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Analysis of Macroeconomic Risks During War: The Role of Financial Institutions and State Policy Under Conditions of Incomplete Data

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Abstract: The article is devoted to the analysis of Ukraine's macroeconomic risks during wartime and the role of financial institutions in stabilizing the economy. It examines key challenges such as the destabilization of the financial system, rising public debt, the shadow economy, inflationary risks, export decline, and cyber threats. The main directions of state policy aimed at reducing macroeconomic instability are identified, including support for fiscal discipline, attraction of international financial aid, and expansion of cybersecurity mechanisms. The article analyzes the dynamics of key indicators — inflation, foreign exchange interventions, debt burden, budget deficit, external and internal borrowings — based on official statistical data for the period 2015–2025. Special attention is paid to shadow economic processes that have intensified due to weakened fiscal control, rising unemployment, and loss of state regulation in certain sectors. The study outlines the key response strategies of the government and financial system to crisis phenomena, including monetary policy adaptation, currency interventions, international aid, financial sector digitalization, combating the shadow economy, and implementation of cybersecurity. Strategic approaches to strengthening economic security and stimulating economic growth are proposed.

Keywords: *macroeconomic risks, public policy, financial institutions, shadow economy, inflation, public debt, cyber threats, investment climate, currency stability*

INTRODUCTION

The war has caused significant macroeconomic imbalances in Ukraine, manifesting in deepening financial instability through rising external debt, budget deficits, inflation, and currency risks; destruction of critical infrastructure and territorial losses; declining investment attractiveness, capital outflow, reduced economic activity and exports, and a substantial trade balance deficit. These economic losses are accompanied by a significant shortage of human resources, dependence on social

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and energy support, increasing military expenditures, and overall operations in conditions of danger and high unpredictability regarding future developments. Moreover, one of the key challenges is cyber threats, which impact the digital security of financial institutions, critical infrastructure, and public administration. In response to these challenges, both tactical and strategic response measures are essential, including further adaptation of the financial sector, economic digitalization, and the implementation of international cybersecurity standards. The primary objective of macroeconomic response measures to current challenges is to ensure the resilience of the state's socio-economic system and to accelerate its adaptation to an environment of extreme turbulence.

PROBLEM STATEMENT

Macroeconomic risks emerging under wartime conditions—particularly the destabilization of the financial system, infrastructure destruction, and rising public debt—represent key challenges for countries experiencing armed conflicts. In Ukraine, according to World Bank data, GDP declined by 29.2% in 2022, and over $500 billion is needed to rebuild the economy [1]. These economic losses threaten not only social stability but also global security, as Ukraine plays a crucial role in global food and energy supply chains. Furthermore, the war has significantly worsened the shadow economy: according to estimates by the National Bank of Ukraine, the share of the informal sector rose to 35% in 2023 due to declining tax discipline and disruptions in public administration [2]. This undermines the state's fiscal base, reduces its capacity to finance the military and social programs, and contributes to the operation of opaque schemes even under martial law. Therefore, a detailed assessment of the interconnection between macroeconomic risks, the effectiveness of financial institutions, and public policy is essential for ensuring economic resilience amid full-scale war.

LITERATURE REVIEW

The issue of macroeconomic risks during wartime has been actively researched by both Ukrainian and international scholars. Oleksandr Plotnikov (National Bank of Ukraine) analyzed financial system stabilization mechanisms through foreign exchange interventions and anti-crisis credit programs [3]; Yuriy Gorodnichenko (University of California, Berkeley) studied business adaptation to economic shocks and the role of digitalization in sustaining activity during blackouts [4].

Olena Bilan (NBU) evaluated the effectiveness of monetary policy under emergency conditions, particularly inflation control tools [5]. Dmytro Sologub (KSE) studied Ukraine's public debt dynamics and the related risks of restructuring [6]. Tetiana Bohdan (IEDPC) highlighted the war's socio-economic consequences, particularly gender aspects of labor market losses [7].

International studies, including work by Serhiy Huliev (CEPR) and Vladyslav Rashkovan (IMF), emphasize the critical role of international financial aid in preventing economic collapse [8]. However, specific mechanisms of the shadow economy during wartime and the interaction between financial institutions and informal practices remain underexplored.

Most academic studies are based on data from 2022–2023, which limits the predictive power and depth of analysis for forward-looking scenarios. This highlights the presence of information risks in analytical activity and the challenges of ensuring data transparency. The quality of open data in Ukraine fell from 57.6% before the full-scale invasion to 44.2% as of now. Consequently, scientific and analytical activities must be carried out in conditions of incomplete data, which should be taken into account when interpreting findings and assessing their contribution to solving today's macroeconomic challenges.

OBJECTIVE

The aim of the article is to analyze macroeconomic risks in Ukraine under the conditions of full-scale war, in the context of identifying the role of financial institutions and state policy in ensuring the stability of the national system.

Main Content

The Ukrainian economy, under the conditions of an ongoing full-scale war, remains highly sensitive to external and internal shocks. By the third year of the invasion, many adaptive results have already been achieved in terms of reconfiguring operations and systems to align with new conditions of functioning.

