








“Management of budget flows under martial law”

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ARTICLE INFO

Kateryna Romenska, Viktoriia Datsenko, Valentyna Samoday, Yurii Puhach and Oksana Dudchyk (2024). Management of budget flows under martial law. *Public and Municipal Finance*, 13(1), 55-69. doi:[10.21511/pmf.13\(1\).2024.05](https://doi.org/10.21511/pmf.13(1).2024.05)

DOI [http://dx.doi.org/10.21511/pmf.13\(1\).2024.05](http://dx.doi.org/10.21511/pmf.13(1).2024.05)

RELEASED ON Tuesday, 30 April 2024

RECEIVED ON Friday, 15 March 2024

ACCEPTED ON Thursday, 25 April 2024

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JOURNAL

"Public and Municipal Finance"

ISSN PRINT

2222-1867

ISSN ONLINE

2222-1875

PUBLISHER

LLC “Consulting Publishing Company “Business Perspectives”

FOUNDER

LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

39



NUMBER OF FIGURES

4



NUMBER OF TABLES

5

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BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10,
Sumy, 40022, Ukraine
www.businessperspectives.org

Received on: 15th of March, 2024

Accepted on: 25th of April, 2024

Published on: 30th of April, 2024

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Conflict of interest statement:

Author(s) reported no conflict of interest

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MANAGEMENT OF BUDGET FLOWS UNDER MARTIAL LAW

Abstract

Managing budget flows under martial law is important to ensure the security and financial stability of the state, helping to mobilize the necessary resources and concentrate them on financing key needs. This paper aims to identify and outline possible measures to balance the movement of budget flows in order to harmonize them with the goals of state policy in the field of national security. The movement of budget flows of income and expenses was assessed, and trends and changes were identified using economic and statistical methods. The assessment results confirmed the need for reasonable planning of budget flows in the context of the impact of unforeseen military events on the process of budget execution in terms of revenues and expenditures, which leads to failure to meet expenditure indicators, causes a lack of financial resources and an increase in the budget deficit. One of these measures is the improvement of budget planning, which is based on the analysis, detection, and assessment of the probability of occurrence and countering the risks related to the state's financial system. Correlation-regression analysis confirmed the growing dependence of revenues on official transfers from the EU, foreign governments, international organizations, donor institutions, and government bodies. The results obtained are basic for developing measures to balance incoming and outgoing budget flows under martial law. They provide for the obligation to create a financial support system (including international financial aid) while strengthening state financial control measures for the timely, targeted, effective direction of budget flows, including for the security and defense of the state.

Keywords

budget, expenditures, revenues, security, defense, deficit, debt

JEL Classification

H62, H63, H61, H68

INTRODUCTION

Under martial law in Ukraine, the budget flows of state revenues are limited due to the influence of many factors, such as the occupation of Ukraine's territories, the movement of labor resources and assets, the slowdown of the economy, and the reduction of exports and imports of the state. At the same time, as incomes are limited, budget expenditures for ensuring the security and defense of the state, liquidation of damage caused to the industrial and residential infrastructure of the country because of the Russian aggression, etc., have increased. The inevitable consequence of the impact of negative phenomena on the financial system of Ukraine was the unbalanced flow of budget revenues and expenditures and the rapid growth of the budget deficit due to the lack of revenue sources to cover all expenses. This causes the state authorities to make changes to the budget legislation and the budget process related to the introduction of changes to budgets, redistribution, and the priority of spending. Undesirable growth of indicators of the deficit, the state debt of Ukraine, expenses for its maintenance, and other problems of implementing the State Budget of Ukraine indicate that the process of budget flow management needs to be reviewed for further improvement. Under martial law, all participants in the budget process must ensure a timely response to the emergence and prevention of risks associated with the influence of negative factors on

the movement of budget flows in the process of drawing up, adopting, and implementing budgets. The formation of volumes and movement of budget flows should take place in accordance with state priorities with increased control over the effective management of budget funds. The amount of funds redistributed through the State Budget of Ukraine depends on providing financial resources for important goals of state policy in the field of defense, as well as in the economic and social spheres.

1. LITERATURE REVIEW

Managing the financial flows of the State Budget of Ukraine is the main tool for discussing and coordinating issues related to the national interests of the state, including in the field of security and defense. Achieving security and defense goals within the fiscal parameters of the budget allows for macroeconomic stability, resource allocation efficiency, operational efficiency, and fiscal transparency and accountability. Security is the basis of budget management and ensures budget reliability, transparency of public finances, reasonable management of assets and liabilities, predictability and control of budget execution, accounting and reporting, and external control and audit (Harborne et al., 2017).

The integration of national goals and interests into strategic budget planning is one of the important means for ensuring the financing of important areas and industries supported by the state fiscal and regulatory policy. Proper management of budget flows should be based on effective management, which consists in directing, guiding, and motivating participants in the budget process in achieving the desired goals and objectives (Shawe, 2023; Ho, 2018; Jimenez, 2020). Many countries adapt their national strategies to their own development goals, based on financial capabilities. Budget management is based on national plans that determine allocation priorities, revenue targets, and budget constraints (OECD, 2015). Decisions regarding public spending are made within the budget process, from strategic budgeting processes to formulation and approval to implementation, as well as monitoring, auditing, and evaluation. Transparency, accountability, and public participation in the budget process ensure that public funds are spent in accordance with budget policy priorities. The goals of national strategies should be consistent and linked to strategic budgeting processes at the state and local levels (Poghosyan et al., 2022).

Detailed analysis of the budgeting process, key decision-makers, decision-making timelines, and specific types of goals and indicators help make plans more reliable and acceptable. There are many opportunities for spending adjustments that are counterproductive to economic stability and social welfare. For example, spending on security and defense ensures proper conditions for the activities of business entities and the life of the population in the relevant territory (UNDP, 2018).

