“External public debt management during the wartime: Case of Ukraine”

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EXTERNAL PUBLIC DEBT MANAGEMENT DURING THE WARTIME: CASE OF UKRAINE

Abstract

Public debt plays a crucial role in the economic development of many countries, the effective management and servicing of the external public debt have become a priority in the financial and economic policy of the state, ensuring the stability of its development. The article aims to develop Ukraine's external public debt management system during the wartime. As a result of the analysis, the key negative consequences of the impact of external debt growth on Ukraine`s economic security were determined, i.e. economic growth slowdown, increased dependence on creditors, increased costs of the public debt servicing, significant reduction in domestic consumption, etc. The developed external public debt management system in the framework of state economic and financial security includes relevant subsystems, principles, functions, objects and subjects, methods. It was substantiated that the appropriate external public debt management system during wartime in Ukraine requires the following additional subsystems: subsystem of crisis planning and response, subsystem of external debt settlement and subsystem for ensuring international cooperation.

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INTRODUCTION

The external public debt plays an extremely important role in ensuring the stability of the financial and economic system and a country`s debt security.

During wartime, Ukraine's external public debt is largely formed in a haphazard manner, guided by the need to rapidly finance current budget expenditures. The lack of a systematic approach to managing the external public debt resulted in the accumulation of a significant amount of it.

The public debt management system should be understood as a set of measures taken by the state to determine the need and conditions for raising, maintaining, and repaying public loans to ensure the public interest, while respecting the priority of the state's economic security (Aiyedogbon et al., 2022; Zhuravka et al., 2021).

Russian open military aggression, which started in 2022, is having a devastating impact on Ukraine's financial and economic stability. Increased military expenditures, higher government spending, and lower revenues have led to an increase in external public debt as the government seeks additional ways to finance these costs. Cooperation with international creditors, debt rescheduling negotiations and the development of long-term cooperation strategies are necessary for an effective external public debt management system. Therefore, an effec-

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tive system of external public debt management is important for ensuring the financial and economic stability of the country during wartime. At the same time, such a management system should ensure the protection of national interests, the rational use of debt resources to finance the country's strategic needs, ensure the stability of the exchange rate, attract new sources of financing, and minimize the risks associated with the increasing of the external public debt (Petrushenko et al., 2022; Filatova et al., 2023).

Besides, the country needs economic rehabilitation and recovery after the end of the war. An effective external public debt management system should help the country to recover, attract investment and ensure sustainable development. Therefore, it is important to modify the existing system of external debt management in Ukraine considering war realities to ensure post-war debt stability, protect national interests, strengthen international cooperation and economic recovery of the country.

1. LITERATURE REVIEW

Many researchers, economists and scholars have made important contributions to the study of public debt concept and its management. In particular, Mataibayeva et al. (2019) made significant contributions to the development of theoretical and methodological provisions of external public debt management. The authors investigate various aspects of public debt management and their impact on the country's financial stability. They additionally analyze the potential consequences of insolvency, the risks of a currency crisis, the impact of debt on inflation and interest rates, and the risk-management mechanisms.

Among the prominent works on external public debt is the studies by Reinhart and Rogoff (2009) and Yu et al. (2008). The authors examine the impact of external public debt on economic stability and analyze financial crises associated with excessive debt accumulation. Ghosh et al. (2014) examine the sustainability of external public debt in developed economies and the factors affecting its management. Shkolnyk and Koilo (2018) study the relationship between external public debt and economic growth in the case of Ukraine and other developing countries. The authors conduct a retrospective analysis of the impact of external public debt on economic growth and find out whether there is a causal relationship between these two variables. This study is important from the point of view of determining the place, role, and impact of Ukraine's external public debt on the country's economic security.

The role of the International Monetary Fund (IMF) in crisis situations and its impact on external public debt management policies is studied by Reinhart and Trebesch (2016). They analyze the effectiveness of IMF programs and provide recommendations for improving debt management policies. Researchers have examined Ukraine's approach to debt restructuring, negotiation with creditors, and the role of international financial institutions in stabilizing the country's economy (Zhuravka et al., 2021).

Lane and Milesi-Ferretti (2011) examine the role of external public debt in the context of the global financial crisis and the effectiveness of debt management policies during crises.

The issues of improving the system of public debt management and the impact of external public debt on economic development are addressed by Reisen and Yermo (2012). The authors examine the effective management of external public debt by considering different strategies for risk management, repayment, and negotiations with creditors.

