

DOI: <https://doi.org/10.34069/AI/2023.68.08.12>

How to Cite:

Tretiak, D., Sizov, A., Miedviedkova, N., Murovana, T., & Karpych, A. (2023). Fiscal risk management in Ukraine under new challenges. *Amazonia Investiga*, 12(68), 126-140. <https://doi.org/10.34069/AI/2023.68.08.12>

Fiscal risk management in Ukraine under new challenges

Управління фіскальними ризиками в Україні в умовах нових викликів

Received: June 3, 2023

Accepted: August 27, 2023

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Abstract


This article examines fiscal risks and their management in Ukraine and abroad, drawing on international best practices. The main aim is to analyze global risks in the short and long term and evaluate how public finances have been managed in Ukraine and other countries during economic crises, while suggesting areas for improvement. The study utilized various scientific methods, including the structural-functional method to uncover risk management mechanisms within public finance systems and the comparative method to contrast key indicators of Ukraine's public finance system with those of other nations. Key findings include the identification of primary tools used nationally and internationally to mitigate the impact of fiscal shocks during crises. Budgetary practices from different countries were also examined, emphasizing fiscal rules, social expenditure allocation, and incentives for innovation and investment. The research highlights how global challenges and economic crises have led countries to adopt different approaches based on their economic development and risk


Анотація


Ця стаття досліджує фіскальні ризики та їх управління в Україні та за кордоном, використовуючи міжнародні передові практики як приклади. Основна мета - проаналізувати глобальні ризики на короткий і довгий терміни та оцінити, як управлялися державними фінансами в Україні та інших країнах під час економічних криз, а також запропонувати напрями покращення.


Для досягнення цієї мети використовувалися різні наукові методи, зокрема структурно-функціональний метод для виявлення механізмів управління ризиками в системі державних фінансів і порівняльний метод для контрастування ключових показників системи державних фінансів України з іншими країнами. Основні висновки включають ідентифікацію основних інструментів, які використовуються національно та міжнародно для пом'якшення впливу фіскальних шоків під час криз. Також були досліджені бюджетні практики різних країн, з наголосом на впровадженні фіскальних правил, виділенні коштів на соціальні витрати та стимулюванні інновацій та інвестицій.

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management integration into fiscal processes. Recommendations are provided to enhance fiscal risk management measures in Ukraine, particularly in the ongoing wartime context. In conclusion, this article underscores the importance of effective fiscal risk management and offers specific suggestions to strengthen fiscal risk management practices in Ukraine, considering current circumstances and unforeseen challenges.

Keywords: fiscal risks, risk management, public finance, budget, war.

Introduction

The state of the state budget is one of the most important factors of macroeconomic stabilization. Its formation is significantly affected by the risks associated with the macroeconomic situation with accumulated public debt, government guarantees, economic entities' activities in the economy's public sector, etc. In economic problems, financial risks are associated with covering additional state losses, particularly through military operations.

The introduction of martial law in February 2022 on the territory of the entire sovereign and independent state of Ukraine in connection with the military aggression of the Russian Federation led to the activation of new challenges regarding the proper functioning of not only the domestic sphere of public finance but also for the domestic economic system.

In the context of the above, it is obvious that fiscal risk is a very dangerous factor in the further development of the public finance system, which requires careful monitoring, control, and the search for optimal ways to minimize it.

Literature Review shows research by the National Bank of Ukraine, OECD, IMF, and other international organizations. We also considered theoretical and practical issues of risk management in the system of formation of the state budget studied by domestic scientists.

In **Methodology part** we used the following methods: structural-functional method to identify the mechanism of the influence of public finance risks on the main indicators of the public finance system; method of comparison to describe macroeconomic risks and compare countries regarding the Open budget index, public

availability of budget documents in Ukraine in accordance with the type of the document and features of fiscal risk management in OECD countries.

Дослідження підкреслює, як глобальні виклики та економічні кризи змусили країни вживати різні підходи залежно від рівня їх економічного розвитку та інтеграції управління ризиками в фінансові процеси. Також надаються рекомендації з покращення заходів управління фінансовими ризиками в Україні, особливо в умовах триваючого військового конфлікту.

На завершення слід зазначити, що ця стаття підкреслює важливість ефективного управління фінансовими ризиками та надає конкретні рекомендації для зміцнення практик управління фінансовими ризиками в Україні, враховуючи поточні обставини та непередбачені виклики.

Ключові слова: фінансові ризики, управління ризиками, державні фінанси, бюджет, війна.

Results and Discussion part consists of a developed classification of risks in the field of public finance, namely, macroeconomic dangers, risks associated with public debt and government guarantees, risks associated with the activities of public sector entities, risks associated with the financial sector, risks associated with the social sphere, risks associated with the sphere of agriculture and food security of the state, risks of poor budget transparency. An integrated approach to identifying risks made it possible to form a holistic picture of fiscal risks in Ukraine and justify the corresponding recommendations. The main recommendations for improving fiscal risk management in Ukraine under new challenges include the following: expansion of government business support programs, the main lending mechanism during the war; optimization of budget spending; approximation of the terms of placement of government bonds to the market value of resources in UAH; application of fiscal rules; settlement of lost housing and potentially problematic mortgages; diversification of import taxation.

Literature Review

Since the management of fiscal risks is one of the central elements in the formation of the fiscal policy of modern states, this issue is given a lot of research by the OECD, IMF and other international organizations. In particular, the OECD report "OECD Best Practices in Fiscal Risk Management" systematizes the components of the best risk management practices, according

to OECD experts. In addition, to study global risks, challenges, and trends, we analyzed in detail the reports prepared annually for the World Economic Forum (WEF) — "Global Risks 2022" and "Global Risks 2023". They are analytical reports containing a list of the most relevant global risks humanity will face over the next two and ten years, among them already familiar and new threats.

