

Estimating Ukraine's financial losses from the war

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Abstract. Military aggression has caused many adverse consequences in various spheres of Ukrainian society, including significant losses in the economy. In such circumstances, it is relevant to calculate financial losses to determine the necessary amount of aid and investment for post-war economic recovery. The purpose of the research is to assess the impact of the war on the dynamics of key economic indicators and to calculate the financial losses of the state. To achieve this purpose, the research makes a forecast assessment of macroeconomic indicators. To determine the level of GDP decline, the forecasts of the International Monetary Fund, the World Bank, and the Ukrainian government were considered. The assessment of the expected level of decline is based on the regional structure of GDP production. The losses were estimated as the difference between the “pre-war” level of the indicator and the projected values of the indicators obtained after considering the impact of the war. It is established that military aggression is the reason for the reduction in the volume of GDP produced, which in the future will significantly reduce tax revenues, consolidated budget revenues, and the number of financial resources redistributed by the state. The author notes that among the consequences of war are direct losses (those that can be estimated in monetary terms) and indirect losses (lost opportunities that cannot be expressed in monetary terms). The author outlines the consequences of the war in the future. It is determined that the cause of long-term adverse effects is an increase in the level of public debt, depreciation of the national currency, reduction of gold and foreign exchange reserves, and outflow of foreign direct investment. The results of the study are intended to be used by public authorities, financial policymakers, academics, and potential investors. In addition, they can serve as a foundation for determining the number of reparations that Ukraine will claim after the war is over

Keywords: war losses, GDP decline, currency depreciation, foreign exchange reserves, public debt

Introduction

The current realities of the Ukrainian economy are associated with numerous challenges and threats. Winning a war requires a lot of effort and resources, including financial ones. For a successful post-war recovery, it is necessary to assess the losses incurred at the present stage. Such an assessment will allow focusing efforts on priority requirements and redistributing financial resources.

There are many various methods of assessing losses from the war in the world: assessment of local economic losses, assessment of real GDP decline, and assessment of potential economic losses. However, these techniques are used after the end of hostilities. This research provides a preliminary assessment of Ukraine's financial losses from military aggression. International institutions and the Ukrainian government are focusing their attention on the decline in GDP. However, this approach is wrong, as the

impact of the war is complex, and the resulting adverse effect is synergistic. The impact of the war is further manifested in a decline in foreign direct investment, a loosening of the “inflationary flywheel”, job losses, and a deteriorating business environment.

The years of independence have been years of crises and trials for Ukraine. During this period, Ukraine failed to reach the level of economic development as of 1990:

- GDP in comparable prices decreased by almost 1.5 times, and the level of GDP per capita in 2021 is only 78.5% of the 1990 level;
- the share of industry in the economic structure has almost halved, while the service sector has grown;
- the structure of exports in recent years has been dominated by agriculture, metallurgy, and services (including revenues from gas transit), i.e., industries with low added value;

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– the level of public debt is quite high (Official website of the State Statistics Service of Ukraine, n.d.).

The military aggression has not only caused indescribable pain to every Ukrainian, but changed their lives and worldview, and caused the restructuring of established economic ties and the world order. The impact of the war on the level of economic development is evident. And it is about direct losses, lost revenues and lost prospects, restrictions on economic development, and the inability to use existing advantages.

In addition to the loss of human capital, and significant destruction of infrastructure, military aggression can cause an economic recession – a drop in GDP, rising inflation, the outflow of foreign investment, rising debt, falling living standards, etc. Scholars note various manifestations of the war's impact on the economy. Thus, G.I. Zhekalo (2019) emphasises the severance of trade ties. The researcher noted that the Russian Federation has used several economic instruments that have had an adverse impact on the Ukrainian economy, including trade embargoes, high gas tariffs, changes in the conditions of gas transit and supply, violations of several bilateral agreements, penetration into strategic sectors of the economy, etc. However, on the other hand, the scholar noted that there are positive developments for Ukraine, including a decrease in the dependence of the Ukrainian economy on its northern neighbour; the search for and emergence of new partners for cooperation; reorientation to European markets, accompanied by the modernisation of technologies and the improvement of quality standards for goods and services; and the development of innovation through cooperation with Western partners.