The integration of national security programs into the budget process is a means of coordinating organizational, programmatic, and functional budget policy formats and increases budgeting efficiency. An integrated unified budget of national security programs will facilitate the achievement of fiscal policy compromises by offering a choice of alternative means to achieve national security goals (Brook, 2012; Schlesinger, 1960; Candrea, 2024).

The military actions on the territory of Ukraine led to the provision of financial support by Ukraine's international partners, in particular, the USA and the EU in the provision of military and material aid. For further successful international cooperation of Ukraine and for the effective management of financial resources, it is important to ensure not only the sufficiency of sources of income for the fulfillment of defense goals but also the open and transparent use of funds, in particular, in the field of defense and security. The development of an appropriate open data system, including an analysis of all financial costs based on the appropriate methodology, is one of the ways to ensure budgeting openness and transparency. This methodology should be based on the concept of assessing the openness and transparency of budgeting and financial management of Ukraine's defense and security sector by calculating the index of openness and transparency of budgeting of the Ukrainian defense and security sector. This approach allows us not only to monitor the openness and transparency of the defense and security sector but also to demonstrate and com-

pare the dynamics of the phenomenon with other countries in the future (Silviu et al., 2023; Schwartz et al., 2020; Birskyte, 2019).

Financing of the defense industry is the largest component in terms of volume and share in the State Budget of Ukraine's expenditure structure.

The Decree of the President of Ukraine "National Security Strategy of Ukraine" highlights the priorities of the national interests of Ukraine and ensuring national security: protection of independence and state sovereignty; restoration of territorial integrity within the internationally recognized state border of Ukraine; social development, primarily human capital development; protection of Ukrainians' rights, freedoms, and legitimate interests; and European and Euro-Atlantic integration (President of Ukraine, 2020, 2022).

The formation of the defense budget is primarily related to the financial support of national security policy. The reasons that negatively affect the implementation of state financial policy in the field of defense and require a solution are limited financial resources, control over the use of defense budget funds, and unreasonableness of management decisions on budget issues (Kaufman, 2009; Hunt, 2024).

Before the full-scale war, the management of budget flows of revenues and expenditures in Ukraine was focused on a three-year perspective. Sound budget planning made it possible to outline the vectors of budget policy, to link the state's priorities with the power of the budget, to focus on expenses in relation to the expected results, which can be achieved and monitored in the medium term (Kuzheliev et al., 2018).

With the beginning of the war, there were key changes in budget legislation, with the aim of creating conditions for timely and prompt response to the needs of financial support for defense measures, protection of public safety, functioning of the budget sphere and communal enterprises during the period of martial law. To justify the priority of expenditures in the conditions of martial law, a mechanism for the special regime of the Treasury of Ukraine (related to the implementation of the treasury servicing of budget funds and funds of other clients in the conditions of martial

law in Ukraine) is determined by the Resolution of the Cabinet of Ministers of Ukraine "On approval of the Procedure for the exercise of powers by the State treasury in a special regime under the conditions of martial law". Treasury servicing of revenues and other receipts of budgets, as well as settlement and cash servicing of managers (recipients) of budget funds and other clients, is carried out by the bodies of the Treasury of Ukraine in a special regime in accordance with the procedure established by law. The Resolution also defines the sequence of making payments on customer orders, considering the resource security of a single treasury account. The first to be financed are expenses for national security and defense and for the implementation of measures of the legal regime of martial law, as well as administrators (recipients) of state budget funds, which provide workplaces for the performance of functional duties by the control centers in places of deployment of headquarters of the Supreme Commander-in-Chief and provide logistical, transport, social and other support for the activities of the President of Ukraine, the Verkhovna Rada of Ukraine, the Cabinet of Ministers of Ukraine, the National Security and Defense Council of Ukraine, the Office of the President of Ukraine, managers of state budget funds, which ensure the organization and procedural management of pre-trial investigations (Cabinet of Ministers of Ukraine, 2021).

Large-scale military actions on the territory of Ukraine have weakened the ability to mobilize its own budget revenues at a sufficient level, leading to a significant increase in the state budget deficit and the need to attract additional financial resources. There is a decrease in revenues, an increase in budget expenditures, in particular, on security and defense, and an increase in the budget deficit. Under such conditions, it is necessary to strengthen financial and budgetary discipline by ensuring control over the use of budget funds, increasing the predictability of state revenues and expenditures, and mutual coordination of actions of all participants in the budget process (Chugunov et al., 2023).

Due to the impact on the financial system and the movement of budget flows of many factors that determine the level of life security and the level of economic activity in the country, the justification

of strategic priorities of the budget policy becomes important. The soundness of the budget policy is a significant prerequisite for economic recovery in Ukraine. Budgetary policy should determine specific directions and ways of restoring economic balance. The strategic tasks of budget policy in the conditions of limited financial resources include carrying out a balanced budget policy, improving the mechanism for mobilizing own budget revenues; assessing fiscal risks associated with changes in the macroeconomic environment, increasing the efficiency of budget expenditures; ensuring a balance between financing the most critical items of the state budget and stimulating economic recovery (Chugunov et al., 2022).

Various measures taken to ensure financial stability in the country and fiscal consolidation under martial law contributed to the achievement of the country's goals. These are the measures taken by the National Bank of Ukraine in the field of monetary policy and regulation of the financial sector; active placement of state internal and external borrowings to finance the state budget deficit; introduction of a sufficiently extensive list of tax benefits and special taxation regimes for legal entities and individuals and expansion of opportunities for the transition of business entities to a simplified system of taxation and reporting; financial support of business in order to strengthen entrepreneurial activity; moratorium on certain types of inspections and other financial control measures (application of fines, etc.); expanding the rights of state and local authorities in the budget process and managing budget resources and other measures. It is obvious that the applied approaches in financial policy will continue and, at the same time, the search for new tools for ensuring financial stability and increasing the revenue base of the state and local authorities will take place (Malynyak et al., 2022).