Son (2023) explores the nuanced relationship between public debt and economic growth using a threshold regression approach. The study emphasizes the importance of debt management strategies that consider a threshold level beyond which excessive debt becomes detrimental to economic growth. By employing this approach, Son sheds light on the complex dynamics that guide the impact of public debt on economic development. Petrushenko et al. (2022) contribute to the literature by assessing the impact of external debt on various economic development indicators in Ukraine. Their evidence-based approach underscores the need for a comprehensive understanding of how external debt influences economic performance and shapes policy decisions.

Many scholars and economists have examined various theoretical aspects and frameworks that underpin the management of external public debt during times of conflict. Classic theories such as the debt overhang hypothesis and the optimal debt threshold theory propose that high levels of debt can hinder economic growth and stability, especially in conflict-ridden regions (Zhuravka et al., 2019; Eddassi, 2020; Gentle, 2021). However, in the context of wartime, these theories may need to be reconsidered due to unique challenges and priorities. In the aftermath of armed conflicts, international financial institutions, bilateral partners, and multilateral organizations often play a crucial role in providing debt relief and financial assistance to conflict-affected nations. Scholars have explored the effectiveness of debt relief initiatives and their impact on post-conflict recovery (Bohoslavsky & Raffer, 2017; Alshyab & Sandri, 2022). Some studies have highlighted the correlation between conflict intensity and economic contraction, leading to challenges in repaying debt obligations and maintaining fiscal sustainability (Silva, 2020; Morlin, 2022).

Currently, Ukraine uses Methodological Recommendations for Calculating the Level of Economic Security of Ukraine. These recommendations were approved by the Order of the Ministry of Economic Development and Trade of Ukraine No. 1277 on October 29, 2013.

The case of Ukraine provides a pertinent example of the challenges and strategies involved in managing external public debt during times of war. The conflict in Eastern Ukraine since 2014 has not only strained the country's economic resources but also posed significant obstacles to debt repayment and management (Filatova et al., 2023).

Considering various approaches, concepts, and empirical data related to this topic, these scientific papers can serve as a basis for further analysis of external public debt management.

At the same time, at the present stage it is important and relevant to increase the level of validity of promising directions for forming an effective system of external public debt management in Ukraine during the wartime. It is also important to reveal the essence of the external public debt management system, to study its main components and to determine the priority areas of management.

Therefore, the article aims to develop Ukraine's external public debt management system during the wartime.

2. METHODS

To clarify the content of the categories of public debt, public debt management, and external public debt management system, methods of analysis, synthesis and logical generalization were employed.

Statistical analysis was utilized to explore the dynamics of external public debt and indicators of external debt security. To study the contemporary state of public debt and assess the degree of external debt burden's impact on the Ukrainian economy, a factor analysis was employed.

Also, system analysis and data visualization method were used to build the external public debt management system of Ukraine. The proposed framework involves the allocation of relevant subsystems, principles, functions, objects, and methods, developed to overcome challenges posed by the martial law.

Relevant data of the Ministry of Finance of Ukraine, the National Bank of Ukraine, the State Statistics Service of Ukraine, as well as the statistical materials of the World Bank, the International Monetary Fund and the Organization for Economic Cooperation and Development were used in the study.

3. RESULTS AND DISCISSION

As of December 31, 2022, Ukraine`s public and government-guaranteed debt amounted to UAH 4,072.85 billion or USD 111.38 billion. This includes state and government-guaranteed external debt of UAH 2,610.96 billion (64.12% of the total amount of state debt) or USD 71.40 billion (Figure 1).

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Source: Calculations based on data from the Ministry of Finance, 2022