Also analyzed is a survey conducted by the National Bank of Ukraine in 2022 on the systemic risks of the financial sector, in which top managers of the largest banks and non-banking financial institutions in Ukraine answer questions about the risks threatening the financial sector.

Fundamental studies of fiscal risks are presented in the works of T. Persson & G. Tabellini (1996), M. Cassardi & D. Folkerts-Landau (1997), G. Mackenzie & P. Stella (1996). The IMF specialists studied the sources of fiscal risks and provided recommendations on disclosing and managing these risks.

Theoretical and practical issues of risk management in the system of formation of the state budget were studied by domestic scientists O. Bilousova (2013), K. Blishchuk (2018), T. Bohdan (2022), O. Ivanytska (2019), I. Liutyi & M. Kravchenko (2014), L. Kozoriz (2020), I. Lunina (2012), O. Rozhko, N. Tkachenko & Yu. Kovalenko (2021). Researchers in the field of public finance A. Danylenko and I. Zimovets (2015) considered the factors that create risks to the stability of the public finances of Ukraine. The mechanism for preventing threats to the economic security of Ukraine was studied by scientists O. Rozhko (2016) and Z. Varnalii (2016), ways to increase the effectiveness of control measures to prevent risks — N. Miedviedkova (2016), I. Drozd & M. Pysmenna (2021). The results of these studies indicate that the risk management policy of the state budget of Ukraine could have been more effective. Paying tribute to the developments of domestic economists, we note that some issues need additional research, especially in the face of the latest global challenges.

This study aims to analyze trends in global risks in general and fiscal risks, in particular, to summarize the global and domestic practice of fiscal risk management, as well as the features of managing fiscal risks of the state budget of Ukraine in the face of new challenges. To achieve these goals, the following tasks were set: 1) to explore global risks in world practice;

2) to study the approaches of foreign and domestic scientists to the concept of "fiscal risks" and the main tools for managing them; 3) determine the types of risks in the field of public finance; 4) explore the challenges that arise when implementing risk management systems; 5) consider the prospects for the introduction of tools for managing fiscal risks of the state budget, taking into account new challenges.

Methodology

Methods of theoretical generalizations apply to studying and systematizing risks in the system of public finances and the state concept of ensuring economic security (Danylenko & Zymovets, 2015; Lunina, 2012; Liutyi & Kravchenko, 2014). Ivanytska O. & Koshchuk T. (2019) defined the main approaches to managing fiscal risks used in the domestic practice of financial management and developed countries. Researchers Riabushka L., Kubakh T., and Pavlenko I. reviewed modern approaches to managing fiscal risks: methodology and practice (Riabushka et al., 2021). A systematic approach was used to determine the types and elements of state financial control into event risks in the public finance system (Varnalii et al., 2016). Some authors used conceptual approaches to the essence of public finance risks (Danylenko & Zymovets 2015; Hasanov, 2017; Lunina, 2012; Liutyi & Kravchenko, 2014). System-structural analysis was applied in prioritizing priorities to ensure the national economy's economic security (Varnalii et al., 2016). Grouping and the tabular method were used for the properties of different types of risks in the public money system (Varnalii et al., 2016; Hasanov, 2017; Lunina, 2012).

To achieve the goals of this work, general scientific and special methods were used, such as:

- structural-functional method (to reveal the risk management mechanism in the public finance system). We used this method to identify the mechanism of the influence of public finance risks on the main indicators of the public finance system;
- method of comparison (to compare the main indicators of the public finance system of Ukraine and other countries). This method reviewed macroeconomic risks and compared countries regarding the open budget index.

To understand the progress made by the Ukrainian government in meeting public finance targets, we examine the dynamics over recent years, which made it possible to understand the shortcomings and risks of the public finance system. This, in turn, allows the development of recommendations on measures in public financial management.

Structural-functional method was used to identify types of risks in the field of public finance, namely, macroeconomic dangers, risks associated with public debt and government guarantees, risks associated with the activities of public sector entities, risks associated with the financial sector, risks associated with the social sphere, risks associated with the sphere of agriculture and food security of the state, risks of poor budget transparency. An integrated approach to identifying risks made it possible to form a holistic picture of fiscal risks in Ukraine and justify the corresponding recommendations.

Comparison method was used in the case of analyzing features of fiscal risk management in OECD countries. For instance, the identification of fiscal risks based on the possibility of their occurrence and possible impact on public finance is a component of the fiscal risk management systems in Australia and Great Britain. The so-called internal fiscal risks connected to the execution of governmental programs are defined in Finland. New Zealand estimates the probable costs involved with disaster-related infrastructure reconstruction. The UK is now grappling with fiscal risks that have catastrophic effects on the world's economy and public finances with a high degree of uncertainty regarding time, the size of the expenses, and the forecasting process: public debt, the coronavirus outbreak, and climate change.

We analyzed *Public availability of budget documents in Ukraine* in the context of such documents as Pre-Budget Statement, Executive's Budget Proposal, Enacted Budget, Citizens Budget, In-Year Reports, Mid-Year Review, Year-End Report and Audit Report during 2010-2021. A positive trend is that the Citizens Budget has been available since 2017. The analysis helped us to conclude that, in general, the public gets all the necessary information.