On one hand, military actions lead to direct losses in production capacity, destruction of infrastructure, reduced investment attractiveness, a decline in exports, exchange rate instability, and increased migration. On the other hand, the war intensifies fiscal pressure on the state budget due to the need to finance defense needs and social programs, resulting in rising public debt and dependence on international financial aid.

All of this occurs against the backdrop of danger, uncertainty, and unpredictability regarding future activities and life in general — a new reality that must be taken into account when making decisions.

Let us examine Ukraine's macroeconomic risks during wartime through key indicators that characterize them, namely:

The risk of financial system destabilization during the war is described by time series dynamics of such indicators as: volumes of public debt, budget deficit, inflation rate, foreign currency purchases, foreign exchange reserves, and military expenditures.

The risk of declining business activity and economic growth during the war is defined by the values of the following indicators over a certain period: volumes of lost territories, business entities, infrastructure; production volumes; outflow of investments, capital, and labor; instances of logistical restrictions; export and import volumes; and trade balance.

The risk of an expanding shadow economy is reflected by data on the volume of the shadow economy.

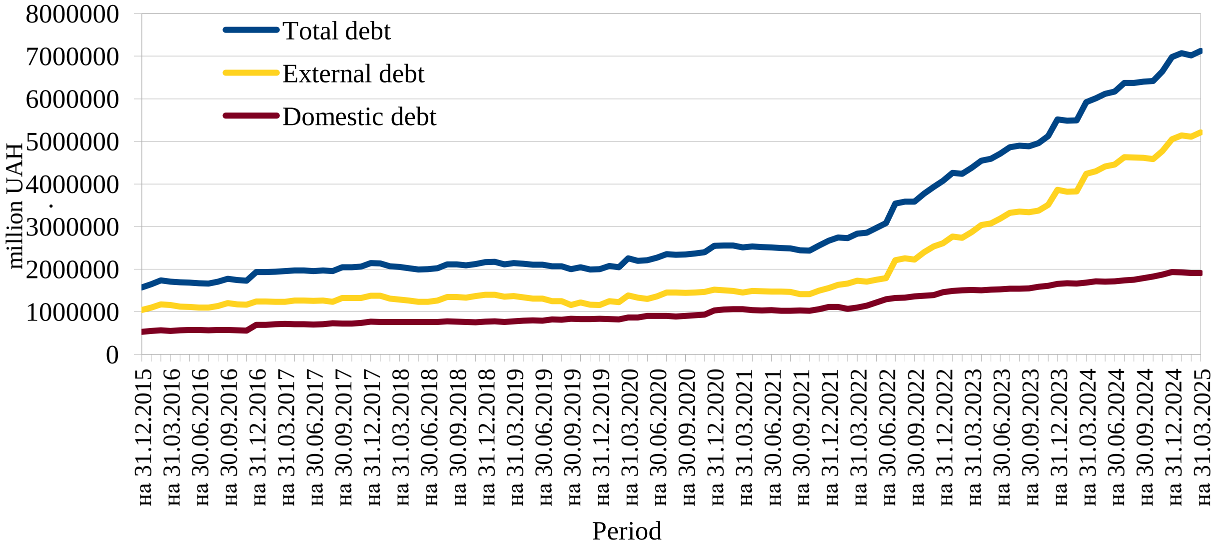


Figure 1. Dynamics of Ukraine's Public Debt from 31.12.2015 to 31.03.2025, million UAH [18]

The figure shows the dynamics of Ukraine's total, external, and domestic public debt over the period from December 31, 2015, to March 31, 2025. Overall, a steady trend of growing debt obligations is observed, with a distinct acceleration in the latter half of the analyzed period.

During 2015–2019, debt dynamics remained relatively stable. In this period, total debt increased moderately — from 1,572,180.2 million UAH to approximately 2,000,000 million UAH. A relatively balanced distribution between external and domestic borrowing reflected a cautious government borrowing policy amid gradual economic recovery.

From 2020, the rate of debt accumulation increased sharply due to the need to finance anti-crisis measures in response to the COVID-19 pandemic. Beginning in 2022, the growth accelerated even further as a result of full-scale armed aggression, which required large volumes of external aid.

As of March 31, 2025, the total public debt reached 7,123,249.5 million UAH — almost 4.5 times the figure at the start of the analyzed period. The greatest burden falls on external borrowing, which shows an accelerated growth trend, especially during 2022–2024. This tendency highlights the rising debt burden on the state budget and emphasizes the need to improve debt policy.