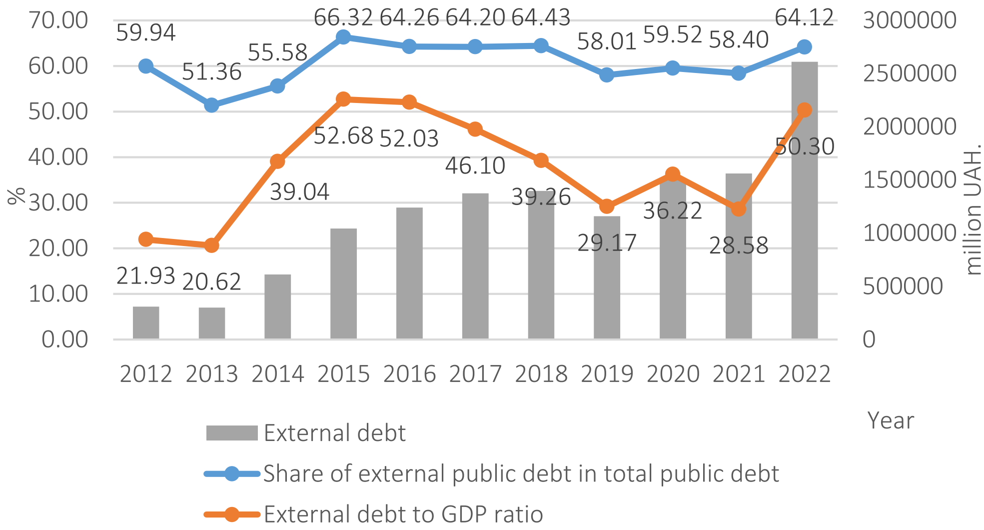

Figure 1. Key indicators of Ukraine's external debt burden in 2012–2022

In 2023, Ukraine expects to receive funds from the IMF, the US, the EU, and other G7 countries. According to the state budget draft for 2023, the Ukrainian government will borrow USD 51.5 billion. However, as shown in Figure 1, the share of external public debt in total GDP has already reached 50.3%, which indicates a significant external debt burden and the need for a systematic approach to external public debt management.

However, it should be noted that the importance and necessity of developing a structural and logical scheme for managing the external public debt in wartime (crisis) is due to the fact that the dynamics of Ukraine's external public debt is not homogeneous, but has several peak periods, which is an evidence of the unsystematic accumulation of external debt and its chaotic attraction based on the need to pay off current budget expenditures.

The analysis of absolute values alone does not provide a complete picture of the external public debt dynamics; therefore, the growth rate of the external debt was calculated.

Thus, it is important to consider the dynamics of external public debt to fully understand the situation and its effective management. The calculation of the growth rate of external public debt (chain rate) makes it possible to estimate the growth rate of debt over a certain period and identify trends in its change (Figure 2).

As seen in Figure 2, the peak periods of external debt growth are the military conflict in certain areas of Donetsk and Luhansk regions in 2014, overcoming the negative effects of the global COVID-19 pandemic, and Russia's military aggression since February 2022.

These events have led to an increase in government spending on military operations, reconstruction and relief efforts, as well as on combating the economic consequences of the pandemic. As a result, the external public debt increased significantly, as the Ukrainian government was forced to attract additional financial resources to ensure the functioning of the state and fulfill its existing obligations. In such a situation, it is important to develop a strategy for managing external public debt that takes into account the peculiarities of peak periods of growth.

It is important to note that the use of external public borrowings as an instrument of the state's financial policy is justified from a macroeconomic standpoint up to certain limits. However, the government's excessive use of loans to finance the budget deficit poses significant threats to the country's financial security.

As a result of the analysis, the key negative consequences of the impact of external debt growth on Ukraine's economic security were determined, i.e., economic growth slowdown due to the state's ex-

Source: Calculations based on data from the Ministry of Finance, 2022.