We also used another statement — the *Open Budget Survey* (OBS) which evaluates the public's ability to determine how the central government raises and spends public resources. Besides Ukraine, we considered Bulgaria, Moldova, Slovakia, Romania, Armenia, Poland,

Czech Republic and Hungary. We concluded that since 2015, there has been a positive trend: Ukraine has increased its rating from 46 to 65.

Results and Discussion

On January 11, 2022, the World Economic Forum (WEF, 2023) published its 18th annual Global Risks 2023 report. Estimates are based on a survey of over 1200 experts from 121 countries from academia, business, and international organizations. The study showed that the most serious risks in the next 2 years are the following:

1. The cost-of-living crisis.
2. Natural disasters and extreme weather events.
3. Geo-economic confrontation.
4. Failure to mitigate the effects of climate change.
5. Destruction of social cohesion and polarization.
6. Incidents with large-scale environmental damage.
7. Failure to adapt to climate change.
8. Cybercrime and lack of cybersecurity.
9. Crisis of natural resources.
10. Large-scale forced migration.

Among the most serious risks in the next 10 years, experts identify the following:

1. Failure to mitigate climate change.
2. Failure to adapt to climate change.
3. Natural disasters and extreme weather events.
4. Loss of biodiversity and collapse of the ecosystem.
5. Large-scale forced migration.
6. Crisis of natural resources.
7. Destruction of social cohesion and social polarization.
8. Cybercrime and cybersecurity.
9. Geo-economic confrontation.
10. Incidents with large-scale environmental damage.

The World Economic Forum's annual report on global risks showed that the threat of a recession, a cost-of-living crisis, and a growing debt crisis will dominate forecasts for the next two years. The study noted that the most immediate risk is the cost-of-living crisis, while the biggest long-term threats remain climate-related.

According to The Global Risks Report 2022, the following main short-term risks (0-2 years) were identified in 2022: extreme weather (31.1%), livelihood crisis (30.4%), failure to take climate

action (27.5%); erosion of social cohesion (27.5%); infectious diseases (26.4%); deterioration in mental health (26.1%); cybersecurity (19.5%); debt crisis (19.3%); digital divide (18.2%); deflating asset bubbles (14.2%) (WEF, 2022).

According to a survey conducted by the National Bank of Ukraine in November 2022, involving the heads of 22 banks, 11 insurance companies, and 3 investment companies, the war with Russia creates very high risks. The risks of economic activity, fraud, and cyber threats have significantly increased — they are among the top five threats. Top managers of financial institutions in Ukraine have slightly improved their estimates of the current state of the financial sector. The proportion of those rated his condition as bad or very bad is 17%. At the same time, three-quarters of respondents perceived the current state of the financial sector as satisfactory. Most respondents noted the financial sector's deterioration over the past six months.

Table 1.
World Economic Outlook

Indicators	Real GDP (%)							
	2020	2021	2022e	2023f	2024f	2022e	2023f	2024f
World	-3.2	5.9	2.9	1.7	2.7	0.0	-1.3	-0.3
Advanced Economies	-4.3	5.3	2.5	0.5	1.6	-0.1	-1.7	-0.3
Emerging markets and developing countries	-1.5	6.7	3.4	3.4	4.1	0.0	-0.8	-0.3
East Asia and the Pacific	1.2	7.2	3.2	4.3	4.9	-1.2	-0.9	-0.2
Europe and Central Asia	-1.7	6.7	0.2	0.1	2.8	3.2	-1.4	-0.5
Latin America and the Caribbean	-6.2	6.8	3.6	1.3	2.4	1.1	-0.6	0.0
Middle East and North Africa	-3.6	3.7	5.7	3.5	2.7	0.4	-0.1	-0.5
South Asia	-4.5	7.9	6.1	5.5	5.8	-0.7	-0.3	-0.3
Africa south of the Sahara	-2.0	4.3	3.4	3.6	3.9	-0.3	-0.2	-0.7

Source: World Bank (n.d.)

Against the backdrop of high inflation and rapidly decelerating global economic growth, emerging market regions and developing economies face a variety of adverse factors. Growth forecasts across all regions for the next two years have worsened from those made in June. Tighter monetary policy and credit conditions will constrain economic growth, especially in Latin America, the Caribbean, South Asia, and sub-Saharan Africa. The slowdown in advanced economies is projected to have a particularly strong impact on East Asia, the Pacific, Europe, and Central Asia due to the spillover effect from the contraction in foreign trade. Persistently high energy prices cloud the outlook for energy-importing countries worldwide. All regions are dominated by risk

At the same time, expectations of further development of the financial market have improved. The proportion of respondents who expect the financial sector to deteriorate in the next six months has almost halved to half of the respondents, and about 43% do not expect changes.

Global economic growth is projected to slow to 1.7 percent in 2023, one of the slowest in nearly 30 years, second only to the global recessions of 2009 and 2020. This slowdown is partly due to tightening monetary policy to combat high inflation. Negative shocks such as rising inflation, tightening monetary policy, or financial turmoil can send the global economy into recession. Urgent action is needed to reduce global recession and debt crisis risks. In addition, governments need to ensure support for vulnerable populations, keeping inflation expectations stable and financial systems resilient (Table 1).

factors that threaten to strengthen economic growth. Among them are potential financial shocks, new shocks in commodity markets, deepening conflicts, and natural disasters (World Bank, n.d.).

The IMF specialists consider macroeconomic and specific risks caused by contingent liabilities of the state to be the main fiscal risks, it is expedient to assess and disclose them. The latter include fiscal risks, the sources of which are the provision of state guarantees, public-private partnership projects, government support for the financial sector, the use of exhaustive natural resources, overcoming environmental problems, and the activities of local governments and

business entities of the public sector of the economy.