S. Gerashchenko and M. Kolotylo (2018) emphasise the impact of the war on the volume of private investment in the Ukrainian economy. The researchers identified that foreign investment has declined significantly in recent years as a result of the military conflict, high levels of corruption, and Ukraine's low position in key global rankings, at a time when Ukraine needs it most. Thus, scholars emphasise the importance of changing investment policy to ensure that it becomes more attractive to potential investors.

L.P. Londar (2016) explores the level of public debt. The researcher explored thoroughly the factors that influence the state's debt policy, determined the state of public and publicly guaranteed debt, analysed key trends, risks and threats in the field of public debt, and suggested ways to solve current problems.

Chalyuk (2022) notes the violation of financial stability, rising inflation, and the agri-food crisis. The researcher examines the consequences of Russian aggression on a global scale, noting that both Ukraine and several developing countries that depend on Ukrainian food imports are adversely affected. In addition, the researcher assessed the impact of the war on migration processes in Ukraine and predicted the potential economic consequences of the economic downturn, including a humanitarian crisis and food riots. Thus, the international community must now condemn the aggressor's actions and force him to compensate for the damage caused.

Foreign scholars emphasise the long-term consequences of the war, such as a decrease in investor and consumer confidence, the destruction of trade chains (Rother & Gaele, 2016), and a decline in the country's long-term productivity (Jong-A-Pin, 2009), while the International Monetary Fund points to a reduction in investment and a decrease in tax revenues (IMF, 2019).

The war in Ukraine has highlighted the necessity of researching the development of economic measures and the

search for tools to finance military operations, the functioning of the economy in war conditions, and post-war economic recovery. The purpose of this research is to estimate Ukraine's financial losses caused by military aggression.

Literature Review

Wars have always had economic causes and consequences. The most common economic causes of wars include the redistribution of spheres of influence, access to natural resources and the latest technologies, and the occupation of territories and populations. For example, J. Sherman (2001) considers the presence or absence of natural resources and the transparency of their redistribution by the state to be the main cause of war. E. Fromm (2013) notes that it was the economic interests of the elite groups of the warring countries that were the real causes of the First World War. The author sees economic domination and the occupation of colonial territories as the main reasons. Developing this idea, I. Kononov (2018) emphasises the economic causes of armed conflicts in the world. The author notes that wars are mostly waged by ruling groups that use the population as a means of warfare. Ignoring the ideological justifications, it can be stated that wars serve to externalise costs. The "economic consequences" of the war (smuggling and illegal markets with high prices) benefit a narrow circle of people.

The winners of the wars redistributed the world order, dictated new "rules of the game", and contributed to the redistribution of capital. K. Voznyi (2010) notes that since the beginning of the war, the development of private enterprise has intensified. In addition, the author argues that during wars and crises, private businesses accumulated the largest wealth. However, despite some positive manifestations, war is always evil. The consequences of the war are loss of life, destruction of the achievements of previous generations, and a reduction in economic development. The researchers unanimously agreed on the impact of war on the pace of economic development: any war causes a reduction in the amount of GDP established. Thus, R.J. Barro (1991) proved that coups and assassinations worsen GDP per capita growth.

L. Kucher (2018), while exploring the military aggression in Donbas, identified the following consequences: economic crisis, slowdown in economic growth and business activity; loss of capacity by enterprises; destruction of industrial and social infrastructure; destruction of housing and social infrastructure; reduction in the number of jobs, decline in living standards; deterioration of the investment environment and deterioration of business conditions; reduction in tax revenues to the budget, etc.

In his turn, S. Ivanov (2019), exploring the differences between the economy in times of war and armed conflict, focuses on post-war economic recovery measures. The author notes that post-war recovery should be based on "rehabilitation" programmes and include measures to restore housing and infrastructure, and restore industry and agriculture.

War researchers focus mainly on identifying the causes and consequences of military aggression. However, economists focus on the financial aspect when exploring wars. Waging war requires significant funding and results in significant financial losses. To establish an effective financial policy, it is necessary to assess financial losses. However, the publications examined do not disclose an estimate of the state's financial losses, which is relevant to the research subject.