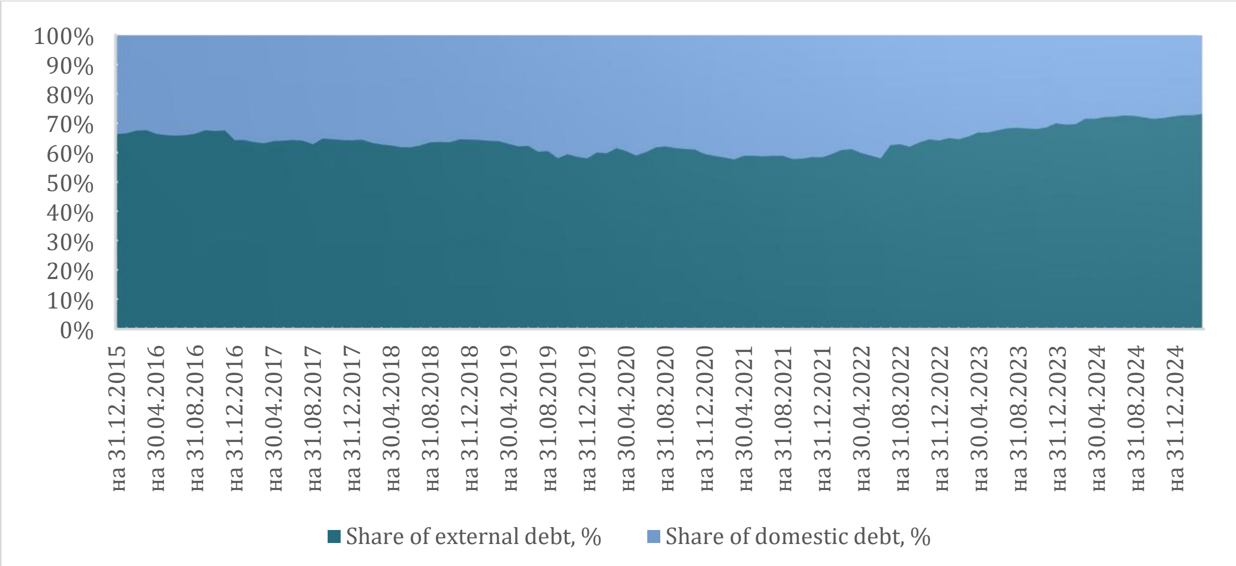


Figure 2. Share of External and Domestic Debt from 31.12.2015 to 31.03.2025, % [18]

This figure presents the dynamics of the ratio between external and domestic debt in Ukraine's total public debt structure over 2015–2025. As of December 31, 2015, the share of external debt was about 66.3% of the total (1,042,719.6 million UAH out of 1,572,180.2 million UAH), and domestic debt accounted for 33.7%. By the end of 2019, the share of external debt remained relatively high, fluctuating within 60–62%, while domestic borrowing comprised about 38–40%.

In 2020, due to the extensive use of domestic instruments (primarily government bonds) to finance anti-crisis expenditures, the share of domestic debt increased to approximately 42.5%, while external debt dropped to 57.5% as of December 31, 2020.

Following the onset of the full-scale war, the balance shifted in favor of external borrowing: driven by active support from international financial organizations and the issuance of euro- and dollar-denominated bonds, the share of external debt exceeded 68% in 2022–2023. In 2024–2025, this trend continued to strengthen: as of March 31, 2025, the share of external debt reached about 73.2%, while domestic debt made up just 26.8%.

Table 1. Variability Indicators of Ukraine's Public Debt (based on Figures 1 and 2)

Indicator	*Total Public Debt*	*External Debt*	*Domestic Debt*
Standard Deviation	1,578,646.29	1,190,706.56	404,997.26
Arithmetic Mean	3,089,449.50	2,028,908.39	1,060,541.11
Coefficient of Variation (CV)	0.511	0.587	0.382

According to the coefficient of variation, external debt is the most volatile (CV = 0.587), while domestic debt is the most stable (CV = 0.382), and total debt shows moderate variability (CV = 0.511).