The main fiscal risks in Ukraine, the assessment of which is provided for by the Methodology for assessing fiscal risks, approved by the Resolution of the Cabinet of Ministers of Ukraine dated April 24, 2019 No. 351 (Methodology, 2019), include risks arising from, *firstly*, changes in the macroeconomic environment; *secondly*, contingent liabilities — potential liabilities of the state budget, confirmed only after the occurrence or non-occurrence of certain events; *thirdly*, non-fulfillment of the plan for proceeds from the privatization of state property; *fourthly*, the deviation from the planned indicators in the field of pension provision. Contingent liabilities cover the following areas: the provision of state

guarantees for loans, unprofitable activities of economic entities in the public sector of the economy, inefficient functioning of the financial sector, unplanned results of the implementation of public-private partnership projects, and the elimination of the consequences of man-made, natural and other emergencies (Methodology, 2019).

The OECD report “Best Practices in Fiscal Risk Management” (Managing Fiscal Risks, 2020) presents the experience of Australia, Finland, New Zealand, the Netherlands, and the United Kingdom. The systematization of the components of the best risk management practices, according to OECD experts, is presented in Table 2.

Table 2.
Features of fiscal risk management in OECD countries

Components	Characteristic	Country
Identification	The subjects of the Commonwealth determine the fiscal risks in their area of responsibility and are obliged to provide information to the Ministry of Finance and the Treasury	Australia
	Each central government entity is responsible for risk identification, description, and monitoring.	Finland
	Competence lies with authorized entities responsible for identifying and monitoring risks	Netherlands
	Risk identification stages are carried out, such as monitoring and reviewing previous periods.	New Zealand
Measurement	The Treasury coordinates its work with other bodies competent for fiscal risks	Great Britain
	Commonwealth entities identify and assess risks when preparing their financial statements, risks are consolidated	Australia
	The measurement of fiscal risks is carried out in the form of financing of state guarantees at face value	Finland
	Macroeconomic and financial risks are measured by analyzing alternative scenarios (stress tests)	Netherlands
Information disclosure	Each agency measures its specific fiscal risks under the guidance and monitoring of the Treasury.	New Zealand
	The likelihood of risk and its potential impact on both reserve performance and public finance flows are assessed	Great Britain
	Risk Statement included in the Budget Strategy	Australia
	The annual nationwide fiscal plan includes a summary of the overall risks associated with the fiscal outlook	Finland
Mitigation	Information provided with medium-term forecasts and annual budget	Netherlands
	Biennial and pre-election economic and budget updates reveal general, specific, and balance sheet risks.	New Zealand
	Risks for medium-term forecasts are mentioned in economic and fiscal forecasts, and sensitivity analysis relative to long-term forecasts is presented in the Fiscal Sustainability Report	Great Britain
	Departments and other business entities prevent and mitigate business risks, contingent liabilities, and assets	Australia
Mitigation	Each government agency is expected to prevent or reduce its risks	Finland
	Contingency risk management policy includes restrictions and prevention of government incurring new contingent liabilities	Netherlands
	Each department prevents and mitigates specific risks by re-setting priority targets.	New Zealand
	The government's strategy consists of five steps: identifying the source, scope, and risk; risk disclosure; risk reduction; risk assurance and calculation of risk residuals	Great Britain

Source: Riabushka et al, 2021; OECD, 2020

For example, the system of fiscal risk management in Great Britain and Australia includes the identification of fiscal risks by the likelihood of their occurrence and potential impact on public finances. Finland defines the so-called internal fiscal risks associated with implementing government programs. New Zealand measures the potential costs associated with rebuilding infrastructure in a disaster. The UK is now dealing with fiscal risks that have a significant degree of uncertainty in terms of timing, the scale of the costs, is characterized by a non-linear nature of forecasting, catastrophic consequences for the world's economies and public finances of countries: the coronavirus pandemic, climate change, public debt (Riabushka et al, 2021).

A paper published by the World Bank defines fiscal risk as a source of financial stress that the government may face in the future (Hrechanichenko, 2018). At the same time, fiscal risks are particularly associated with contingencies arising mainly from political decisions and fiscal opportunism to avoid difficult adjustments and unpopular structural reforms.

Another interpretation of fiscal risks, contained in a study by International Monetary Fund specialists, concerns the potential difference

between actual and expected fiscal results, for example, in terms of the budget, the balance sheet, or the amount of public debt (Everaert et al, 2009) or possible deviations of fiscal variables at the level that was expected at the time adoption of the budget or its forecast. Researcher Hasanov (2017) believes that fiscal risks can be divided into two large groups: 1) internal risks of the fiscal system; 2) risks of external origin, including those outside the country.

Risks in the sphere of public money are understood as the possibility of a difference in the size of government revenues, expenditures, and borrowings from their expected sizes during certain budget periods by one, three, or more years.

There are many views on the definition of risk-based management, although they all have similar components. Public finances in Ukraine are sensitive to several significant fiscal risks, including risks associated with state-owned enterprises and state property management; public debt and government guarantees; the financial sector; configuration of the macroeconomic situation. These risks are also called fiscal risks and are factors that can lead to a deviation of revenues, expenditures, government budget deficits, and public debt from planned indicators (Fig. 1).