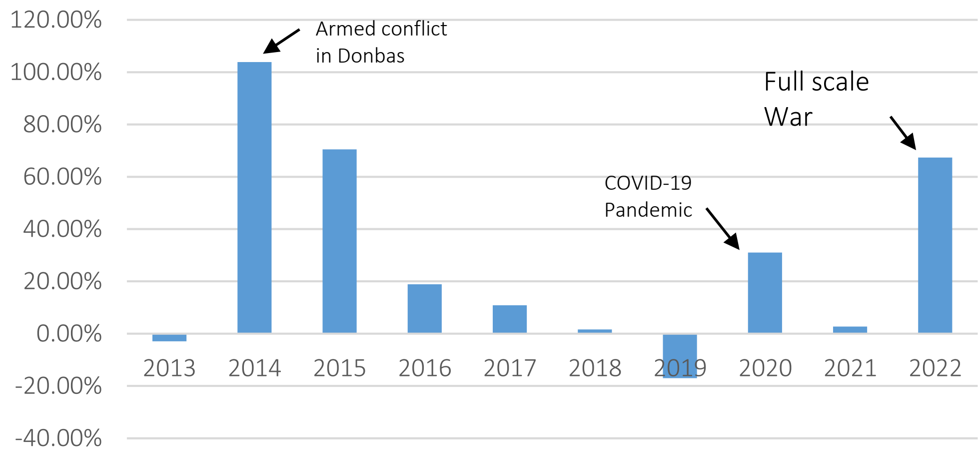

Figure 2. External public debt growth rate in Ukraine in 2013–2022

ternal debt dependence; increased dependence on creditors, namely, international organizations and foreign states, in conducting financial and economic policy based on its own national interests; increased cost of servicing the public debt in case of its significant size or inefficient use of public loans, which leads to further tax increases and aggravation of budget problems; significant amounts of borrowing within two to three years lead to the formation of pyramid schemes, which are harbingers of financial crisis, as the repayment of debts and interest on them causes a constant increase in debt; the need to service the external public debt (if it is large) causes a significant reduction in domestic consumption; excessive foreign debt may lead to foreigners controlling the situation in the country and negatively affect the financial security of the state.

The macroeconomic impact of external public debt is assessed qualitatively through its influence on the economy, which leads to changes in the macroeconomic environment parameters, as well as fiscal and monetary policies, national wealth, economic development, political stability, and economic dependence.

As for monetary policy, external debt can lead to higher interest rates, which prompts the government to pursue a monetary policy aimed at reducing them. The ability to use loans affects the reduction of the corresponding purpose of budget financing, changes in market conditions can result in fluctuations of the exchange rate and capital flows, etc.

The impact of external debt on the economy is classified into short-term and long-term effects based on their duration. For instance, short-term effects include an increase in aggregate demand and GDP, as well as the creation of an impression of exaggerated prosperity.

During the wartime, the main goal of an effective external public debt management system is to manage the country's external debt obligations considering the exceptional challenges and issues that may arise.

Nowadays, the primary objective of the system for managing external public debt is to ensure financial stability during wartime. This involves taking measures to pay off debt obligations, conserve financial resources, avoid insolvency even in challenging circumstances of conflict, and establish an efficient financial flow monitoring mechanism to ensure financial stability.

The system should aim to mitigate the risks connected to debt obligations during wartime. In other words, it must be closely linked to the country's risk management system.

Additionally, the external public debt management system should aim to attract foreign financing, negotiate with creditors, establish new financing mechanisms, and identify alternative funding sources. From the initial stage of the Russian invasion, it became apparent that Ukraine's recuperation necessitated vast resources and the creation of the second Marshall Plan. Preliminary assessment

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of the necessary expenses exceeds USD 765 billion by 2032, including external debt as the primary source of Plan's funding.

Other essential prerequisites for a functional external public debt management system are: 1) minimizing the negative impact of debt obligations on the country's economy. Achieving this goal may involve revising debt repayment terms, redistributing financial resources, attracting additional financial sources, and developing special programs to support the economy during wartime; 2) efficiently using financial resources during wartime, which requires prioritization and rational allocation based on importance and necessity. The system should enable the efficient use of debt funds to finance military needs, humanitarian actions, infrastructure restoration, and social development (Mataibayeva et al., 2019).

Managing external public debt in Ukraine during wartime requires a special system, which encompasses relevant subsystems, principles, functions, objects, and methods, developed to overcome challenges posed by martial law (Figure 3). The offered system includes three following subsystems that are extremely important in crisis conditions.

1. ***Subsystem of crisis planning and response.*** It involves the development of crisis plans for external public debt management. This includes developing crisis plans for debt management that anticipate potential consequences of the war and propose solutions. The process includes preparing strategies to address changes in the economic, financial, and political landscape. Furthermore, it entails analyzing the risks associated with shifts in the political, economic, and financial situation resulting from the war, and establishing priorities for debt repayment. Such an approach ensures balanced debt management, especially when dealing with limited resources.

2. ***External debt settlement subsystem.*** It involves examining the possibility of restructuring the external public debt to reduce financial pressure during wartime. This may include negotiations with creditors to change the terms of loans, maturity, and other parameters of debt obligations. It is important to seek and attract different sources of funding to help reduce risk and dependence on a single source. This may include obtaining financing from different countries, international financial organizations, and capital markets.

3. ***Subsystem for ensuring international cooperation.*** It involves diplomatic efforts to collaborate with international partners, creditors, and investors to secure support and facilitate the management of external public debt during wartime. Diplomatic negotiations may encompass discussions on debt restructuring, obtaining new financial sources, and seeking support from international organizations. Additionally, it involves control over the use of funds: Establishing an effective system of control over the funds allocated for managing external public debt during wartime is crucial. This system aims to prevent corruption and improper use of financial resources, ensuring transparency and accountability in spending while managing the debt.