Materials and Methods

A variety of methods are used to estimate losses from warfare. Common to all methods is that such an assessment is conducted after the end of the war. Considering the ongoing hostilities and limited statistical data, it is impossible to conduct a thorough econometric analysis of the data. Therefore, economic indicators are forecasted by analysing current trends, assessing expectations for the near-term forecast period, and making scenario forecasts for the short-term period.

The gap method was used to assess the losses of the Ukrainian economy from military aggression. The "GAP method" involves comparing expected and actual performance. Expected indicators are determined by transferring existing trends into the future, considering expected changes, i.e. they reflect future opportunities. The expected indicators are calculated using the trend extrapolation method, i.e., based on the assumption that the existing trends in the indicators will continue in the future. The "trend extrapolation" method is the main method of forecasting the dynamics of economic indicators and market development. The "trend extrapolation" method (Yarenko, 2015) involves exploring the dynamics of changes in indicators in the past, identifying specific patterns, considering expected changes, and transferring these patterns to the future. Tactical indicators predict the ability to obtain results that can be achieved under the influence of military operations. To calculate these indicators, it is planned to use of expert estimates or forecasts of international institutions. The desired results reflect the

strategic aspirations of economic development (without considering the impact of the war and considering development trends in the pre-war period). They are measured by quantitative indicators of the vision of what should be achieved in the future. Tactical (operational) and strategic gaps constitute the gap between desired and expected performance.

When calculating the volume of GDP decline, the year 2021 was chosen as the foundation, which was used as the base year for further calculations. The assessment of losses was conducted by calculating the recorded damage caused by the Russian army and by calculating the lost benefits and lost potential. The calculation of losses was determined by measuring the gaps between the projected "peaceful" values and the values obtained after considering the impact of the war.

This study used a dataset from 2017 to 2021 and developed forecasts for 2022. These data were obtained from statistical abstracts of the development of the Ukrainian economy developed by the National Bank of Ukraine (National Bank of Ukraine, 2022; NBU's comment..., 2022), the Ministry of Finance of Ukraine (Official website of the Ministry of Finance of Ukraine, n.d.) and international financial institutions (WIPO, 2021; World Bank, 2022a, 2022b, 2022c).

Results and Discussion

Despite the difficulties encountered by Ukraine, the reforms have had positive results, which are reflected in the country's improved position in global rankings (Table 1).

Table 1. Ukraine's place in world rankings in 2021

Indicator	Place in the ranking	Indicator	Place in the ranking
GDP volume	39	Human development index (HDI)	74
Social development index	48	Prosperity ranking	78
Global innovation index	49	Happiness index	110
Business index	64	Corruption perception index	122

Source: compiled by the authors from open sources: World Bank (2022a), World Bank (2022b), Ministry of Social Policy of Ukraine (2022), WIPO (2021), Perception of corruption... (2022)

The Institute for Economics and Peace conducts a generalised assessment of the costs of waging war in the world using the Global Peace Index (GPI). This indicator is based on a comprehensive analysis of 23 identifiers for each of the 163 countries included in the list (Global Peace Index, 2022). Countries are ranked according to this index based on the share of military spending in the country's GDP, expressed as a percentage. The top countries with the highest

share of war expenditures in 2021 are Syria, where war expenditures account for 80% of GDP, South Sudan – 41%, and the Central African Republic – 40%, respectively. According to the results of 2021, Ukraine ranked 12th with 20% of its GDP spent on warfare. According to the calculations of the Institute of Economy and Peace, the cost of the military aggression of the Russian Federation is growing annually from 2013-2021 (Table 2).