Despite the difficulties in fulfilling the revenue part of the budgets and the constantly growing need for funds, the government has provided funding for the country's priority needs in the field of security and defense, social support of the population and business, as well as provision of other groups of budget expenditures. At the same time, the targeted and effective use of limited budget resources as a necessary condition for the provision of pub-

lic goods and services becomes extremely relevant. Despite the introduction of a temporary moratorium on the implementation of certain types of control measures by state financial supervision bodies, the current control of the use of budget funds is carried out as usual (Kyrylenko, 2022).

The effectiveness of the use of budget expenditures is directly related to the effective implementation of budget programs, implementation of the budget, and financial and economic policy of the state. Increasing the efficiency of management and the use of budget expenditures is caused by the need to meet the needs of the army to liberate the occupied territories, rebuild the destroyed infrastructure, provide the population with a sufficient number of high-quality public goods, social services, help raise the standard of living of citizens, and achieve significant performance indicators of the country's socio-economic development (Radionov, 2022).

In Ukraine, a comprehensive mechanism for evaluating the effectiveness of budget expenditures, as well as effective methodological and organizational systems for managing budget funds, has not yet been formed. The lack of scientifically based approaches to the components, assessment criteria, and mechanisms of influence on ensuring the effectiveness of budget expenditures negatively affects the effectiveness of the budget policy. The conditions of martial law in Ukraine are unfavorable and difficult for the economic and social spheres, however, for the government and the state, such crisis conditions are always favorable for restructuring the public administration system, reforming the outdated organizational and methodological base, improving the effectiveness of budget policy, and providing a new impetus to the development of the national economy (Radionov, 2023; Reppy, 2000).

The study of the financial policy of the state and its component budget policy shows the negative impact of martial law and military operations on the budget process and management of budget flows. Based on the results of the study, it is planned to identify and outline possible directions for balancing the movement of budget flows of income and expenses for their harmonization with the goals of state policy in the field of national security.

Reasonable planning of budget flows of income and expenses will prevent the imbalance of budget flows of income and expenses.

In the planning process, financial risks must be considered, and attention must be paid to developing an effective strategy for Ukraine's debt policy. Given the high dependence of budget revenues on tax revenues and official transfers, financial flow management should be reoriented to ensure the growth of revenues at a higher rate than expenditures, primarily from these two components, to reduce the budget deficit. The issue of ensuring effective use of budget flows and strengthening control over inefficient use of budget flows is important.

2. METHODOLOGY

Economic and statistical methods were used to assess the movement of budget flows of revenues and expenditures of the State Budget of Ukraine, and their components. As a result of the movement of income and expenditure flows of the state budget of Ukraine, an annual increase in indicators, budget implementation by income, and non-implementation by expenditure was revealed. The expenditures of the 2023 budget were financed mainly through foreign aid from international partners due to the shortage of domestic economic resources in the country. The state budget of Ukraine for 2023 was implemented with a large budget deficit, which caused the growth of the state and state-guaranteed debt of Ukraine. An assessment of the movement of budget flows of expenditures and defense expenditures in the USA, France, Germany, and Ukraine was carried out. As a result of the comparison, it was established that the financial flows of the State Budget of Ukraine and the share of budget expenditures on defense in Ukraine are the lowest among the studied countries.

Correlation-regression analysis was used in the process of confirming the dependence of the revenues of the State Budget of Ukraine on official transfers from the EU, foreign governments, international organizations, donor institutions, and state administration bodies. The purpose of applying this method is to obtain, process, present, and

use information about the indicators that interact with each other and the external environment, budget income flows, and their important component – transfers. To learn the properties and patterns of behavior of the studied indicators, a model was applied, and the observational data were described by the linear dependence of budget revenues and transfers. The adequacy of the built linear model was checked, and elasticity coefficients were calculated, which showed how much the income indicator would change under the influence of the transfer indicator. The results of the methods used can be useful tools for identifying certain patterns and trends in the movement of budget flows, as well as for the development and implementation of reasonable measures, consistent with the goals of state policy in the field of national security, in the process of managing the movement of budget flows of income and expenses.

3. RESULTS

The formation and direction of budget flows with the introduction of martial law in Ukraine occur under the influence of a high degree of uncertainty in the budget process. The changes in the situation at the front, the intensity, course, and localization of military operations have an unpredictable effect on the budget planning process. The reliability and accuracy of the forecasted data decreases, and the probability of a significant deviation of the actual indicators from the planned ones in the process of budget execution increases. The focus of the budget's financial flows on the support of security and defense of the state is changing. Reasonable, timely, and complete provision of financing needs during the budget period is especially important for managers and recipients of budget funds in all spheres and industries without exception. Indicators of revenues, expenditures, and deficits of the State Budget of Ukraine, including the most important component of the expenditure part of the defense budget, are presented in Table 1.

The indicators of the revenue part were exceeded in 2023 by 405 billion Hryvnias or 17.86%, according to the indicators of the revised annual plan. Failure to fulfill the planned amount of expenditures in 2023 by UAH 275 billion, or 6.43%, was caused by the increase in defense expenditures of

Table 1. Planned and implemented indicators of the State Budget of Ukraine

Source: Verkhovna Rada of Ukraine (2022, 2023).

Indicator	2023		2024	Increase (decrease) in the 2024 plan with implementation in 2023	
	Revised annual plan, UAH billion	Executed plan, UAH billion	Adjusted annual plan, UAH billion	UAH billion	%
Deficit of the State Budget of Ukraine	–2,010	–1,333	–1,571	–238	18
Revenues of the State Budget of Ukraine	2,267	2,672	1,831	–841	–31
Expenditures of the State Budget of Ukraine	4,290	4,014	3,402	–612	–15
Defense expenditures of Ukraine (planned for the Ministry of Defense of Ukraine)	1,443	2,098	1,164	–934	–45
The share of deficit in the expenditures of the State Budget of Ukraine	47%	33%	46%	13%	39
The share of defense expenditures (planned for the Ministry of Defense of Ukraine) in the expenditures of the State Budget of Ukraine	34%	52%	34%	–18%	–37

