Risk-Oriented Budget Management in the System of Ensuring the Financial Security of the State

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DOI: https://doi.org/10.32782/2707-8019/2024-2-13

Abstract. *The article presents a discussion of the concept of a risk-oriented approach in budget policy as a tool for ensuring the financial security of the state, in the context of martial law and related economic challenges. The article examines the current threats to budgetary stability, which include economic, social, political, financial and military risks. The author proposes a system of prioritisation of management measures, taking into account the level of impact and probability of each type of risk, which allows the identification of priority areas for ensuring financial stability. The work emphasises the importance of an integrated approach to risk analysis and ranking, which contributes to the more efficient use of budgetary resources and increases the adaptability of the financial system of the state to external challenges. The study is based on the systematisation of risks and their assessment using visual tools such as priority matrices and bubble diagrams, which allow for a detailed display of the structure of threats. This approach guarantees the implementation of operational management in the context of uncertainty, thus enabling the integration of both short-term and long-term factors. The study examines the stages of risk-based management in budget policy, commencing with the identification of risks and concluding with the formulation of a comprehensive response strategy. In particular, it emphasises the necessity for regular monitoring of risks and the adjustment of budgetary measures in accordance with changes in the economic and political environment. The principal managerial techniques for each category of risk are organised and systematic, including the expansion of the defence budget, the stimulation of investment, the reduction of the debt burden and the support of social programmes. These measures facilitate the attainment of an optimal degree of financial sustainability, even in circumstances of considerable instability. It can be concluded that the implementation of a risk-oriented approach to budgetary policy in Ukraine will facilitate the assurance of financial stability for the state and mitigate the adverse effects of both internal and external risks. The proposed approaches facilitate a more rational distribution of budgetary resources, thereby maintaining the stability of public finances in challenging circumstances and contributing to the restoration of economic stability in the post-war period.*

Keywords: *budget policy, financial security, budget risks, risk-oriented management, martial law.*

JEL Classification: *F35, F42, F52, G20, G28, L86*

1 Introduction

The current conditions of martial law in Ukraine require the adaptation of the budgetary management system to the exceptional circumstances in which maintaining the financial security of the state is critical. The destructive impact of hostilities on the country's economic structure, including its production potential, logistics capabilities and investment climate, puts significant pressure on the budget system, threatening its stability. This requires the introduction of effective, flexible and risk-oriented approaches to budget management to minimise destabilising effects.

Martial law makes it difficult to forecast budget revenues and expenditures, and increases the need to finance defence and humanitarian operations, placing new demands on public budget risk management. At the same time, it is important to ensure financial security by creating reserves for emergency financing, introducing protective fiscal mechanisms and developing specialised tools to monitor the efficiency of budgetary resources. Under these conditions, budget management should fulfil both the function of maintaining macro-financial stability and the role of a protector capable of responding quickly to rapid changes in the security and economic environment.

In particular, an important aspect of the risk-based approach is the systematic assessment and management of the risks of loss of key budget

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revenues, as well as potential losses from destruction and asset foreclosure. There is a growing need to develop budgetary reserve mechanisms and create trust funds that can quickly finance recovery processes in the affected regions. Concurrently, international support and loan inflows in times of war increase the importance of transparency of financial flows and strict control over compliance with financial security standards.

The implementation of risk-based budget management under martial law necessitates the formulation of scenario forecasts that encompass a range of potential scenarios and their ramifications on the budgetary system. This enables the government to establish an adaptive budget policy that will guarantee the efficacy and efficacy of financial decisions at all stages of the martial law period, as well as the post-war economic recovery.

2 Purpose and Methodology of the Study

The objective of this study is to develop empirically robust methodologies for risk-based budget management with the aim of enhancing the financial resilience of the state in the context of complex socio-economic challenges, particularly in the context of martial law in Ukraine. To achieve this objective, a comprehensive examination of the risks with the most significant impact on budgetary stability is required. This should be followed by the formulation of a system for prioritising management measures that will optimise budgetary resources and enhance the overall sustainability of the budget system. The research methodology is based on the integrated application of the following methods:

– Literature analysis (research of previous scientific papers and reports to identify the main approaches to risk-based management and assess the main factors affecting financial security);

– the classification and grouping method is employed to identify and structure the principal types of risks that threaten budgetary stability. These include military, political, economic, financial and social risks;

– the utilisation of data visualisation methods enables the construction of risk prioritisation matrices, which are based on the probability of occurrence and the level of impact on the budget system;

– a comparative analysis is conducted to evaluate the outcomes of the ranking and ascertain priorities for budget risk management in an environment of instability. This enables the feasibility of different management strategies to be evaluated in terms of their impact on the financial stability of the state.