The study results confirm research conclusions by Fast (2021) that Ukraine's main challenge during the war is to find sources of financing. Raising new funding can be challenging when there is significant risk and uncertainty, as in the current environment.

International cooperation plays a crucial role in effectively managing external public debt during wartime. The parallels drawn with Rosser et al. (2018) further underscore the role of international partnerships in shaping effective debt management policies. The collaboration and exchange of information with international partners not only foster better-informed decision-making but also contribute to building a more resilient debt management strategy.

Successful debt management relies on transparent communication and reporting, as well as timely monitoring and analysis to make informed decisions on responding to changes. Taken together, these factors ensure financial stability and mitigate risk during times of war. It is important to note that managing external public debt during wartime requires flexibility, adaptation, and context-specific solutions, as each situation is unique (Davydenko et al., 2023).

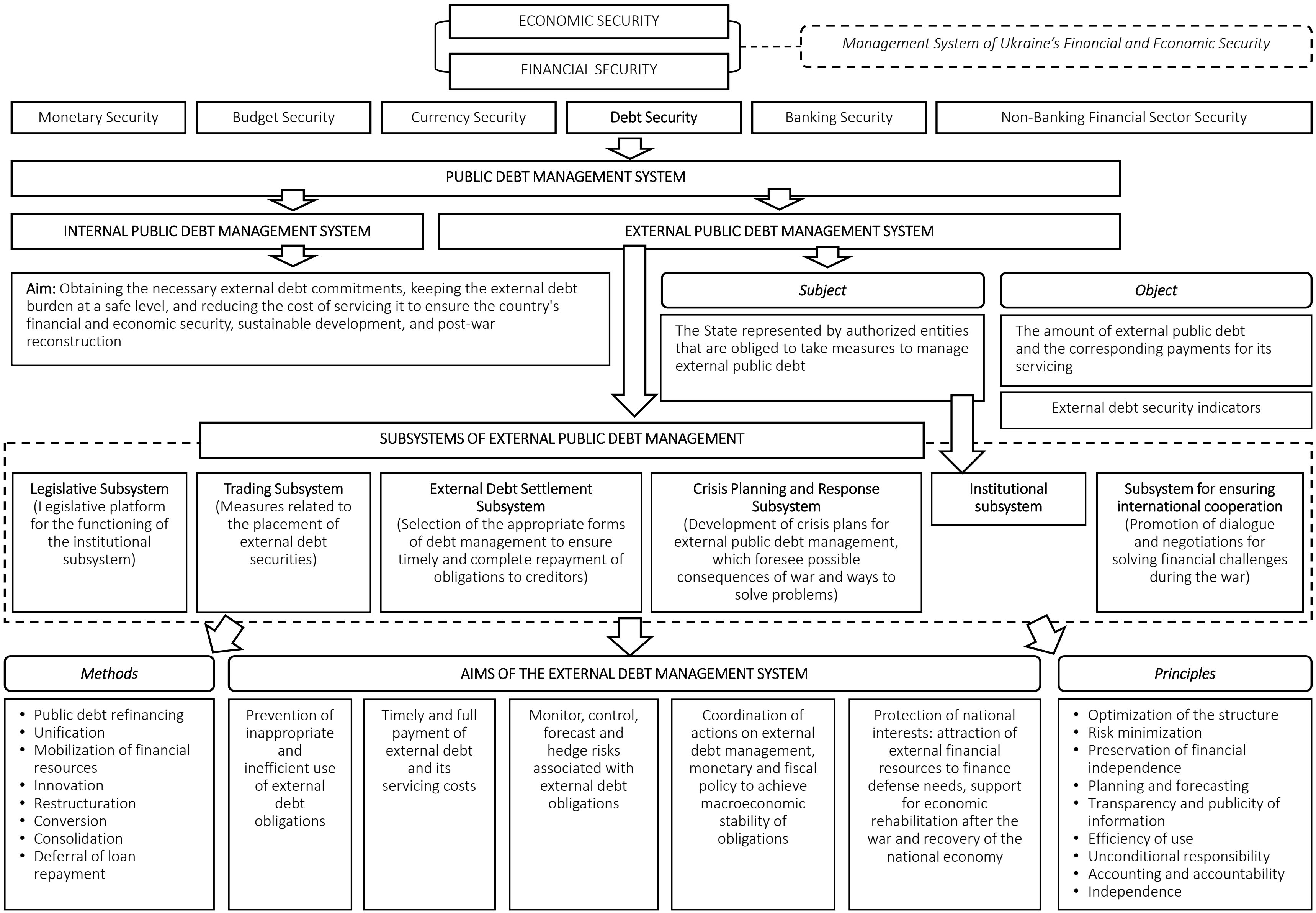

Figure 3. Ukraine's external public debt management system during the wartime

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Simultaneously, diversifying funding sources is essential to mitigate risk and minimize dependence on a single source. This study proves the ideas of Alshyab and Sandri (2022) that placing excessive dependence on a sole funding source can considerably decrease a country's financial stability, particularly in the midst of a conflict situation. The importance of this aspect cannot be exaggerated, as a diverse range of funding sources provides a cushion against potential economic shocks and uncertainties that may arise during wartime.