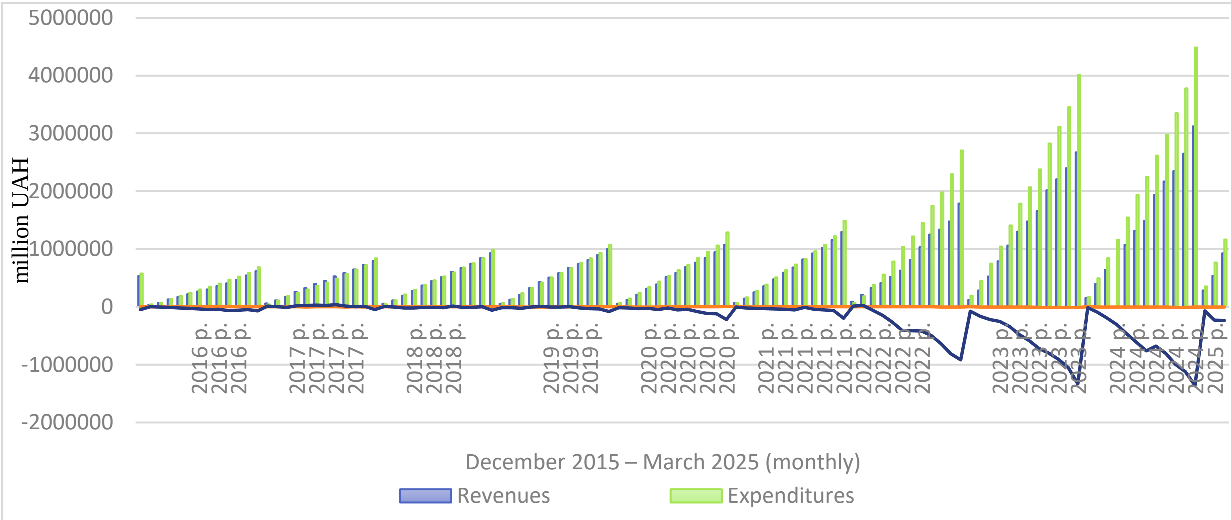


Figure 3. State Budget Performance of Ukraine from December 2015 to March 2025, million UAH [16]

During the period from 2015 to 2025, Ukraine witnessed significant changes in the structure and dynamics of key budget indicators. Figure 3 illustrates the performance of the state budget over the corresponding period, in particular by revenues, expenditures, lending, and budget deficit, in million UAH.

The dynamics of state budget revenues show a gradual increase, which accelerated after 2020. This trend, on one hand, indicates a growing fiscal capacity of the state, and on the other hand, may reflect the inflationary effect and growth in external assistance.

Expenditure consistently exceed revenues throughout the entire analyzed period. The increase in expenditures in 2022–2023 correlates with the start of the full-scale aggression by the Russian Federation against Ukraine. In these years, the budget was redirected to ensure defense capability, social payments, and humanitarian aid. This situation caused a significant widening of the budget deficit.

In particular, lending volumes remained relatively small and stable. They were likely associated with providing state support to certain economic sectors or lending to lower-level budgets. Considering the scale of other indicators, lending did not have a significant impact on the overall fiscal balance.

A key indicator of fiscal pressure is the state budget deficit, which reached peak values during 2021–2023 (up to –2 million UAH). This indicates a critical imbalance between revenues and expenditures during the crisis. The deficit in this period was financed through external loans, grants, and the domestic debt market.

In 2025, there is a slight decrease in the deficit compared to the peak values, which may signal the beginning of macroeconomic stabilization and improved budget planning.

An analysis of the annual cyclicality clearly shows peak expenditure spikes each December. This is a typical manifestation of cash-based budget execution, when budget managers disburse planned allocations at the end of the fiscal period.

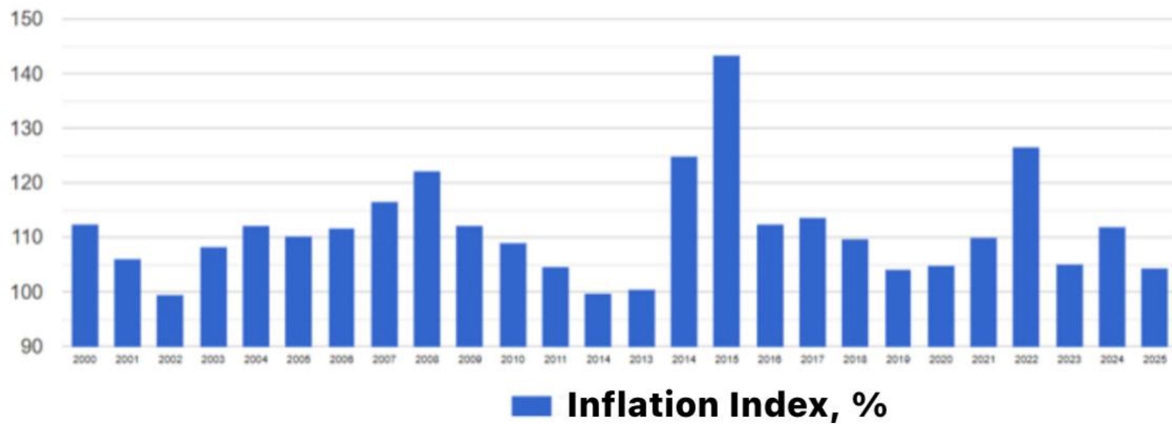


Figure 4. Changes in the Inflation Index in Ukraine from 2000 to 2025 [21]

Inflation is a key macroeconomic indicator reflecting changes in the general price level in the country. Figure 4 presents changes in Ukraine's inflation index in percentage terms over the period from 2000 to 2025, allowing for analysis of long-term trends, crisis peaks, and stabilization phases.

Over the period 2000–2025, Ukraine's inflation index demonstrated significant fluctuations, reflecting the complex economic dynamics of the country. In the early 2000s, inflation indicators were relatively stable — fluctuating mostly within 106–113%, which indicated relative price stability amid structural economic reforms.

A significant increase in inflation occurred in 2008 — over 122%, coinciding with the global financial crisis and negative internal developments. In the following years (2009–2013), inflation slowed down somewhat, but in 2015, the index reached a peak of approximately 145%. The main factors behind this surge included escalating military conflict, hryvnia devaluation, and the loss of part of Ukraine's industrial capacity and trade connections.