the State Budget of Ukraine by UAH 655 billion, or 45%, the share of which in the total volume of expenditures is 52% in 2023. Due to the over-implementation of the revenue plan and non-implementation of the expenditure plan in 2023, the State Budget of Ukraine was implemented with a deficit, which turned out to be smaller by UAH 677 billion, or by 33%, than planned. Planned income figures for 2024 are lower by UAH 841 billion, or 31%, compared to the achieved indicators of 2023, and the indicators of expenditures – by UAH 612 billion, or 15%. UAH 934 billion is planned for defense in 2024, or 45% less than was used in 2023, and UAH 279 billion less than planned for 2023. The needs of the defense sector cannot be clearly planned based on the assumptions of the continuation of military operations during the next year; their exact forecast remains uncertain due to the influence of many factors on the course of military operations, including the emergence of unexpected costs due to extraordinary events or crisis situations, the sufficiency of financial and resource support. Therefore, the planned volume of defense expenditures may not be enough for the planned year 2024. The deficit of the State Budget of Ukraine in the planned year 2024 is greater by UAH 238 billion, or by 18%, than in 2023, and its share in the expenditures of the State Budget of Ukraine is planned at the level of 47% (Verkhovna Rada of Ukraine, 2022, 2023). Covering the lack of financial resources during the budget year can be compensated by: attracting foreign aid from international financial organizations and governments of foreign countries; ensuring the growth

of tax revenues by improving the taxation system, strengthening measures of state financial control by fiscal authorities; support of sectors of the economy in order to stimulate economic growth; creating favorable conditions for the development of the country's investment attractiveness and attraction of foreign investments; increasing the efficiency of the use of budget funds.

When planning revenue indicators, the Ministry of Finance of Ukraine considers important fiscal risks – conditions that can lead to a decrease in budget revenues and require additional expenses, which in turn can cause an increase in the budget deficit and public debt. Extremely high risks in Ukraine's financial system are associated with the activities of economic entities and the population (damage and destruction of industrial and residential infrastructure objects; decrease in tax revenues to the budgets due to decreased labor resources and the departure of the population abroad; non-payment by borrowers of loans for which they were granted guarantees by the state; a decrease in the volume of energy and raw materials; lack of financial assistance from international financial organizations and governments, etc.) (Ministry of Finance of Ukraine, 2024). However, it is difficult and almost impossible to conduct a reliable assessment of such risks due to the lack of full access to reporting information related to the activities of business entities, including state companies, under martial law. The presence of the listed challenges will affect the financial results of enterprises – taxpayers, and this will affect the

Table 2. Revenues, expenditures, and deficit of the State Budget of Ukraine

Source: Ministry of Finance of Ukraine (2024).

Year	Revenues, UAH million		% implementation of the plan	Expenditures, UAH million		% implementation of the plan	Deficit, UAH million
	Updated annual plan	Executed		Updated annual plan	Executed		
Pre-war period							
2019	1,036,472.27	998,344.87	96.3	1,129,520.30	1,075,122.09	95.2	–80,993.70
2020	1,067,321.98	1,076,026.95	100.8	1,355,615.10	1,288,121.34	95	–217,611.00
2021	1,281,143.24	1,296,852.92	101.2	1,544,156.11	1,490,258.91	96.5	–197,937.43
The period of martial law							
2022	1,761,019.56	1,787,395.62	101.5	3,264,977.02	2,705,423.31	82.9	–914,701.73
2023	2,266,960.83	2,671,997.9	117.9	4,289,931.78	4,014,418.15	93.6	–1,333,110.7
Increase (decrease) in 2023/2022, UAH million	505,941.27	884,602.28	16	1,024,954.76	1,308,994.84	11	418,408.97
Rate of growth (decrease) in 2023/2022, %	29	49	16	31	48	13	46

amount of tax revenues to the budgets. It is important to consider and predict the risks associated with the financial system of the state when planning the income and expenditure indicators of the budgets in order to balance them. Conditions of unpredictability make adjustments in the budget implementation process, but determining the list of such risks and developing measures for consistent response to emergency situations in the event of their occurrence will contribute to the reasonable management of budget flows of income and expenses and will ensure their balance.

Establishing the balanced movement of budget flows is an important component in the functioning of the state's financial system, the main purpose of which is the formation and use of financial resources necessary for the implementation of its functions. Perfect management of budget flows consists in reasonable planning, accuracy of economic and social forecasts, which will ensure the stability of functioning of budget spheres and industries during the future budget period. For the past five years the State Budget of Ukraine has been running a deficit, including the pre-war period of 2019–2021 and the period of martial law in 2022–2023 (Table 2, Figure 1).

Revenues, expenditures, and the deficit of the State Budget of Ukraine dynamically increased in the pre-war and martial law periods. The planned vol-

umes of revenue indicators are fulfilled in 2022–2023. In 2023, UAH 2,672 billion was accumulated in the budget, which is UAH 884 billion, or 49%, more than in 2022. Important components of revenues in 2023 are tax revenues in the amount of UAH 1,204 billion, or 45%; non-tax revenues – UAH 992 billion, or 37%; and official transfers from the European Union, foreign governments, international organizations, donor institutions – UAH 433 billion, or 16%. Implementation of state budget revenues in 2023 is 117.5% of the revised annual plan or + UAH 405 billion.

Expenditures of the State Budget of Ukraine during 2022–2023 are growing, their volume has increased by 1.5 times. In 2023, compared to 2022, budget expenditures increased significantly by UAH 1,309 billion, or 48%. The expenditure plan is not implemented during the studied period, the percentage of non-implementation is 82.9% in 2022 and 93.6% in 2023.

In 2023, the State Budget of Ukraine was implemented with a deficit in the amount of UAH 1,333 billion. Compared to 2022, the deficit has grown 1.5 times by UAH 418 billion, or by 46%. The growth of the budget deficit is caused by the lack of internal financial resources in the Ukrainian economy, which were balanced by external aid from international partners in the form of grants and soft loans, which allowed to finance the im-

Source: Ministry of Finance of Ukraine (2024).