3 Conceptual Foundations of Risk-Oriented Management in the System of Budgetary Relations

The integration of risk management concepts into the process of formulating and implementing budget decisions represents a novel approach to budget policy, which may be described as risk-oriented management. This approach is founded upon a comprehensive examination of the risks inherent to the financial activities of the state, with the objective of ensuring stability and financial security. A risk-oriented approach to budget policy entails the formulation of a structured decision-making framework based on the assessment of potential risks that could impede the successful execution of budgetary plans. The principal stages of this process are illustrated in Figure 1.

The basis of risk-oriented management is its ability to integrate risk management concepts into budgetary processes, which ensures flexibility and adaptability of public finances. The key aspects of this approach are as follows:

– Proactivity in budget management. Risk-oriented management focuses on proactive actions that allow not only responding to existing risks but also preventing them from occurring. This involves developing long-term strategies that take into account possible scenarios, including economic crises, natural disasters and political conflicts.

– Systematic approach to risk analysis. Risks are considered in the context of their interconnection with various aspects of budget policy. For example, changes in legislation may affect the tax base, which, in turn, will lead to a decrease in budget revenues. A systematic approach helps to identify these interrelationships and adapt budgetary decisions to reduce potential losses.

– Integrate risks into the budget cycle. Risks should be taken into account at all stages of the budget cycle – from planning to execution and control. This requires the involvement of specialists with risk management experience, as well as the use of modern information technologies for data analysis.

– Involvement of all stakeholders. An important aspect of risk-oriented management is the involvement of all participants in the budget process, from government agencies to businesses and the public. This ensures a broader view of risks and their possible consequences, which contributes to more balanced and effective budget decisions.

– Adaptability and flexibility. In the context of martial law in Ukraine, it is important to have adaptive budgetary mechanisms that can quickly respond to changes in the external environment.

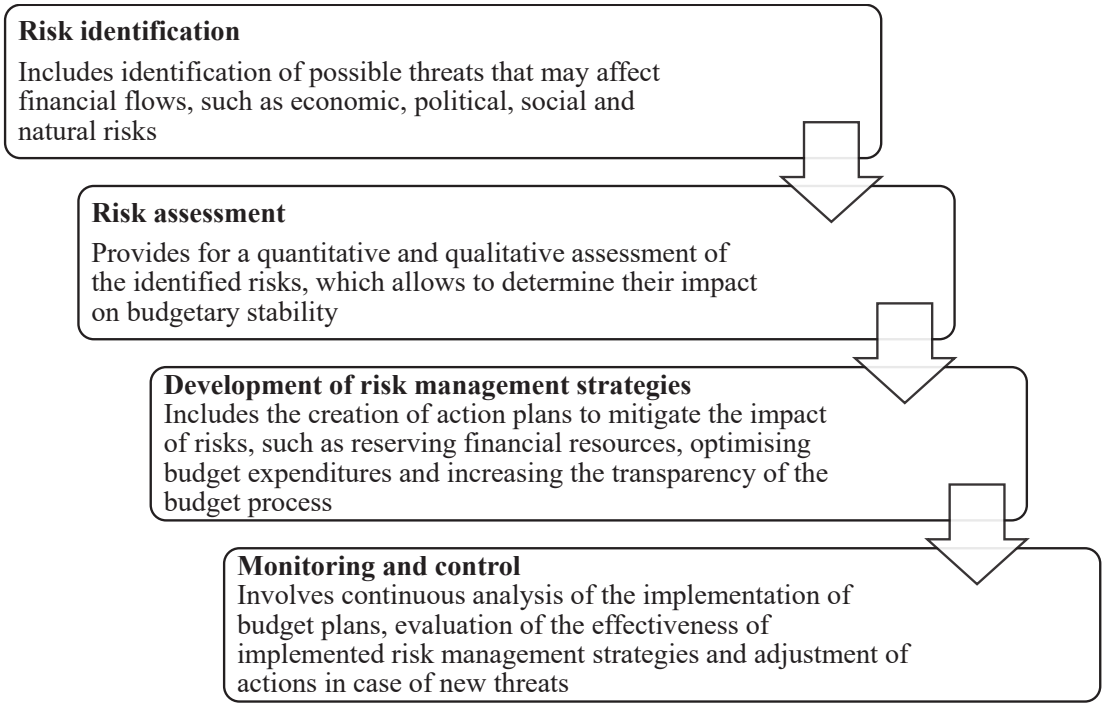


Figure 1 The main stages of analysing potential risks in the risk-oriented budget policy management system

Source: compiled on the basis of (Baranovsky, 2014)

This implies not only a real-time review of budget expenditures, but also the ability to change funding priorities in response to urgent needs.