From 2016 to 2021, inflationary pressure eased: the index remained within 104–112%, which may reflect the effectiveness of the inflation targeting policy implemented by the National Bank of Ukraine. However, in 2022, the index rose again — to 120%, due to the full-scale Russian invasion, supply disruptions, increased business costs, and energy price growth.

In the period 2023–2025, the inflation index shows a gradual decline and returns to around 110%. This trend indicates early signs of economic stabilization under wartime conditions, made possible through international financial support, market adaptation to new realities, and moderate monetary policy.

Alongside inflation changes, an important indicator of macroeconomic stability is the dynamics of currency interventions by the National Bank of Ukraine, which play a key role in exchange rate regulation and maintaining the balance of payments.

Table 2. Volumes of NBU Currency Interventions from 2018 to 2025 (in million USD) [23]

Year	*Sale*	*Purchase*	*Balance (Sale − Purchase)*
2018	1801,82	3173,78	-1371.96
2019	529,23	8462,60	-7933.37
2020	3891,00	4929,00	-1038.00
2021	1275,70	3690,70	-2415.00
2022	26380,59	3267,95	+23112.64
2023	28829,73	219,85	+28609.88
2024	35312,64	126,28	+35186.36
2025	12982,18	35,35	+12946.83

From Table 2, it is evident that in 2018–2020, the National Bank of Ukraine primarily pursued a policy of reserve accumulation: the volume of foreign currency purchases exceeded sales, resulting in negative intervention balances (e.g., –7,933.37 million USD in 2019). This matched a period of declining inflationary pressure and hryvnia strengthening amid increased foreign capital inflows.

In 2021, there was a slight increase in currency sales, although the overall balance remained negative.

From 2022, the NBU's policy changed dramatically: the substantial positive balance (+23,112.64 million USD) indicates large-scale foreign currency sales to maintain exchange rate stability under martial law.

This trend persisted in 2023 and 2024, with intervention balances exceeding +28 and +35 billion USD, respectively.

In 2025, a certain decrease in the volume of interventions is noted, which may signal early signs of stabilization in the foreign exchange market or a revision of the NBU's policy toward gradually phasing out emergency measures.

Overall, currency interventions, in combination with inflation targeting policy and fiscal support, have become key instruments of Ukraine's anti-crisis macroeconomic policy during 2022–2025.

Against this backdrop, it is important to assess the key macroeconomic risks shaping the trends in national economic development both during wartime and in the post-war recovery process. Among the main challenges contributing to macroeconomic instability, the following stand out:

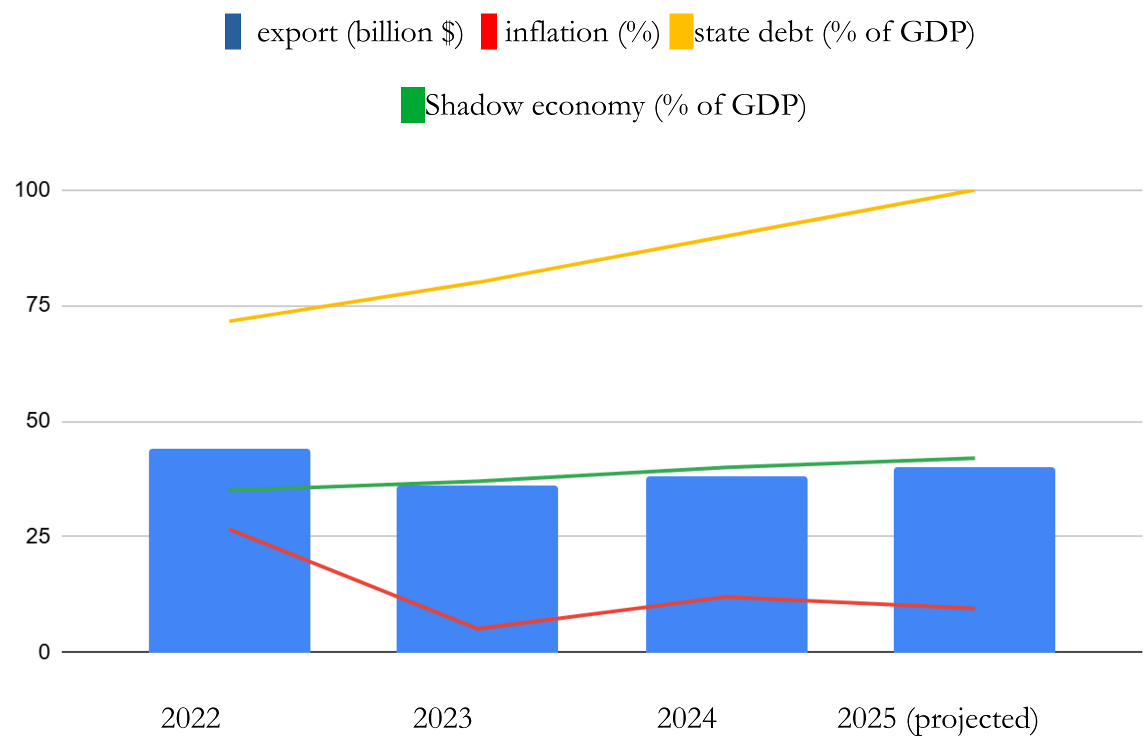
1. **Destabilization of the financial system** – increasing pressure on the banking sector, exchange rate instability, and risks of inflationary processes;

2. **Rising public debt and servicing risks** – the need to attract external financing to support the economy and potential difficulties with future debt repayment;

3. **Expansion of the shadow economy** – growth of the informal sector due to tax imbalances, which undermines the state's financial base;

4. **Decline in exports and loss of international markets** – disruption of logistics chains, destruction of infrastructure, and overall restructuring of foreign trade.