Table 2. The economic cost of the war in Ukraine in 2013-2021

Year	Economic losses from the war, mln dollars US	The economic cost of the war, mln dollars US	The cost of war per capita, dollars US	Cost of war, % of GDP
2013	...	11 265	245	3.3
2014	...	42 845	942	11
2015	...	44 430	979	18
2016	...	66 749	1571	20.4

Table 2, Continued

Year	Economic losses from the war, mln dollars US	The economic cost of the war, mln dollars US	The cost of war per capita, dollars US	Cost of war, % of GDP
2017	102,780.6	68 977,3	1567.3	20
2018	76 246,1	50 058,7	1137.5	14
2019	82 303,7	50 420,6	1 870,1	11
2020	102,817.1	62 095,5	2 475,4	12
2021	167,590.8	123,832.7	4 058,6	20

Source: compiled according to the Institute for Economics and Peace (Global Peace Index, 2022)

For 9 years, the cost of war per capita in Ukraine has increased 16.5 times, and the share of GDP used to finance the war has increased almost 6 times from 3.3% to 20% of GDP. Since 2017, the Institute for Economics and Peace has been calculating the impact of violence on the economy, i.e., calculating the losses incurred by the state as a result of the war. Table 2 demonstrates that in 2021, Ukraine lost more than \$167 billion from hostilities. A comparison of the losses incurred as a result of hostilities with the nominal GDP of Ukraine in US dollars demonstrates that the losses incurred in 2017 amounted to 91.6%, in 2018 – 58.27%, 2019 – 53.5%, 2020 – 66.1%, and 2021 – 85.7%, respectively (Global Peace Index, 2022).

The study established that the global economic impact of wars in the world in 2021 amounted to USD 14.4 trillion, which is equivalent to the economy of China. Reducing the level of violence by only 10% would save 1.4 trillion US dollars, which is equal to the contribution of the Russian Federation to the global economy (Global Peace Index, 2022).

The military aggression of the Russian Federation against Ukraine has undoubtedly caused an economic downturn. The extent to which Ukraine's GDP has fallen as a result of the hostilities is a subject of discussion among government

officials and representatives of international financial organisations. Notably, there is still no unified approach to calculating the extent of the GDP decline in 2022. Thus, the World Bank Group in its "World Economic Outlook" forecasts a decline in Ukraine's GDP in 2022 amid the war by about 45% (The World Bank, 2022c). The International Monetary Fund predicts that Ukraine's economy will fall by 35% in 2022 (IMF, 2022). The Ukrainian government predicts a drop in Ukraine's gross domestic product in 2022 due to a full-scale war between Russia and Ukraine in the range of 30 to 50% (Economist, 2022). The Ukrainian investment company Dragon Capital expects Ukraine's GDP to fall by up to 30% in 2022 if the war continues until the end of the year (Interfax, 2022). Each of the above-mentioned institutions uses its forecasting methodology, which is why the results are varied. The war is still ongoing, thus, any forecasts made at this stage of the development of events cannot be considered accurate. However, the current situation requires understanding, analysis, and immediate decision-making. When assessing the possible extent of the GDP decline, it is advisable to consider the regional structure of its development, considering the territories that are or have been under occupation. The structure of GDP production by regions of Ukraine in 2020 is presented in Fig. 1.

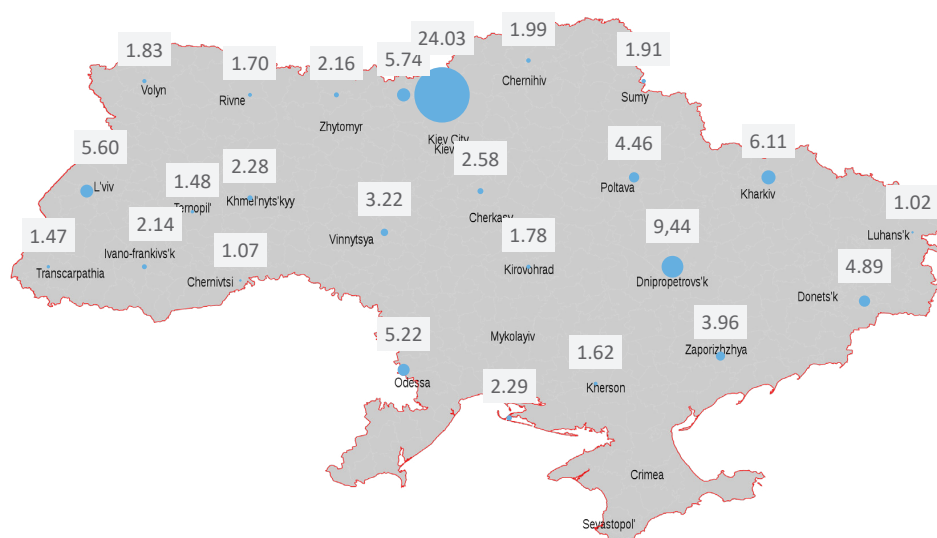


Figure 1. Regional structure of Ukraine's GDP production in 2020, %

Source: compiled by the authors based on data from the Ministry of Finance of Ukraine (2022)