The implementation of risk-oriented management in budget policy assumes particular importance in the context of martial law, given the heightened unpredictability of financial risks and the critical level of impact exerted by external and internal threats on the budget system. In the context of the ongoing situation in Ukraine, the management of the budget is confronted with a series of challenges, including a notable decline in revenue streams, an augmented allocation of public funds towards defence, social welfare and the advancement of infrastructure (Britchenko, Bohomolova, Kravchenko, Pinchuk, 2018). These factors give rise to a considerable degree of risk, which could result in budget deficits, diminished liquidity and a disruption of fiscal stability.

In the context of martial law, the risk-based approach is not only a management tool but also the foundation of budgetary policy, with the objective of ensuring financial security. The concept of a risk-based approach entails the formulation of strategies designed to safeguard key budgetary indicators from the detrimental effects of military operations. In particular, it is becoming increasingly important to identify potential threats, such as the loss of assets in the conflict zone, a decline in economic activity and disruption of supply chains.

A crucial aspect of risk-based management is the establishment of reserve funds, the realignment of budgetary expenditure plans, and the implementation of strategies to attract external financial resources, such as loans and grants from international organisations. This approach enables the government to respond to crisis situations by maintaining budget stability and providing resources for the most critical needs. In the context of martial law in Ukraine, risk-based budget management becomes a comprehensive tool that serves to minimise losses and protect the financial system from significant destabilising influences, thereby providing a foundation for further economic recovery.

In particular, risk-oriented management is closely related to the concept of financial security of the state, which is defined as the ability of the state to ensure the stability of its financial system and protection from external and internal threats. The application of a risk-oriented approach allows government agencies to:

– Identify and respond to risks that threaten financial stability in a timely manner. In times of war, it is especially important to have mechanisms in place to quickly identify new risks, such as a decline in tax revenues due to business closures or increased defence spending.

– Develop reasonable budgets that take into account possible fluctuations in revenues and

expenditures. This ensures financial flexibility and the ability of the state to adapt to changes in the economic situation.

– Ensure transparency and accountability in the spending of public funds, which increases public confidence in public finances. During martial law, the public should have access to information on the use of budgetary resources, especially in the context of defence and social support.

In order to gain a deeper insight into the efficacy of risk-based management in budget policy, it is essential to concentrate on the principal types of risks that exert a direct or indirect influence on the budgetary stability of the state. In challenging circumstances, particularly during periods of martial law, the significance of such risks is amplified, and their character is shaped by a range of economic, social, political, and financial factors. The analysis of these risks allows the construction of a comprehensive management system that can ensure both stability and flexibility in budgetary processes, which is of particular importance in times of crisis.

Economic risks are among the most complex and significant considerations in the budgetary process, as they encompass a multitude of facets of economic advancement, including a decline in economic growth, fluctuations in exchange rates, inflationary pressures, and unemployment. In the context of an ongoing armed conflict, the economic risks facing Ukraine have increased significantly. These include the destruction of infrastructure, the loss of human capital, and a decline in economic activity. Additionally, the potential for exportation is diminishing, which is resulting in a reduction in budgetary revenues. In light of these developments, it is imperative to adapt to the new environment by diversifying the economy and supporting sectors that can provide stable revenues.

Social risks are no less significant, as instability in society, rising poverty, inequality and deteriorating living conditions may lead to additional public spending on social support and stabilisation. In a time of war, social protection of the population, including internally displaced persons, military families and other vulnerable groups in need of immediate assistance, is of particular importance. The need to allocate significant funds for social programmes can put a strain on the budget, reducing opportunities for development in other areas and increasing the risk of budget deficits.

Political risks have a significant impact on budgetary stability in any country, but they become especially important in times of war. The stability of the political system is a crucial factor in attracting investment and maintaining the trust of international partners. Uncertainty of the political course, change of leadership, conflicts with other states or within the country can reduce the stability of budgetary policy and affect decisions on financial assistance and lending from international organisations. In such a situation, it is important to implement strategies that can ensure stability even in the face of political change.

The management of budgetary resources, tax revenues, borrowing and government spending directly correlates with the potential for financial risk. The introduction of martial law in Ukraine has resulted in a notable increase in expenditure on defence, which has been accompanied by a simultaneous reduction in tax revenues. Such circumstances may result in a budget deficit and an expansion of public debt, which, in turn, exerts further pressure on the country's financial system. Furthermore, financial risks may encompass the potential loss of access to international capital markets, downgrades in credit ratings, and the possibility of tighter borrowing conditions.