These factors significantly influence the country's macroeconomic indicators, as clearly illustrated in **Figure 5.** Macroeconomic indicators of Ukraine (years 2022 – 2025)



Based on sources [10–14]

Figure 5. Macroeconomic indicators of Ukraine (years 2022 – 2025)

The analysis of macroeconomic indicators indicates that Ukraine's economy is undergoing a complex period of adaptation to wartime conditions. While there are signs of gradual recovery in exports and stabilization of inflation, the challenges of high public debt and the expansion of the shadow economy remain critical. Crisis processes, caused both by the war and internal imbalances, have revealed the inadequacy of traditional economic regulation mechanisms under current conditions. The developments taking place under martial law demand a change in approaches to analyzing economic dynamics and in the justification of economic policy measures by both government institutions and the expert community [15].

Amid full-scale war, Ukraine has faced massive challenges that have led to a significant slowdown in business activity and hindered economic growth. One important indicator of these negative trends is the considerable loss of territory that, before the war, had concentrated industrial, agricultural, and logistics capacities. With the loss of control over parts of its regions, Ukraine suffered tax revenue shortfalls, the shutdown of thousands of enterprises, and large-scale destruction of infrastructure — bridges, roads, energy facilities, logistics hubs, and rail junctions have been destroyed. This has led to the disruption of production chains, the loss of internal and external sales markets, a decline in exports of key goods, and serious interruptions in logistics processes, limiting access to raw materials, components, and finished products.

The combination of these factors increases the risk of expansion of the shadow economy, which poses one of the most serious threats to the financial stability of the state and the transparency of the economic environment. The decline in household income during wartime, deteriorating working conditions, forced migration, and a sharp rise in unemployment are pushing people to seek alternative sources of income, often outside the legal framework. At the same time, in a context of institutional instability, weakened oversight by fiscal and regulatory bodies, and limited monitoring of economic activity, there is an increasing risk of tax evasion, underreporting of actual business activity, and informal labor practices — including hiring workers without formal contracts and paying wages "under the table."

The lack of state resources and limited control over goods circulation, especially in border regions, contribute to the spread of illegal imports, smuggling, the illicit trade of excise goods, and the intensification of informal business activity. According to the Ministry of Economy of Ukraine, the share of the shadow economy in GDP structure increased significantly during wartime. In certain sectors — such as construction, trade, logistics, and services — it exceeded 40%, which reflects the scale and systemic nature of the problem. This trend not only weakens the economy in the short term by reducing budget revenues but also creates serious obstacles to economic recovery and institutional stabilization in the long run. It distorts development indicators, undermines investor confidence, and hampers modernization processes.

Addressing this challenge requires a comprehensive approach: strengthening fiscal oversight, digitalizing the accounting of economic activity, incentivizing legal entrepreneurship, expanding support programs for small and medium-sized enterprises, and conducting communication campaigns to raise public awareness of the benefits of working in the formal sector.

All of the above factors intensify the risk of shadow economy expansion in Ukraine, which is especially threatening under the conditions of full-scale war. Decreasing household incomes due to job losses, declining production, and the destruction of enterprises and infrastructure has led to a significant share of economic activity occurring outside the legal domain. The rise in unemployment — particularly in frontline regions — forces people to seek income without official employment, and sometimes within the illegal sector. In such conditions, informal labor relations — especially under-the-table payments, unofficial employment, and avoidance of social security contributions — have become widespread.

An additional factor contributing to the shadowing of the economy is the instability of state institutions, the limited capacity of oversight and regulatory mechanisms, and declining effectiveness of law enforcement and fiscal authorities. This creates a favorable environment for tax evasion and the growth of the illegal trade in goods and services, particularly through shadow retail, smuggling, and unlicensed production.

According to the Ministry of Economy of Ukraine, the share of the shadow economy in the GDP structure has increased significantly during the wartime period, exceeding 40% in certain sectors, which indicates the deep and systemic nature of this problem. Such a high level of shadow activity not only complicates the implementation of fiscal policy and reduces budget revenues, but also creates distortions in the competitive environment, hampers the development of legal businesses, and negatively affects the country's socio-economic stability. Overcoming these challenges requires not only strengthened control but also the creation of incentives for business legalization, the establishment of transparent rules of the game, support for entrepreneurship, and the restoration of public trust in state institutions.