In parallel, Son's (2023) study on the relationship between public debt and economic growth offers an interesting basis for comparison. While both studies recognize the significant role of debt management in ensuring economic stability, the focus on stability and security during wartime distinguishes our analysis. This study emphasizes the indispensable nature of effective debt management strategies for both immediate survival and long-term development, showcasing the uniqueness of our contribution.

Monitoring and analyzing external public debt are crucial for effective management, as previously noted. During a time of war, when the economic situation can change rapidly, it is essential to constantly evaluate the status of debt and assess risks that may affect the economy. The study results concur with Filatova et al. (2023), who highlight the necessity of establishing new standards for external debt security indicators in light of wartime conditions.

Moreover, compared to Mataibayeva et al. (2019) and Bohoslavsky and Raffer (2017), the current investigation delves deeper into the implications of public debt management, particularly emphasizing the amplified risks of insolvency, currency crises, and inflationary pressures during times of conflict. This underscores the need for a more rigorous and adaptive approach to debt management strategies, setting our study apart.

The study results confirm the findings of Zhuravka et al. (2019) in underlining the vital significance of predictive analysis to facilitate well-timed decision-making. Predictions of external public debt can guide policymakers in allocating resources, prioritizing expenditures, and formulating strategic plans that ensure both short-term stability and long-term sustainability. This proactive approach to debt management is particularly important in times of war when economic agility is paramount. However, in an environment of significant uncertainty, it is primarily short-term forecasting that is important. This aligns with the present study's emphasis on strategic planning, as wartime dynamics introduce heightened uncertainties that necessitate proactive and adaptable debt management measures.

CONCLUSION

The article aims to review and analyze the existing system of external public debt management in Ukraine, as well as to develop a structural and logical scheme for determining the place and role of the external public debt management system in the framework of the state economic security, which includes allocation of relevant subsystems, principles, functions, objects and subjects, methods.

As a result of the analysis, the key negative consequences of the impact of external debt growth on Ukraine`s economic security were determined: economic growth slowdown; increased dependence on creditors, i.e. international organizations and foreign states; increase in the cost of servicing the public debt in case of its significant size or inefficient use of public loans; significant amounts of borrowing within two to three years lead to the formation of pyramid schemes; the need to service the external public debt causes a significant reduction in domestic consumption; excessive foreign debt may lead to foreigners controlling the situation in the country and negatively affect the its economic and financial security.

The developed structural and logical framework for determining the place and role of the external public debt management system in the framework of the state economic security includes the allocation of relevant subsystems, principles, functions, objects and subjects, and methods.

The appropriate external public debt management system during wartime in Ukraine requires a unique approach, which could encompass the following additional subsystems: subsystem of crisis planning and response, external debt settlement subsystem, and subsystem for ensuring international cooperation.

This will allow us to outline the transformation vector of external debt management system during the martial law period in Ukraine.

AUTHOR CONTRIBUTIONS

Conceptualization: Fedir Zhuravka, Serhiy Voytov.
Data curation: Mila Razinkova, Natalia Nebaba.
Formal analysis: Natalia Nebaba, Rostislav Botvinov, Serhiy Voytov.
Investigation: Mila Razinkova, Fedir Zhuravka.
Methodology: Natalia Nebaba, Rostislav Botvinov, Serhiy Voytov.
Project administration: Fedir Zhuravka.
Resources: Mila Razinkova, Natalia Nebaba, Rostislav Botvinov, Serhiy Voytov.
Software: Rostislav Botvinov.
Supervision: Fedir Zhuravka.
Validation: Mila Razinkova, Rostislav Botvinov.
Visualization: Mila Razinkova.
Writing – original draft: Mila Razinkova, Rostislav Botvinov, Serhiy Voytov.
Writing – review & editing: Fedir Zhuravka, Natalia Nebaba.

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