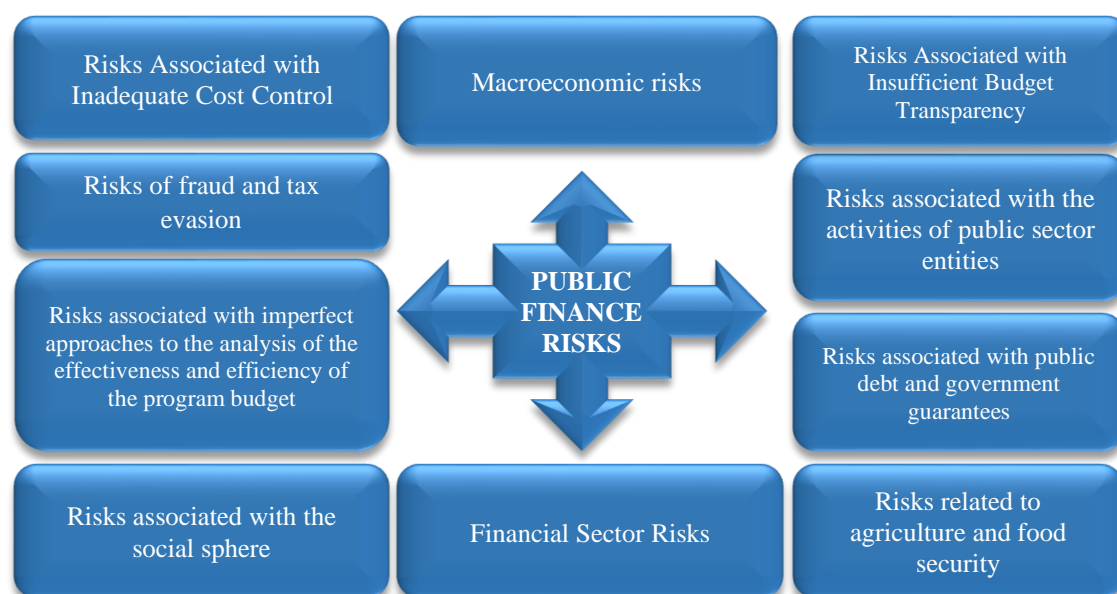


Fig. 1. Types of risks in the field of public finance.

Source: developed by the authors based on Fiscal risks (2008), Information on fiscal risks (2023), Ministry of Finance of Ukraine (2021)

The soundness of fiscal policy negatively affects the lack of a comprehensive management system for these risks, which has negative consequences

for the sustainability of public debt and the efficient allocation of public resources in line with public policy priorities.

1. Macroeconomic dangers. The macroeconomic forecast of the Cabinet of Ministers of Ukraine (CMU), based on which the calculation of the 2023 budget indicators is more pessimistic than the

National Bank of Ukraine (NBU) forecast. If in 2022 the NBU expected a deeper decline in the economy, than in 2023 — a more powerful recovery (Table 3).

Table 3.
Comparison of government and NBU macro forecasts

Indicators	2023	
	CMU	NBU
Real GDP growth, %	+4,6	+5,5
GDP deflator, %	+30,7	+25,0
Nominal GDP, billion UAH	6399	5990
CPI, December to December, %	+30,0	+20,7
Average monthly salary, %, r/s (nominal)	+32,0	+36,3
(real)	+1,0	+6,7
Unemployment rate, %	28,2	+27,0
Export of goods and services, % Y/Y	+9,1	+20,8
Import of goods and services, % Y/Y	+1,0	+9,5

Source: Danylyshyn, 2022

As a result of the negative impact of the war, the budget deficit is planned at 20% of GDP. The government plans to raise most funding needs

from external loans and grants, and the rest from internal loans, privatization, and other sources (Table 4).

Table 4.
Characteristics of the public money system for 2023

Indicators	UAH billion	In % of GDP
Income	1278.8	20.0
Tax revenues	1156.0	18.1
VAT	596.3	9.3
Income tax	132.0	2.1
Part of the profits of the GP	7.3	0.1
Expenses	2513.9	39.3
Defense	870.0	13.6
Social sphere	647.3	10.1
Investments	95.0	1.5
Debt service	330.7	5.2
Shortage (+grants)	-1280.1	-20.0
External loans and grants	1497.4	23.4
Domestic loans	-225.3	-3.5
Other sources	8.0	0.1
National GDP	6399.0	100

Source: Danylyshyn, 2022

Since 2014, the Ukrainian economy has operated in a hybrid war waged by the Russian Federation against Ukraine. However, the massive military actions of the aggressor state on the territory of Ukraine have created new extraordinary challenges, namely:

- non-receipt of financial assistance from international financial organizations and donor countries can lead to additional money emissions, and a reduction of budget expenditures, which will negatively affect the volume of economic demand and

production and further affect price dynamics;

- uncertainty about the duration and intensity of the military conflict between Ukraine and the Russian Federation, which could lead to further involuntary resettlement of the population, the continued destruction of vital infrastructure, and increased loss of economic and productive potential;
- loss of crops as a result of the destruction by the Russian Federation of fields and crop storage sites, which will lead to a reduction in food crops and agricultural production, which, firstly, will lead to a decrease in

exports and foreign exchange earnings from exports, and, secondly, also food shortages in the domestic market and rising consumer food prices.

- 2. *Risks associated with public debt and government guarantees.*** Due to the deterioration in the work of enterprises in the state and municipal sectors of the economy as a result of the war, in 2023 for these enterprises, there is a risk that such entities will not fulfill their obligations to creditors for loans attracted under state guarantees, to the Ministry of Finance of Ukraine as a creditor, for loans attracted by the state from international financial organizations.