The analysis of the principal types of risk affecting budget stability indicates that risk-oriented management in budget policy is a crucial consideration. The interconnectivity of economic, social, political and financial risks gives rise to a complex impact on the financial security of the state. In the context of the current global situation, it is of paramount importance for Ukraine to implement a proactive risk management system that will not only ensure the sustainability of the budget system but also adapt to new challenges and maintain the financial stability of the state, even in the event of a military conflict.

4 Decomposition of the Risk-Oriented Model of Budget Management in Ukraine under Martial Law

The decomposition of the risk-oriented model of Ukraine's budget management under martial law is preceded by an assessment of the risks existing in the budget system of Ukraine and the main threats to financial security.

The assessment of risks within the budgetary system of Ukraine and the identification of the principal threats to financial security represents a complex but indispensable process in guaranteeing the stable functioning of the state. In the context of the current situation, including the imposition of martial law, the financial security of Ukraine is of critical importance for the maintenance of economic stability, social support and defence capability. The analysis and assessment of risks related to the budget system enables the formulation of strategies to mitigate these risks and ensure financial stability.

The article identifies the key types of risks affecting the budget system of Ukraine and examines their characteristics:

– Economic risks, which include fluctuations in macroeconomic indicators such as GDP, inflation, unemployment and the exchange rate. They have a direct impact on budget revenues, as a decline in economic activity reduces tax revenues and inflation reduces the real purchasing power of budget expenditures.

– Financial risks associated with access to external and internal sources of funding, as well as the terms of borrowings. Unpredictability in the international financial markets and rising public debt service costs may pose a threat to Ukraine's financial security.

– Social risks, which include risks associated with the growth of social expenditures, which may be caused by an increase in poverty, rising unemployment and deteriorating living conditions. Unpredictable growth in social spending increases the burden on the budget.

– Political risks, including political instability, change of government and internal political conflicts. This can lead to unpredictable budgetary policy, loss of investment attractiveness, and a decrease in the level of trust of international partners.

– Military and geopolitical risks, which, given the martial law in Ukraine, increasingly threaten geopolitical instability. Military conflicts lead to a significant increase in defence spending, which changes the structure of the budget and increases the burden on the economy.

The above-mentioned risks are a prerequisite for the emergence of a significant number of threats to Ukraine's financial security, which can be classified according to their impact on certain aspects of the budget system:

1) Increase in the budget deficit (given the need to finance defence and social programmes, the budget deficit may grow, threatening the sustainability of public finances).

2) Increased public debt (rising debt service costs reduce the state's ability to finance other budgetary needs).

3) Loss of investment attractiveness (in the event of political instability and rising risks, international investors may refuse to invest in Ukraine, which will lead to a reduction in funding sources).

4) Reduced social standards (if the state is forced to cut social spending, it may cause social tension and worsen living standards).

The general assessment of risks and threats to Ukraine's financial security and the formulation of measures to minimise them are presented in Table 1.

Thus, the assessment of the risks existing in the budget system of Ukraine allows to build a risk-oriented management strategy that will ensure financial stability and reduce the negative impact of external and internal factors.

In order to guarantee the efficacy of managerial strategies within the context of budgetary policy, it is essential to first identify and categorise potential risks (Glushko, Pantas & Babenko, 2022). This approach enables the establishment of priorities in risk management, the concentration on the most critical areas for financial security, and the

Table 1 Assessment of the main risks and threats to the financial security of Ukraine in the risk-based budget management system

Risk category	Main threats	Risk intensity	Impact on financial security	Measures to minimise the risk
Economic risks	Falling tax revenues, rising inflation	High	Reduction in budget revenues	Support for economic activity, diversification of revenues
Financial risks	Increased debt service costs, restricted access to capital markets	High	Increased expenditures, rising debt pressure	Debt restructuring, reducing dependence on external borrowing
Social risks	Increased social spending, rising unemployment	Average	Increased burden on the budget	Expansion of employment programmes, targeted support for vulnerable groups
Political risks	Political instability, reduced investment attractiveness	High	Income instability, reduced investment	Increase political transparency, support for strategic reforms
Military and geopolitical risks	Increased defence spending, reduced economic activity	Very high	Significant increase in expenditures, budget deficit	Optimisation of defence spending, international support

Source: compiled on the basis of (Glushko, Pantas & Babenko, 2022)

development of an effective system for responding to threats (Panteleeva, 2020).

The principal instrument for evaluating and categorising risks is a priority matrix, which incorporates two pivotal variables: the probability of a risk materialising and the extent of its impact on budgetary stability. A matrix of this nature can be represented graphically or tabularly (see Table 2). In this instance, the vertical axis reflects the probability of the risk occurring, while the horizontal axis reflects the scale of possible negative consequences for the public financial system.