Thus, the risk of declining business activity and the growth of the shadow economy under wartime conditions in Ukraine constitutes a systemic threat that requires a comprehensive response: maintaining control over key logistics and industrial assets, encouraging businesses to return, creating a safe environment for investment, and strengthening institutional oversight of shadow operations while supporting legal entrepreneurship.

Regarding Ukraine's tax system — it has undergone significant changes due to both military operations and the need to finance defense needs. Specifically, the stages and changes are as follows [22]:

1. **Tax revenues in 2022**: Despite extremely difficult conditions, the revenue plan for rent payments was overfulfilled, reaching 113.8% (81 billion UAH). However, the plan for domestic taxes on goods and services was met only at 73.9% (569.4 billion UAH), and for income and profit taxes — at 83% (265.4 billion UAH).

2. **Revenue growth in 2023**: Revenues from profit and income taxes amounted to 350.7 billion UAH, or 120.5% of the plan. Revenues from taxes on goods and services reached 748.2 billion UAH (97.6% of the plan). However, the rent payment plan was fulfilled by only 57.7% (56.1 billion UAH).

3. **Planned indicators for 2024**: In January–November 2024, the state budget received 856.3 billion UAH from taxes on goods and services (out of the total planned 999.7 billion), 538.1 billion UAH from profit and income taxes (planned 569.7 billion), and 42.8 billion UAH from rent payments (planned 57.9 billion).

4. **Increase in tax burden due to military needs**: In November 2024, the military levy on personal income increased from 1.5% to 5%. Taxes on entrepreneurs and small businesses were also raised, as well as profit tax rates — up to 50% for banks and 25% for other financial institutions.

5. **Tax contributions in January 2025**: The largest share of tax payments came from wholesale and retail trade enterprises (20.6%) and the manufacturing industry (16%) of the total. Compared to January 2024, tax payments from these sectors increased by 32.6% and 31.4%, respectively [24].

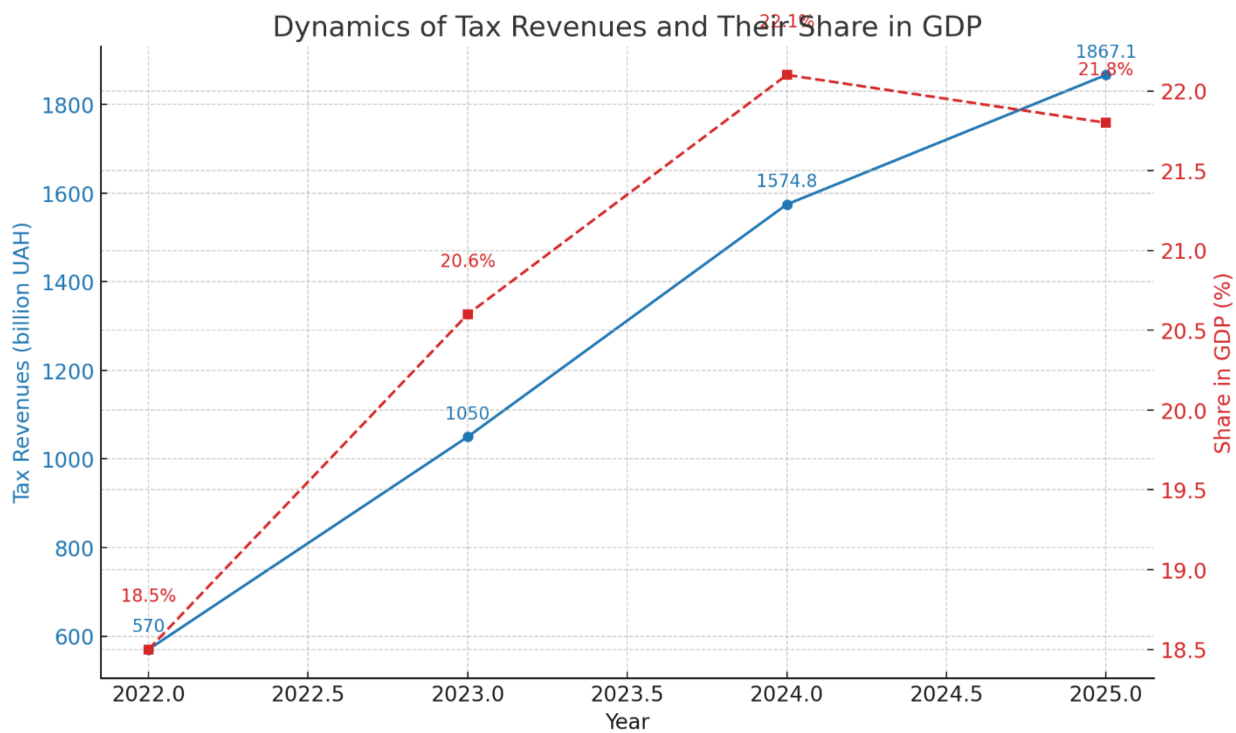


Figure 6. Dynamics of Tax Revenues and Their Share in GDP for 2022–2025 [25]

As illustrated in Figure 6, there is a consistent upward trend in tax revenues—from UAH 570 billion in 2022 to UAH 1,867.1 billion projected for 2025. The share of tax revenues in GDP also increased, peaking at 22.1% in 2024, followed by a slight decline to 21.8% in 2025. These trends align with the forecasted indicators presented in Table 1, which provides an estimate of revenues and tax receipts for the State Budget of Ukraine for 2023–2027 [23].