A significant deficit and its predominantly loan financing led to a rapid accumulation of public debt. The limit value of the state direct debt for 2023 is provided in the amount of UAH 6.4 trillion (100.1% of GDP), and exceeding the value of more than 60% is a threatening level of public debt.

So, among the possible risks in the next year, it is advisable to highlight the following.

Firstly, in 2023 there is a significant likelihood of warranty cases for the obligations of PJSC State Food and Grain Corporation of Ukraine and the risk of Ukravtodor fulfilling its debt obligations.

Secondly, the increase in the NBU discount rate is also an additional burden for economic entities of the public sector and municipalities, whose portfolio contains loans linked to the NBU discount rate, in particular, guaranteed by the state. In the future, this may lead to defaults and additional unpredictable state budget expenditures. Moreover, an increase in the NBU discount and inflation rates will lead to additional state budget expenditures for servicing the public debt in 2023.

Thirdly, it should be noted that the reduction in the volume of tax payments to the budget and the urgent need to cover the country's significant current expenses in war conditions create significant fiscal risks for the state budget - they lead to an increase in the state budget deficit and public debt.

- 3. *Risks associated with the activities of public sector entities.*** State-owned enterprises acutely felt all the negative consequences of the war in the country, which led to the deterioration of their financial and economic

condition. The emergence of new challenges in the activities of state-owned companies has led to the following negative consequences: loss of assets and labor resources, insufficiency of working capital and, thus, an increase in the need to attract additional resources; a significant reduction in production and sales volumes; a significant increase in prices for energy carriers, raw materials, and materials; problems with logistics and its price rise; loss of markets.

State-owned companies suffered significant losses due to the negative effects of the war, including the destruction of production assets and the threat to workers' lives. It is also advisable to add to this list the deterioration of solvency and the growth of debt, the deterioration and rise in the cost of logistics, which, as a result, leads to a restriction of activities.

- 4. *Risks associated with the financial sector.***

Although the banking system of Ukraine successfully resists new challenges, which confirms the high volume of free liquidity of the banking system, at the same time, the growth of net business loans in the national currency since the beginning of the war was provided primarily by support programs. That is why mass lending to businesses now seems possible only with the expansion of state support programs.

Credit risk remains one of the key risks, and its realization is the biggest threat to the sector, according to the NBU, banks will lose at least 20% of their loan portfolio due to the war and, as a result, the financial and economic crisis. Under the greatest risk are secured loans issued in the temporarily occupied territories and territories where active hostilities are taking place. Due to the destruction of collateral in the form of housing and vehicles, as well as the deterioration of the solvency of the population, a significant proportion of the loan portfolio of banks may need to improve (RBC, n.d.)

- 5. *Risks associated with the social sphere.***

Priority financing of expenditures this year is aimed at military purposes, increasing the country's defense capability and making the most necessary social expenditures supporting the population affected by the war.

Firstly, in 2022 there were fiscal risks associated with the failure to meet the planned indicators of

the Pension Fund's revenues due to a decrease in the number of employees and failure to achieve the planned growth rates of the payroll fund: an increase in arrears in paying unified social contributions and reimbursement of preferential pensions; decrease in the level of solvency of enterprises, institutions, organizations in terms of paying mandatory insurance premiums due to a decrease in income, termination of activities as a result of the military aggression of the Russian Federation, hostilities and the introduction of martial law on the territory of Ukraine. The upward trend in the Pension Fund's debt on loans granted from a single treasury account to cover temporary cash gaps continues.

Secondly, according to the Ministry of Social Policy, there is a high risk of growth in debt on the payment of material security for insurance due to temporary disability because of a decrease in revenues from the single contribution for compulsory state social insurance. Thus, losses in the revenue part of the budget of the Social Insurance Fund of Ukraine as a result of a shortfall in funds from the single contribution amount by the end of 2022 may amount to UAH 4.2 billion (Information on fiscal risks, 2023).

6. Risks associated with the sphere of agriculture and food security of the state. Before the start of the war, Ukraine was one of the largest suppliers of food and agricultural products to the world market, so over the past five years, agri-food products provided about half of the state's total exports. The full-scale invasion of the Russian Federation into Ukraine has created new challenges in the state's agriculture and food security.

The destruction and significant damage to the agricultural, storage, and transport infrastructure and the energy and processing industries led to a

significant decrease in Ukraine's export opportunities and a shortage of products in world markets.

The war radically changed the achievements of Ukraine's export potential and affected world markets. The failure of stable supplies of agricultural products from Ukraine has already led to a rapid increase in world grain prices, so it is important to increase the possibilities of its export to receive foreign exchange earnings in the Ukrainian economy (Information on fiscal risks, 2023).

7. Risks of poor budget transparency. The transparency of the budget and the budgeting process is an essential or critical requirement for a democratic society to function. The openness of the budget allows the public, particularly its socially engaged element, which represents the interests of many sectors of the population, to understand the complexities and alternatives of budget choices and influence the authorities while actively preserving their civil rights.

The Open Budget Survey (OBS) is the world's only independent, comparative, and fact-based research instrument that uses internationally accepted criteria to assess public access to central government budget information; formal opportunities for the public to participate in the national budget process; and the role of budget oversight institutions, such as legislatures and national audit offices, in the budget process (Open Budget Survey, 2021).

It evaluates the public's ability to determine how the central government raises and spends public resources. Ukraine ranks 65th. A score of 61 or above indicates that a country is likely to publish enough information to allow for informed public debate on the budget (Fig.2).