According to Fig. 2 demonstrates that the territories that were occupied and are currently under occupation account for about a third of total GDP production. Considering the regional structure of GDP production and the disruption

of production chains, sales schemes, and logistics links, the expected GDP decline will be close to the International Monetary Fund's forecasts and amount to 35% (Figure 2).

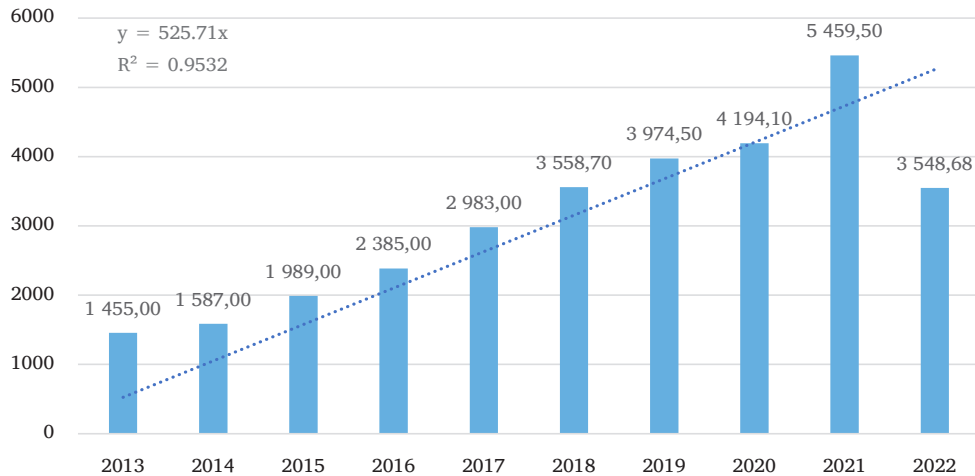


Figure 2. Ukraine's GDP in 2013-2022, billion UAH

Source: compiled by the authors based on data from the Ministry of Finance of Ukraine (2022) and own calculations

Notes: data for 2022 are forecasted

The danger of a sharp decline in GDP is manifested in a reduction in tax revenues to budgets of various levels, public sector revenues, and the consolidated budget. To predict the level of these indicators in the future, it is necessary to calculate the volume of GDP in 2022 at the pre-war level. When calculating the projected fiscal losses of

Ukraine in 2022, the relevant data for 2021 were extrapolated. Thus, the share of redistribution through general government revenues was 39.98%; including consolidated budget revenues – 30.45%; including consolidated budget tax revenues – 26.63% (The Ministry of Finance of Ukraine, 2022) (Table 3).

Table 3. Ukraine's fiscal losses in 2022 as a result of GDP decline, UAH billion

Indicators	Share in GDP, %	Forecasted "pre-war" GDP in 2022	Forecasted "war" GDP in 2022	Amount of decline. billion UAH
General public administration sector	39.98	2265.65	1418.76	846.89
Consolidated budget revenues	30.45	1725.59	1080.57	645.02
Tax revenues of the consolidated budget	26.63	1509.11	945.01	564.10