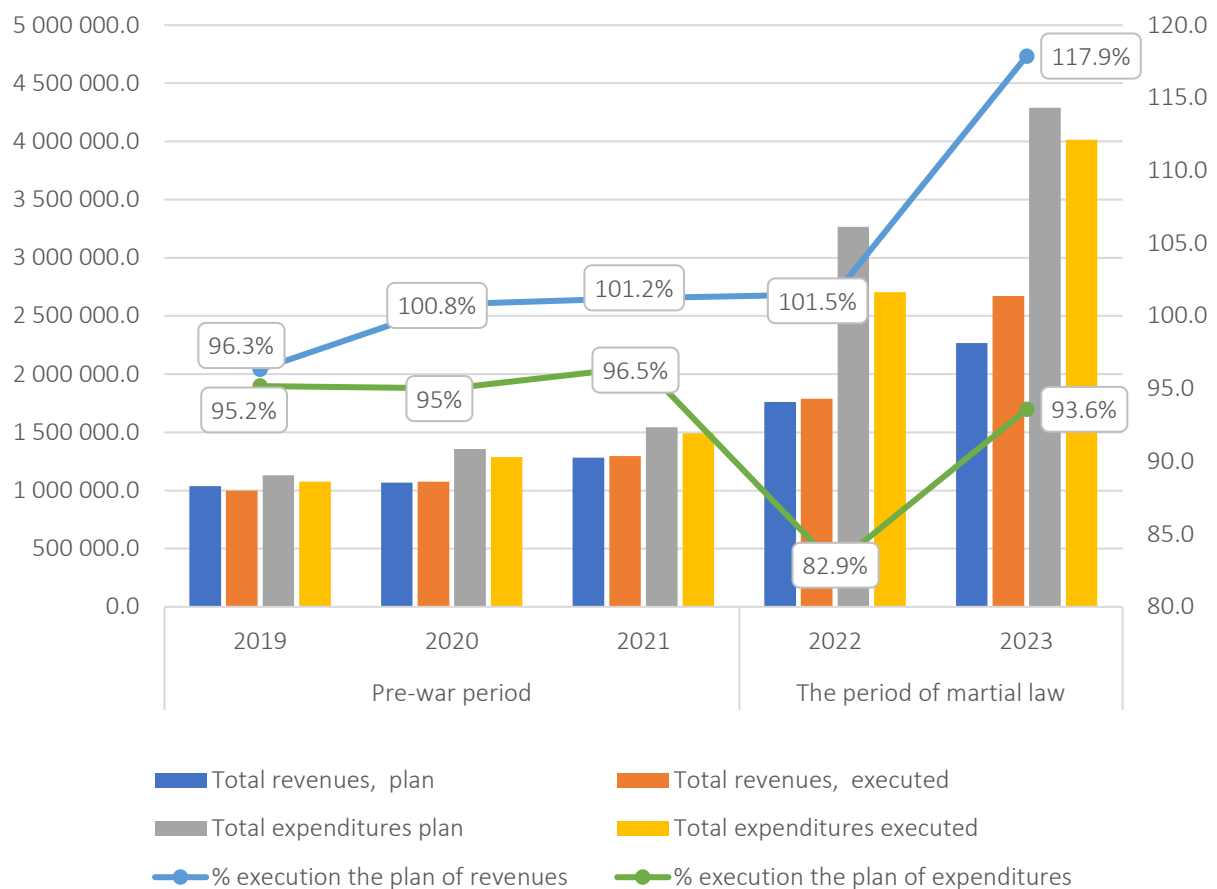


Figure 1. Revenues and expenditures of the State Budget of Ukraine, UAH million

portant needs of the state: defense – 52% of the expenditures of the State Budget of Ukraine; public order, security and judiciary – 14%, social protection, and social security – 12%, and general state functions – 7%.

The importance of transfers in the pre-war period was to ensure financial stability and support the economy and the population. During

the period of martial law, the role of transfers was strengthened by the need to meet the needs of military personnel and their families, finance military programs, develop infrastructure, and maintain the state's defense capabilities. Econometric modeling of the dependence of revenues in the State Budget of Ukraine on transfers was carried out. The initial data for building the model are given in Table 3.

Table 3. Indicators of revenues of the State Budget of Ukraine and transfers from the EU, foreign governments, international organizations, donor institutions, and government bodies

Source: Ministry of Finance of Ukraine (2024).

Year	Volumes of revenues of the State Budget of Ukraine, UAH billion (Yi)	Transfers, UAH billion (Xi)
Pre-war period		
2019	998.34	9.86
2020	1,076.03	11.69
2021	1,296.85	13.87
The period of martial law		
2022	1,787.40	490.56
2023	2,671.99	476.30