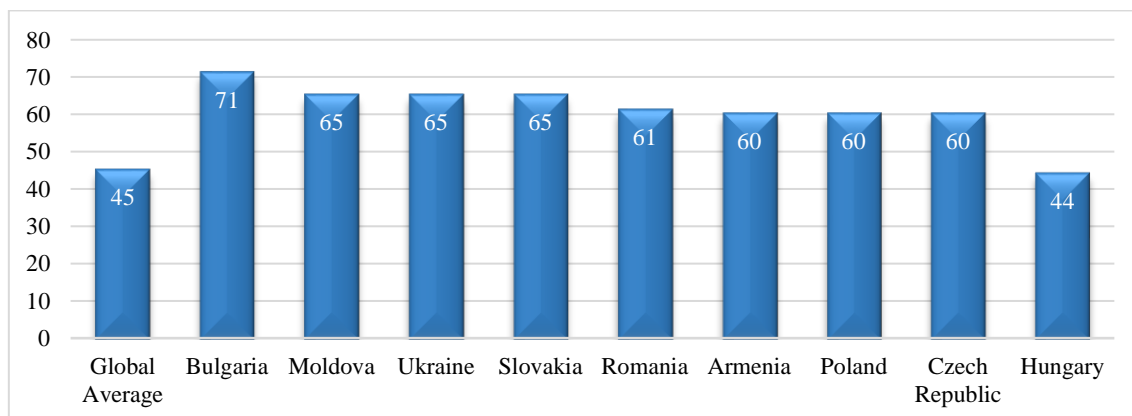


Fig. 2. Transparency in Ukraine compared to others
 Source: *Open Budget Survey, 2021*

Since 2015, there has been a positive trend: Ukraine has increased its rating from 46 to 65 (Fig.3).

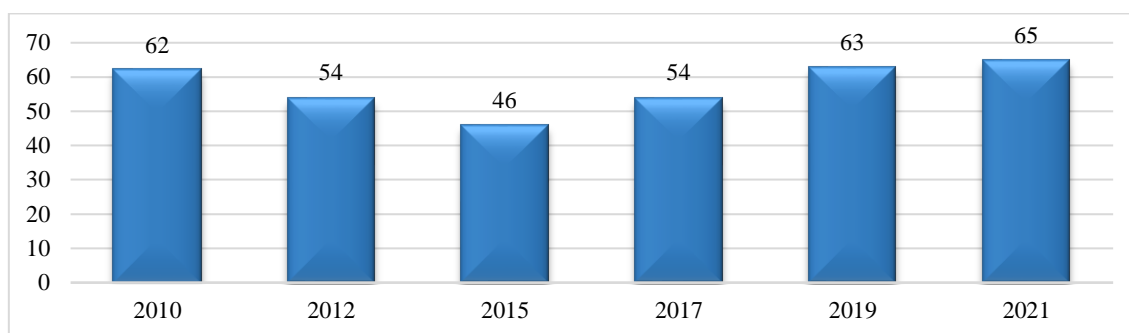


Fig. 3. How has the transparency score for Ukraine changed over time?

Source: *Open Budget Survey, 2021*

In general, the public gets all the necessary information. A positive trend is that the Citizens

Budget has been available since 2017 (Table 5).

Table 5.

Public availability of budget documents in Ukraine

Document	2010	2012	2015	2017	2019	2021
Pre-Budget Statement	+	+	+	+	+	-
Executive's Budget Proposal	+	+	+	+	+	+
Enacted Budget	+	+	+	+	+	+
Citizens Budget	-	-	-	+	+	+
In-Year Reports	+	+	+	+	+	+
Mid-Year Review	+/-	+/-	-	-	-	-
Year-End Report	+	+	+	+	+	+
Audit Report	+	+	+	+	+	+

«+» - Available to the Public

«+/-» - Published Late, or Not Published Online, or Produced for Internal Use Only

«-» - Not Produced

8. Risks connected with insufficient expenditure controls include public-sector fraud and corruption. The practice of withholding information about the use of taxpayers' funds has become the basis for increased corruption in Ukraine. Following the first stage of the Dignity Revolution in 2014, Ukraine was given a window of opportunity to enact swift, effective changes in numerous public government sectors. One of the priority areas was public procurement reform, where a successful example is Prozorro.

ProZorro is a completely online public procurement platform and cooperation environment in Ukraine that enables open access to public procurement (tenders). It was fully implemented in 2016 as a hybrid (both centralized public and decentralized private marketplaces) system, and it has since been recognized globally as one of the most innovative public procurement systems for delivering government services in a stakeholder-focused, transparent, effective, fair, and low-cost manner.

Another platform for reporting data in the field of public finance is *E-data* which was implemented in the order of the Cabinet of Ministers of Ukraine dated February 11, 2016, No. 92-r, "On approval of the Concept for the creation of an integrated information and analytical system" "Transparent Budget" (Order No. 92-r, 2016). It is the official state information portal, which publishes information on the use of public funds and implements the idea of a "Transparent Budget", that is why it is an accessible tool for public control over the planning and use of public funds.

9. Risks connected with flawed ways of assessing the efficacy and efficiency of program budgets. The country's difficult political and economic situation causes an urgent solution to the issue of increasing the efficiency of the formation and distribution of public finances. The problem of digitalizing public finances is especially aggravated during the war when it is necessary to quickly respond to external challenges and change the distribution of

planned financial resources after the approved budget.

The effectiveness of budget programs is evaluated at all stages of the budget process. It provides measures to monitor and analyze the use of funds and control their targeted and effective use.