Source: calculated by the authors

A drop in GDP is inevitably accompanied by a simultaneous drop in the value of the national currency. Global financial institutions do not make any forecasts about the possible level of inflation in Ukraine in 2022. Instead, the NBU notes that inflation in 2022 may exceed 20% but will remain under control (The National Bank of Ukraine, 2022). External and internal factors put pressure on the value of the national currency. External factors include global trends affecting the value of the hryvnia, with the biggest impact being the rise in energy prices. Internal factors are exclusively related to the war and the most influential are the disruption of logistics chains, the destruction of production facilities, rising production costs, and a surge in demand from the population for specific groups of goods. The value

of the hryvnia on the part of producers is most affected by the growth rate of prices for fuels and lubricants, which increased by 57.5% in May 2022. The dynamic of consumer inflation indicates pressure from consumers. Information waves about the escalation of aggression result in a situational increase in the purchase of food and essential goods. Such changes in consumer behaviour increase inflationary pressures in the domestic market. In addition, the Russian Federation's deliberate destruction of fuel and food depots, blocking of ports, and damage to critical infrastructure facilities keep inflationary risks high. The high level of uncertainty and panic among citizens increased demand for foreign currency, which in turn naturally devalued the hryvnia.

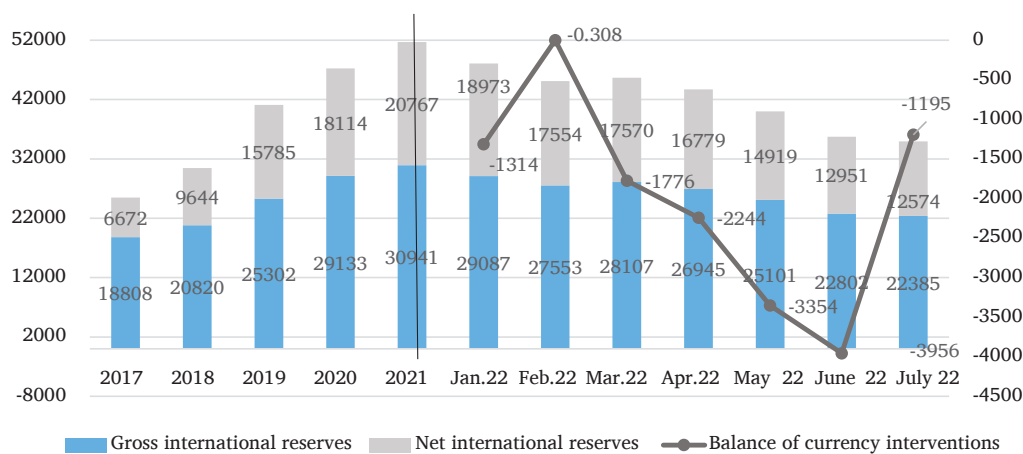
Table 4. Key indicators of the Ukrainian foreign exchange market in February-July 2022

Indicators of the Ukrainian currency market	February 2022	March 2022	April 2022	May 2022	June 2022	July 2022
NBU interventions						
sales, mln dollars US	1261.5	2475.9	2244.3	3410.6	3 986,8	2 117,0
purchases, mln dollars US	951.2	616.9	41	56.4	26.7	922.0
The weighted average hryvnia exchange rate on transactions with foreign currency in cash						
sales:						
US dollar	28.4890	30.1622	31.1292	34.9203	35.4844	37.7585
Euro	32.3614	33.9124	33.5605	36.3414	37.4668	38.2623
purchases						
US dollar	28.1764	29.2549	30.4188	34.5235	35.1725	37.3310
Euro	31.9549	32.4255	32.6817	36.2018	37.0528	37.7364

Source: compiled by the authors based on NBU data (NBU, 2022)

The Ukrainian economy has been characterised by a high level of dollarisation of the economy, a significant level of import dependence, and panic among the population, with exchange rate fluctuations being a significant factor

in inflation. The rising demand for foreign currency in the early days of the war prompted the NBU to intervene in the market, which subsequently reduced the number of foreign exchange reserves (Figure 3).

**Figure 3.** Ukraine's foreign exchange reserves in 2017-2021 and January-July 2022, billion USD

Source: compiled based on NBU data (NBU, 2022)

Considering the limited reserves of the regulator and the impossibility of direct influence on the cash foreign exchange market, the NBU suspended the interbank foreign exchange market and fixed the official exchange rate at UAH 36.56865/USD.

The support of international partners allowed for avoiding a collapse in the currency market. The receipt of financial assistance allowed the NBU to gradually restore the positive dynamics of international reserves. Overall, in January-June 2022, net lending to the outside world amounted to USD 3.8 billion, while net borrowing amounted to USD 154 million in the same period last year (NBU, 2022).