The matrix illustrates that the most critical risks are those with high impact and high probability of occurrence. These risks can be broadly classified as military, political, and economic. These are the risks that present the greatest threat to financial stability and thus require priority management measures.

It is therefore essential to develop specific measures for each type of risk, taking into account their rank and importance for financial security, in order to guarantee the efficacy of risk management. The following table (Table 3) presents a framework for prioritising management measures.

The prioritisation of risks within the budget policy enables the optimal allocation of resources and the assurance of financial stability at the national level. The utilisation of matrices and diagrams for the visualisation of risks enables a rapid and transparent evaluation of their potential impact, thereby facilitating the expeditious formulation of decisions that are tailored to the specific risk conditions.

Consequently, the visualisation and ranking of risks enables a systematic assessment of the principal threats to Ukraine's budgetary stability, as well as the identification of priorities for risk

Table 2 Matrix of risk management priorities in the risk-oriented budget management system

		Risk exposure level			
		Low	**Average**	**High**	**Very High**
Risk occurrence probability	**High**	Social risks	Economic risks	Political risks	Military and geopolitical risks
	Average	Influence of seasonal economic factors	Risks of market fluctuations	International economic sanctions	Deficit in defence spending
	Low	Temporary instability of demand	Access to credit resources	Change of government or economic policy	Shortage of social programs

Source: compiled on the basis of (Skoryk & Bohdan, 2020)

Table 3 Prioritisation of management measures based on risk ranking

Risk type	**Priority**	**Probability**	**Impact on financial security**	**Management measures**
Military and geopolitical risks	Very High	High	Very High	Expanding international financial support, increasing the defence budget, optimising national security spending and engaging strategic partners.
Political risks	High	High	High	Transparency and predictability of the budget policy, adaptation to political changes, development of long-term budget plans, involvement of the expert community to ensure the stability of public policy.
Economic risks	High	High	High	Stimulating investment, supporting entrepreneurship, diversifying sources of income, and implementing anti-crisis economic programmes.
Financial risks	Average	Average	Average	Optimisation of the debt portfolio, reduction of debt service costs, ensuring stability of internal and external funding sources, and restructuring of debt obligations.
Social risks	Average	Average	Average	Improving social protection and employment, expanding support programmes for vulnerable groups, and creating additional sources of funding for the social sector.

Source: compiled on the basis of (Panteleeva, 2020)

management strategies. This approach facilitates the streamlining and efficient utilisation of resources, thereby ensuring the financial security of the state. The utilisation of matrices and diagrams in risk analysis facilitates the discernment of critical areas necessitating prompt managerial intervention. This is particularly pertinent in a context of martial law, where budgetary constraints intensify due to the necessity of financing defence expenditure and maintaining social stability. By identifying risks according to their level of impact and probability of occurrence, the budget risk management system can be more effectively adapted to a changing environment. This approach permits the formulation of a comprehensive strategy that not only guarantees an expedient response to challenges but also reinforces long-term financial sustainability.

5 Conclusions

It is therefore imperative that Ukraine adopts a risk-oriented approach to its budget policy, in order to guarantee the financial security of the state, particularly in light of the ongoing martial law and the associated economic and social challenges. The contemporary budgetary risks, which encompass military, economic, political, financial and social risks, exert a considerable burden on the budget system, necessitating precise forecasting and the prioritisation of management measures. Consequently, it is imperative to implement more efficacious mechanisms for monitoring and assessing risks, as well as to adapt budgetary policy to the ever-evolving conditions of the internal and external environment. The utilisation of risk visualisation and ranking tools facilitates a more discernible delineation of priority domains for budgetary policy and decision-making oriented towards financial sustainability. The risk prioritisation matrix serves to illustrate the principal threats and offers an efficacious mechanism for classifying them according to the level of impact and probability of occurrence. This classification system enables the distribution of resources in accordance with the actual requirements, concentrating efforts on those risks that represent the most significant threat to the stability of the budget and the financial system. The implementation of risk-oriented budget management is becoming a fundamental element in the pursuit of long-term financial stability in Ukraine. In the context of the current wartime challenges, a well-coordinated risk management system provides a more flexible response to critical threats, reduces the negative impact of external factors, and forms the basis for the development of an effective and sustainable budget policy. This enables Ukraine to sustain financial stability while simultaneously establishing the foundations for a gradual recovery and development in the post-war period.

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Дата надходження статті: 08.10.2024
Дата прийняття статті до публікації: 12.12.2024
Дата публікації статті: 30.12.2024