Also, performance evaluation contributes to the revision of activities, tasks, and indicators of the budget program, both in the course of its implementation and planning in the next budget period and the medium term. Another benefit of performance evaluation is the early warning of possible program performance problems and the development of cost-effectiveness measures.

To date, there is yet to be a single methodology for assessing the effectiveness of budget programs of local budgets. But the most used method is the method of comparative analysis, which makes it possible to compare the effectiveness of the use of budgetary funds and the results achieved by different administrators in implementing similar programs (Clarification for the communities, n.d.).

10. Risks of fraud and tax evasion.

Multinational companies have long exploited gaps and inconsistencies in tax rules. World trends in combating the erosion of the tax base and the withdrawal of taxable profits (Base Erosion and Profit Shifting - BEPS) have not gone through Ukraine either.

In 2013, the Council of the OECD developed the BEPS project, which provides measures to combat abuses associated with using special tax regimes and double taxation conventions.

More than 100 countries worldwide have joined the program, and since January 1, 2017, Ukraine has also joined. In 2020, Ukrainian legislation was amended to ensure the implementation of 8 steps out of 15 activities of the BEPS plan.

Implementing the BEPS Action Plan contributes to harmonizing international tax rules with more than 70 countries and creates a more transparent tax environment. In the EU Member States, the PERS plan and global threats to tax security have brought the fiscal function of taxation to the fore (Finap Software Solutions, 2022).

Therefore, to reduce the risks of public finances, consistent steps are needed to provide the budget with reliable sources of revenue, reform its

expenditure side, and improve the budget process to create conditions for improving the quality and efficiency of budget decisions. The risk management of the state budget is carried out to increase security. The main recommendations are as follows:

1. *Expansion of government business support programs, the main lending engines in times of war.* Considering these programs' success, increasing their volume and covering a wider range of borrowers is advisable. In addition, the planned expenses for this program in 2023 should be revised, considering the prospects for growth in the loan portfolio and an increase in market interest rates.
2. *Optimization of budget spending.* To stabilize the state of the national economy of Ukraine in the long term, it is necessary to ensure an increase in the level and efficiency of the use of budgetary funds by increasing the part of expenditures aimed at developing and modernizing the economy, by reducing the costs of maintaining the bureaucracy, reducing tax pressure on business entities by improving the administration system taxes, which will help increase the number of own funds of enterprises that can be used for investment purposes.

The main areas of recovery, requiring a significant part of the budget, are as follows:

- reconstruction and modernization of transport and energy infrastructure;
 - social rehabilitation and renewal of social institutions affected by the war;
 - repair and reconstruction of the housing stock;
 - the restoration of damaged agricultural facilities;
 - expansion of production capacities of the military-industrial complex;
 - reconstruction of the network of educational and healthcare institutions optimized for new needs, a continuation of reforms in these areas;
 - restoration and modernization of industrial facilities, creation of jobs, and support for small and medium-sized businesses (Committee, n.d.).
3. *Approximation of the terms of placement of government bonds to the market value of resources in UAH.* The Ministry of Finance should increase the size of market borrowings to cover the budget deficit and minimize direct financing of the National

Bank. Banks, traditionally the main creditors of the state, have sufficient liquidity reserves to invest in government bonds. Low yields on current war bonds are holding them back. An increase in government bond rates will help increase demand for them. At the same time, this will reduce the amount of funding for the issue in the NBU budget, thereby reducing price and financial stability risks.

4. *Application of fiscal rules.* The hostilities and the economic downturn led to the violation of the system of quantitative fiscal rules in Ukraine. That is, fiscal rules are legislative or regulatory restrictions on the long-term nature of fiscal policy in the form of quantitative limits on major fiscal aggregates (International Monetary Fund, 2017). Such limits are reflected in national legislation or international treaties and are binding on public authorities (Iefymenko et al., 2014; Bohdan, 2023).
5. *Settlement of lost housing and potentially problematic mortgages.* Current legislation allows borrowers to suspend loan service until they receive compensation for damaged or lost property. The procedure for further resolution of credit relations will depend on the degree of damage caused to the borrower and his property. At the same time, the principle of distribution of losses is implemented: the state and the bank share the losses arising from the repayment of credit debt. For the effective operation of the mechanism, it is necessary to determine the procedure for compensating borrowers and initiating payments.
6. *Diversification of import taxation.* It should be noted that the reduction in import duties in the first months of the war made it possible to meet Ukraine's demand for scarce goods, which was necessary for an effective rebuff against the invaders. The import duty is now back. The government should also impose additional import duties on non-critical categories of goods and services. This will increase budget revenues and reduce imbalances in the foreign exchange market.

Conclusions

Theoretical and practical aspects of the application of recommended measures in Ukraine require further research, which will contribute to the activation of investment processes, innovative and technological modernization of production, the formation of an innovative investment model of economic development, and most importantly, will ensure

the implementation of priority tasks for economic recovery and modernization of the public finance system.

Increasing the efficiency of public finances, which is crucial for the economic development of Ukraine and improving the welfare of citizens, can be achieved, in particular, by systematically improving the mechanism of public administration by central and local executive authorities.

Introducing a risk-based public administration mechanism in the system of public internal financial control is an important guarantee of an effective public administration reform, which will reduce the number of problematic issues in the activities of public executive authorities and, accordingly, increase the country's competitiveness.

Therefore, to reduce the risks of public finances, consistent steps are needed to provide the budget with reliable sources of revenue, reform its expenditure side, and improve the budget process to create conditions for improving the quality and efficiency of budget decisions.

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