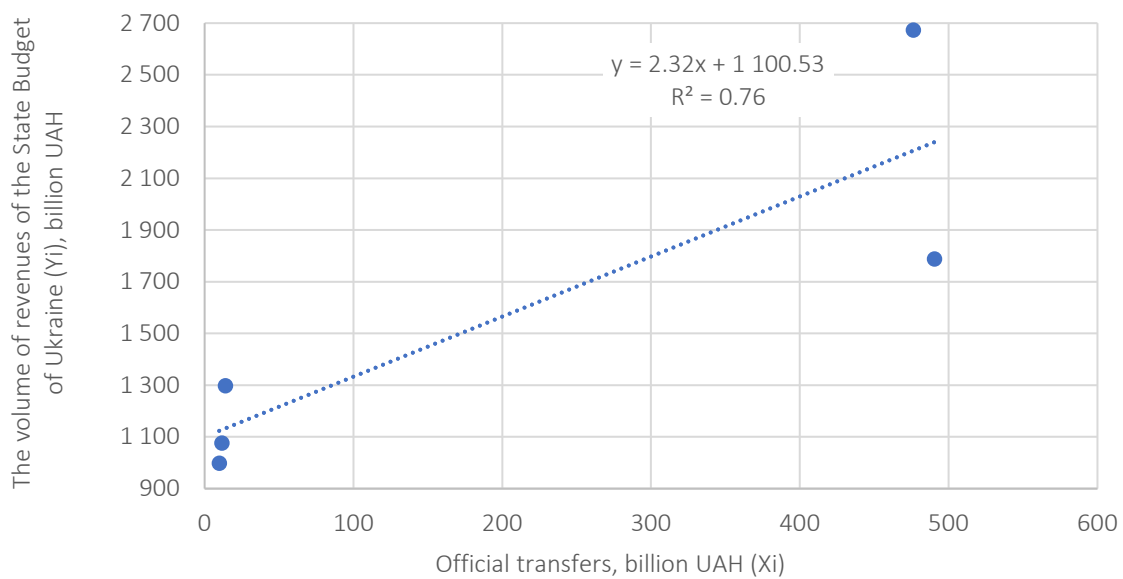


Figure 2. The volume of revenues of the State Budget of Ukraine under the influence of transfers from the EU, foreign governments, international organizations, donor institutions, and government bodies

The dependence of revenues of the State Budget of Ukraine on external sources is confirmed by modeling the dependence of revenues on transfers from the EU, foreign governments, international organizations, donor institutions, and state administration bodies. According to the built model, 76% of revenues of the State Budget of Ukraine are explained by the influence of transfers, and 24% are determined by factors that lie outside the boundaries of the model, including random ones (Figure 2.)

with the degrees of freedom, respectively, 1 and $n - 2 = 5 - 2 = 3$ (for paired regression), $F_{kp(0.1;1;3)} = 5.53$. The calculated value of F is greater than the critical value: $F_p(9,27) > F_{(kp)}(5.53)$. Therefore, the model is adequate to the original data according to Fisher's F-test. The constructed model shows that with a 1% increase in transfers from the EU, foreign governments, international organizations, donor institutions, and government bodies, the revenues of the State Budget of Ukraine will increase by 0,3% (Figure 3).

According to the static tables of Fisher's F-distribution for the 10% level of significance and

On the one hand, the dependence of the revenue part of the State Budget of Ukraine on transfers in-

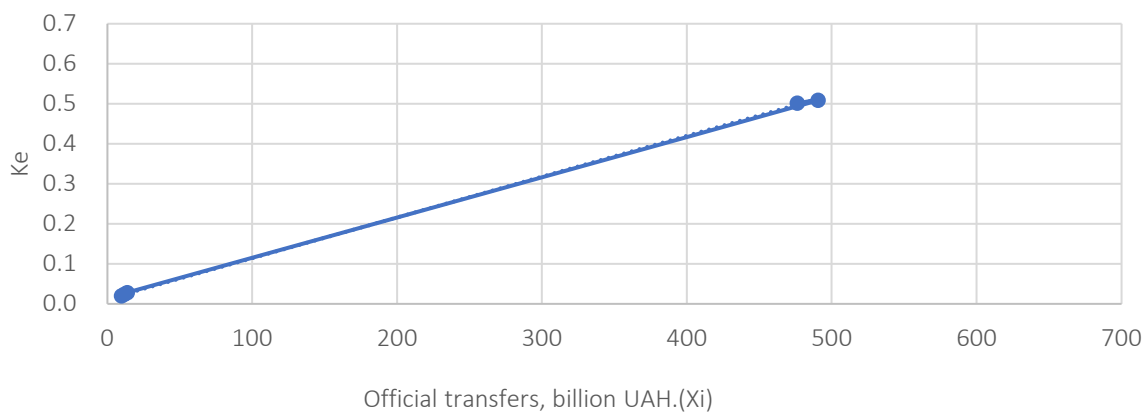


Figure 3. The coefficient of elasticity of revenues in the State Budget of Ukraine from transfers from the EU, foreign governments, international organizations, donor institutions, and government bodies

icates the provision of financial channels necessary to achieve the state's goals. On the other hand, it leads to the sensitivity of the financial system to changes in the conditions for providing transfers. The loss of financial support in the form of transfers can disrupt financial stability and cause an imbalance of incoming and outgoing budget flows. Under these conditions, the directions for ensuring the balanced movement of budget flows should be related to increasing the state's ability to form its own revenue base by diversifying and finding new sources of income and creating reserve funds. In addition, it is important to observe the effectiveness of the use of transfers and their consistency with the goals of state policy.

Balancing incoming and outgoing budget flows is an important measure that enables timely and quick response to the needs of financial provision of security and defense measures and functioning of the budget sphere, state and communal enterprises of various spheres and industries during the period of martial law and prevents the growth of the debt burden and the emergence of financial problems for the country. Given the increase in indicators of state and state-guaranteed debt in the pre-war and war periods (see Table 4 and Figure 4), management of budget flows should take into account the sufficiency of financial resources for debt service, including the principal and payment of interest on outstanding debt obligations.

During 2019–2023, the level of Ukraine's debt burden increased almost 3 times: by UAH 3,521.21 billion, or 176%, and in the period of martial law

– by 1.3 times, or by 36%. State debt is the biggest share in the total amount of the state and state-guaranteed debt of Ukraine. In the structure of the state debt of Ukraine in 2022–2023, the majority share is foreign debt, which is explained by the need for the state to carry out external borrowing to cover budget expenditures. The state and state-guaranteed debt of Ukraine in 2023 is greater than in 2022 by 1447 billion UAH or 35%. The negative consequence of the growth of Ukraine's national debt is the increase in the amount of expenditures from the budget for its maintenance, which increased in 2023 compared to 2022 by UAH 89.7 billion, or by 57%. Such growth leads to the limitation of possibilities of directing budget flows to important priority goals of the state.