Beyond macroeconomic challenges, cyber threats have become an increasingly significant factor shaping the national economic climate. In 2022, large-scale cyberattacks targeted government websites, banking institutions, and critical infrastructure. The most common methods included DDoS attacks, ransomware, encryption viruses, data compromise attempts, and malicious software. These attacks led to substantial disruptions in public services and a decline in trust toward financial institutions.

Table 3. Forecast of Revenues and Tax Receipts for Ukraine's State Budget, 2023–2027 [25]

Indicator	*2023 Actual*	*2024 Planned*	*2025 Forecast*	*2026 Forecast*	*2027 Forecast*
Revenues (UAH billion)	2,672.5	1,768.5	2,415	2,757.1	3,130.9
Tax Revenues (UAH billion)	1,203.5	1,574.8	1,867.1	2,203.9	2,543.2
Share of Tax Revenues in GDP (%)	18.5	20.6	22.1	21.8	21.6
Revenues (UAH billion)	2,672.5	1,768.5	2,415	2,757.1	3,130.9

In 2023, Ukraine made significant strides in strengthening its cybersecurity, particularly through the adoption of international protection standards and enhanced cooperation with the EU and the United States. Notably, in December 2023, the Tallinn Mechanism was launched—an initiative bringing together 11 countries, including Ukraine, Canada, Denmark, Estonia, and the U.S., to collaborate in the cyber domain [16]. Additionally, a bilateral security agreement between Ukraine and the United States was signed in 2023, which includes provisions for joint production and exchange of technical data, contributing to the advancement of Ukraine's cybersecurity capabilities [19].

However, the years 2024–2025 saw continued cyberattacks employing new tactics, such as breaches of critical energy sector networks, financial extortion targeting businesses, and the dissemination of disinformation aimed at destabilizing markets. These developments highlight the pressing need for further modernization of IT infrastructure and the strengthening of international partnerships. In particular, the International Cyber Resilience Forum held in Kyiv in March 2025 played a key role in securing long-term EU support and reinforcing Ukraine's position as a regional leader in cybersecurity [20].

Thus, the escalation of military conflict has introduced multidimensional threats to Ukraine's economic security, demanding a comprehensive strategy for mitigation.

Key Priorities for State Policy and the Role of Financial Institutions in Addressing Macroeconomic Risks:

1. Financial Stability and Institutional Support

✓ Strengthening the resilience of the banking system through expanded refinancing mechanisms and the implementation of targeted lending programs for small and medium-sized enterprises (SMEs).

✓ Enhancing control over inflationary trends by employing flexible monetary policy and managing the key interest rate.

✓ Increasing the efficiency of the stock market as an alternative source of capital mobilization.

2. Fiscal Policy and Tax Regulation

✓ Optimizing the tax burden on strategic sectors of the economy, particularly defense, energy, and agriculture.

✓ Introducing incentives for business formalization through the digitalization of tax administration and expanded opportunities for electronic filing.

✓ Developing effective mechanisms to combat tax evasion through international cooperation and the exchange of tax information.

3. International Assistance and Reconstruction Financing

✓ Deepening collaboration with international financial institutions (IMF, World Bank, EBRD) to mobilize long-term investment resources remains a top priority for Ukraine. Support for reforms aimed at improving transparency and ease of doing business is also essential. Creating effective investment incentives—such as guaranteed investment programs and stable financial conditions—will help attract additional resources for economic development.

However, given the current context, investment strategies must be adapted to the realities of wartime, ensuring long-term economic resilience and growth.

✓ Developing a strategic approach to sovereign debt restructuring in line with the evolving global financial environment.

✓ Utilizing investment insurance mechanisms to minimize capital loss risks for both domestic and international companies.

4. Digital Security and Cyber Threat Mitigation

✓ Improving cybersecurity systems within state financial institutions by aligning with international security frameworks (e.g., GDPR, NIS Directive).

✓ Establishing rapid cyber threat monitoring mechanisms and expanding cooperation with international organizations in the field of digital security. To increase the effectiveness of threat detection and response, Ukraine must deepen integration into global platforms such as EU-CERT and national incident response centers. This requires coordinated efforts among government agencies, the private sector, international partners, and civil society—as well as increased investment in technology, human capital, and legal infrastructure.

✓ Strengthening the regulatory framework for the digital economy to reduce financial fraud and cybercrime.

In conclusion, the successful implementation of these measures will not only mitigate macroeconomic risks but also lay a foundation for Ukraine's stable economic development during wartime and throughout the post-war recovery period.

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