes (2015) and Schugurensky and Mook (2024) – emphasizes its contribution to equity, legitimacy, and improved service delivery, the Ukrainian wartime context reveals a more complex picture. This study shows that participatory budgeting is not uniformly resilient: Kharkiv's complete suspension of participatory budgeting contradicts international expectations about its stabilizing effects, while Lviv's cautious, prolonged suspension likewise deviates from the optimistic global narrative. In contrast, Ivano-Frankivsk's proactive wartime participatory bud-

getting reflects what Falanga (2024) identifies as institutional adaptability, demonstrating that political will and civic capacity, rather than administrative structure alone, determine participatory budgeting continuity. Thus, the results both support and challenge the established literature, showing that participatory budgeting is not inherently resistant to crisis, but can become transformative when supported by strong civic ecosystems.

Fifth, the emergence of wartime participatory budgeting (WPB) in Ivano-Frankivsk provides empirical support for extending the “idea journey” concept introduced by Bartocci et al. (2022). While participatory budgeting is traditionally framed as a developmental tool, the wartime participatory budgeting model observed in this study redefines participatory budgeting as a mechanism for collective survival management. The use of participatory budgeting funds for defense-related projects, humanitarian needs, and community resilience illustrates a hybrid governance mode that merges civic participation with national security priorities. Comparable practices documented in post-war Bosnia and Herzegovina and Colombia (Cabannes, 2015) further confirm that participatory budgeting can function as a post-conflict stabilizing instrument. The Ukrainian case adds to this lit-

erature by showing that such mechanisms can emerge even during active hostilities, not only after the cessation of conflict.

While fiscal resilience reflects the capacity of local governments to manage financial shocks, true resilience in wartime Ukraine extends far beyond budgetary balances. It also encompasses the social dimension of governance – how citizens perceive, trust, and engage with public institutions under crisis conditions. The war has profoundly altered not only economic structures but also the moral and institutional landscape of Ukrainian society, producing what can be described as a “redistribution of trust.”

According to recent findings of the Razumkov Centre (2024), Ukrainians have exhibited an unprecedented shift in confidence toward social institutions. The Armed Forces of Ukraine (88.8%) command the highest level of public trust, reflecting their central role in safeguarding national survival. Next come volunteer organizations (65.8%) and the Church (42.5%), both perceived as moral and practical pillars of collective resilience. Civil society organizations (33.6%) also enjoy a substantial trust advantage, having become key actors in humanitarian response, reconstruction, and local problem-solving.

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## CONCLUSION

The purpose of this study was to analyze the fiscal dynamics of local budgets in Ukrainian municipalities under wartime conditions, using the cases of Lviv and Kharkiv, and to assess participatory budgeting as an adaptive instrument of local governance during war.

The findings reveal pronounced territorial differentiation in fiscal resilience. In 2022, Kharkiv experienced substantial underperformance in key own-source revenues, reflecting the direct impact of hostilities on economic activity and the local tax base, whereas Lviv demonstrated overperformance in tax revenues and local taxes, indicating a comparatively higher level of economic stability. At the same time, both cities exhibited a significant reorientation of expenditure priorities, with overspending on housing and communal services and a sharp contraction of capital and development expenditures.

The empirical results confirm all three hypotheses. First, the hypothesis regarding fiscal asymmetry between frontline and rear municipalities is supported, as evidenced by markedly weaker revenue execution in Kharkiv compared to Lviv. Second, the hypothesis that wartime conditions lead to a reallocation of local expenditures toward “survival-oriented” functions – particularly housing and communal services – is confirmed in both cases. Third, the hypothesis concerning the systematic reduction of capital and development expenditures regardless of territorial location is also validated, as investment-related budget lines were executed at critically low levels in both cities.

In addition, the qualitative analysis of participatory budgeting demonstrates that this instrument is not inherently resilient to crisis conditions. In both Kharkiv and Lviv, participatory budgeting was effectively suspended during the war, while the case of Ivano-Frankivsk illustrates an adaptive “wartime participatory budgeting” model, in which project priorities were redirected toward humanitarian and defense-related needs, including substantial support for the Armed Forces of Ukraine. This indicates that participatory budgeting can persist under conditions of extreme uncertainty only when institutional capacity, political commitment, and civic engagement are sufficiently strong.

Based on the obtained results, several overarching conclusions of both analytical and policy relevance can be drawn. First, the fiscal resilience of local governments during wartime emerges as a structurally uneven phenomenon, shaped by spatial exposure to military risk, demographic displacement, and the continuity of local economic activity. This finding underscores the inadequacy of uniform fiscal policy responses and highlights the necessity of territorially differentiated intergovernmental support mechanisms, particularly for frontline municipalities facing simultaneous revenue erosion and elevated expenditure pressures. Second, the dominance of emergency-oriented budgeting reflects a rational short-term adaptation to existential threats; however, the systematic crowding out of capital and development expenditures generates a latent risk of post-war stagnation, as prolonged underinvestment in infrastructure, urban development, and human capital may significantly increase the long-term cost of recovery and reconstruction. In this sense, wartime budgeting should be understood not merely as a temporary deviation from development-oriented governance, but as a critical determinant of post-conflict trajectories.

Third, the analysis of participatory budgeting provides broader insights into the conditional nature of democratic fiscal instruments under extreme stress. While participatory budgeting is often framed as an inherently resilient tool of local democracy, the Ukrainian case demonstrates that its survival and transformation during wartime depend on institutional adaptability, political prioritization, and the capacity of local communities to mobilize collective action. The contrast between suspended participatory mechanisms in larger cities and the adaptive model observed in Ivano-Frankivsk suggests that participatory budgeting can evolve from a deliberative, development-focused instrument into a mechanism of societal mobilization, trust-building, and solidarity-based resource allocation. Consequently, participatory budgeting under wartime conditions should be reconceptualized not solely as a participatory innovation, but as a potential component of local resilience governance. Taken together, these conclusions indicate that the design of post-war fiscal and governance reforms in Ukraine must integrate considerations of territorial vulnerability, temporal trade-offs between survival and development, and the adaptive potential of participatory institutions within conditions of prolonged uncertainty.

## AUTHOR CONTRIBUTIONS

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