The increase in the volume of deficit of the State Budget of Ukraine and the state debt of Ukraine during the period of martial law in 2022–2023 is caused by a significant increase in expenditures for the defense of the state, associated with the armed aggression of the Russian Federation. Expenditures on national defense belong to the national interests of many countries and depend on the existing threats to these countries, their needs and economic conditions. The United States has the largest defense budget among all countries in the world. The US federal budget finances a wide range of national defense activities, accounting for a significant share of total federal spending (Peter G. Peterson foundation, 2023; Finance Mobilization and Demobilization Briefing, 2023). In Europe, France and Germany are the countries with the largest military capacities that invest sig-

Table 4. State and state-guaranteed debt of Ukraine and expenditures for its maintenance, UAH billion

Source: Ministry of Finance of Ukraine (2024).

Indicator	Pre-war period			The period of martial law		Increase (decrease) in 2023/2022, UAH million	Rate of growth (decrease) in 2023/2022, %
	2019	2020	2021	2022	2023		
State and state-guaranteed debt of Ukraine	1,998.30	2,551.88	2,672.06	4,072.85	5,519.51	1,446.66	36
State debt	1,761.37	2,259.23	2,362.72	3,715.13	5,188.09	1,472.96	40
Internal debt	829.50	1,000.71	1,062.56	1,389.69	1,587.70	198.01	14
External debt	931.87	1,258.52	1,300.16	2,325.44	3,600.39	1,274.95	55
State-guaranteed debt	236.93	292.65	309.34	357.71	331.41	–26.30	–7
Internal debt	9.35	32.24	49.04	72.20	68.80	–3.40	–5
External debt	227.57	260.41	260.30	285.52	262.62	–22.90	–8
Debt servicing expenditures and payments on state derivatives	119.2	119.7	155.7	157.9	247.6	89.7	57

Source: Ministry of Finance of Ukraine (2024).

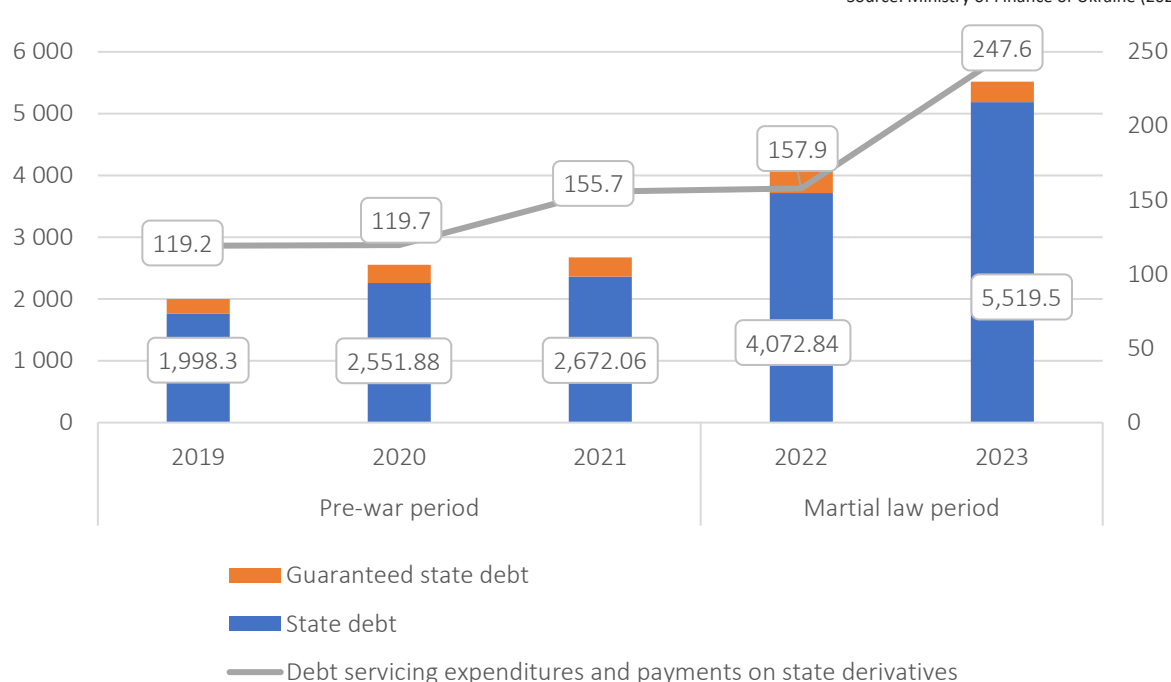


Figure 4. State and state-guaranteed debt of Ukraine and the cost of servicing it, UAH billion

nificant amounts of budget flows into security and defense. The volumes of budget expenditures for the defense of the USA, France, Germany, and Ukraine are shown in Table 5. The analysis and comparison of budget indicators and the borrowing experience of forming defense budgets in developed countries is useful and important for Ukraine due to the need to increase its defense capacity.

The amounts of budget expenditures on defense among the studied countries range from 655 billion Euros in 2020 to 691,93 billion Euros in 2022 in the USA (at the exchange rate as of 19.01.24); from 67.6 billion Euros in 2020 to 58.74 billion Euros in 2022 in France; from 45.47 billion Euros in 2020 to 51.6 billion Euros in 2022 in Germany and from 2.94 billion Euros in 2020 to 27.14 billion Euros in 2022 in Ukraine. Despite the Russian

Table 5. Volumes of budget expenditures in the USA, France, Germany, and Ukraine

Source: Budget.gouv.fr (2022), Bundesministerium der Finanzen (2023), U.S. Government Information (2022), Ministry of Finance of Ukraine (2024).

Indicator	2020	2021	2022
State budget of France			
Expenditures of the French state budget on the Ministry of Armed Forces, billion Euros	67.60	67.22	58.74
Expenditures of the State Budget of France, billion Euros	570.00	634.00	883.00
The share of expenditures of the State Budget of France on the Ministry of Armed Forces in the total volume of expenditures, %	12	11	7
State budget of Germany			
Defense expenditures of the German Federal Budget, billion Euros	45.47	46.55	51.60
Expenditures of the Federal Budget of Germany, billion Euros	441.80	556.60	480.70
The share of defense expenditures of the German Federal Budget, %	10	8	11
State budget of the USA			
The volume of expenditures of the Federal budget of the USA, USD billion	6,550.00	7,249.00	6,011.00
Expenditures of the US Federal Budget on national defense, billion dollars.	714.00	735.00	754.00
The share of the US Federal Budget expenditures on national defense, %	11	10	13

Table 5 (cont.). Volumes of budget expenditures in the USA, France, Germany, and Ukraine

Indicator	2020	2021	2022
State budget of Ukraine			
Expenditures of the State Budget of Ukraine on the Ministry of Defense of Ukraine, UAH billion and in billions of Euros at the official exchange rate of the National Bank of Ukraine as of January 19, 2024, 41.0146	120.03 billion UAH or 2.93 billion Euros	125.96 billion UAH or 3.07 billion Euros	1113.34 billion UAH or 27.14 billion Euros
Expenditures of the State Budget of Ukraine, UAH billion and in billions of Euros at the official exchange rate of the National Bank of Ukraine as of January 19, 2024, 41.0146	1,288.02 billion UAH or 31.4 billion Euros	1,490.26 billion UAH or 36.33 billion Euros	2,705.40 billion UAH or 65.96 billion Euros
The share of expenditures on the Ministry of Defense of Ukraine in the total volume of expenditures, %	9	8	41

armed invasion of Ukraine and the occupation of its territories since 2014, during the studied period of 2020–2021, the share of defense expenditures of Ukraine is the lowest compared to France, Germany, and the USA. In 2022, there is an almost 10-fold increase in Ukraine's defense spending compared to 2020 due to the full-scale invasion of the Russian Federation. Given the experience of the USA, France, and Germany, increasing defense funding and attracting additional resources is an important and integral measure to increase the state's defense capability. Based on the increase in the volume and share of the State Budget of Ukraine's expenditures on security and defense, strengthening the state's national security, ensuring priority defense needs, strengthening the capacity of the Armed Forces of Ukraine, financial support for military personnel, overcoming the consequences of military operations with primary attention to those sections of the population that are in most need are important priority areas of expenditures of the State Budget of Ukraine.

4. DISCUSSION

Scientific interest in examining the problems of financial support for state policy interests, the integration of defense goals into the budget process of Ukraine and strengthening the state's national security has grown significantly since the full-scale invasion of the Russian Federation in Ukraine. This study showed that the impact of unpredictability conditions on the financial system and the budget process led to the imbalance of budget flows and the growth of the budget deficit due to the lack of revenue sources to cover all costs, the majority of which are compensated by international financial assistance: from the EU, foreign

governments, international organizations, donor institutions. that the flows of revenues and expenditures of the State Budget of Ukraine are becoming more dependent on official transfers.

The formation of tax revenues of the State Budget of Ukraine takes place under the influence of various types of risks. Therefore, the prospects for further research include the development of a set of risk management measures in the budget process of Ukraine. This involves a systematic approach to risk assessment according to the scale, norms, criteria, indicators, and the use of preventive measures to prevent the occurrence or minimize the impact of dangerous phenomena on the movement of budget flows. Taking risks into account will reduce the level of unpredictability from extraordinary events and contribute to reducing the imbalance of income and expenditure flows in the budget execution process. This means the possibility of minimizing budget losses and proper financing of all industries and spheres thanks to the preparation of reliable plans and forecasts of budget indicators. The stability of the functioning of the budget sphere and the efficiency of moving budget flows during the future budget period depend on the level of balance of the budget at the planning stage and the accuracy of economic and social forecasts.

Discussions are related to the adoption of sound management decisions on budget issues regarding the financing of national interests' priorities, in particular, defense programs and measures ensuring the sustainable development of the economy and creating safe living conditions for the population. A well-established system of financial support – a sufficient financial basis – may not be a guarantee for the realization of state policy goals

due to untimely, non-targeted, and ineffective use of budget flows, including for the state's security and defense. Strengthening control over timely, targeted, and effective use of budget funds thanks to a clear legislative definition of effective and ineffective use of budget funds, development of a mechanism for actions in case of violations, and the application of appropriate influence measures will make the management of budget flows of Ukraine more effective and transparent. Increasing the efficiency of managing budget flows and strengthening control in combination with the growth of financial support in all spheres and industries, especially the area of security and defense, including through financial assistance from international partners, will give a significant boost to the recovery of Ukraine's economy and financial system in the near future.

CONCLUSION

The results of this study made it possible to find out that under martial law a balanced movement of budget income and expenditure flows is an important component of timely and complete financial support of all spheres and industries. The assessment of indicators of revenues and expenditures in the State Budget of Ukraine shows that national security and defense are among the priority areas of budget flows, according to which the appropriations from the state budget are carried out as a matter of priority. The problems of unbalanced budget flow due to the non-fulfillment of the expenditure plan caused by the increased dependence of budget revenues on transfers, the growth of deficit of the State Budget of Ukraine, the state, state-guaranteed debt, and expenses for its maintenance were identified. Under these conditions, budget flow management should be carried out with an emphasis on sufficient financial provision of the state's field of security and defense, which should meet the conditions of intensive military operations in the current budget period and contribute to strengthening the national security of the state. The review of defense financial support in the USA, France, and Germany emphasizes the importance of financial provision in this area. Implementing the best practices of defense financing in developed countries in the practice of the budget process in Ukraine presupposes timely and full direction of budget flows to defense and the need to increase the financing in this field.

One of the directions for setting up a balanced movement of budget flows under martial law is the establishment of risks affecting the financial system of the state and the development of a set of measures to respond to emergency situations in the event of their occurrence, which will contribute to financial stability thanks to the minimization of budget costs. An important area of the balanced movement of budget flows is the provision of effective, efficient, and transparent management of budget flows, which involves the development of a mechanism for actions in case of violations and the application of appropriate influence measures. The formation of a sufficient volume of budget flows in combination with the control of the effectiveness of budget flow management will contribute to the achievement of the state policy goals in Ukraine.

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