Considering the fact that Ukraine is still at war and that UAH 2 billion is spent daily from the state budget to finance military operations, while losses amount to USD 4 billion (Interfax-Ukraine, 2022), the burden on the budget will only

increase. The increased risks associated with the hostilities have prompted the search for conditions to restructure Ukraine's financial system to ensure its financial stability.

Considering the acute shortfall in budget revenues and the simultaneous increase in expenditures for defence and public order, support for low-income groups and internally displaced persons, the issue of reducing the budget deficit, and reducing the state debt while ensuring an acceptable level of the tax burden is becoming increasingly important.

In March 2022, the Verkhovna Rada of Ukraine adopted amendments to the Tax Code of Ukraine to support businesses under martial law, which provide for a reduction in the tax burden and simplification of taxation. In January-July 2022, the state budget was executed with a deficit of UAH 412.0 billion, including the general fund for

UAH 411.3 billion, against the deficit of UAH 743.4 billion planned in the general fund schedule for January-July 2022. Since the beginning of the military invasion, Ukraine has been receiving financial assistance from international financial lenders and donors under two types of programs:

programmes designed to support the overall macro-financial stability of the country (the IMF's Rapid Financing Instrument and EU macro-financial assistance), and programmes designed to address specific sectoral problems in the areas of security, healthcare, food, fuel, medicine, etc.

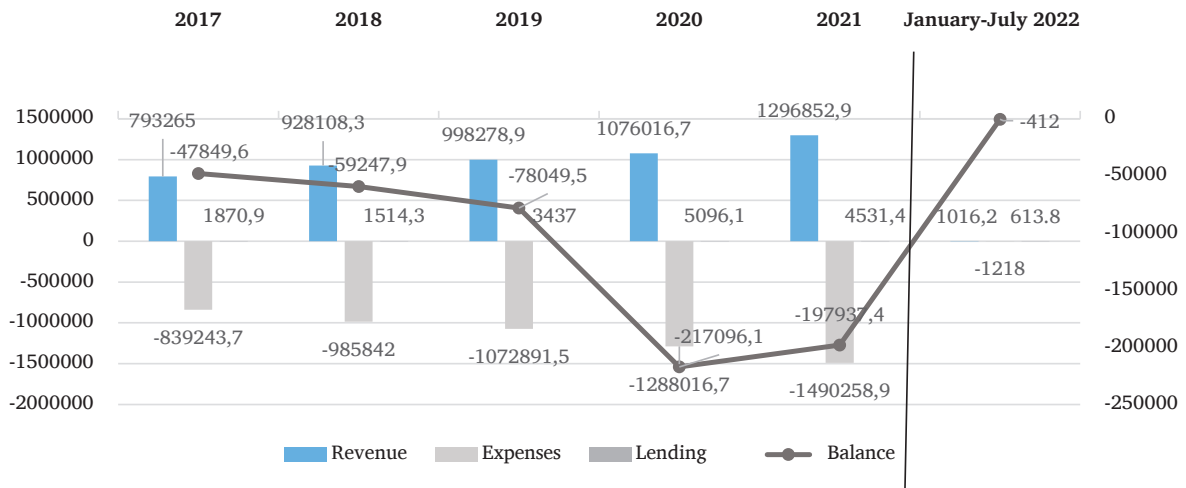


Figure 4. Revenues, expenditures and deficit of the State Budget of Ukraine, UAH billion

Source: compiled by the authors based on data from the Ministry of Finance of Ukraine (Official website of the Ministry of Finance of Ukraine, n.d.)

The legislator does not plan to fund the budget deficit by increasing tax revenues under these conditions, and the role of official creditors is increasing. The main trends in Ukraine's martial law hunt policy are as follows:

- active involvement of state loans, an increase in the level of public debt in the initial stages of the conflict with a simultaneous decrease in the tax burden and reduction of tax revenues;
- strengthening international support in the form of grants from partner countries, the IMF, the World Bank, the EU, the EIB, and the EBRD. International support is provided

as a manifestation of solidarity with Ukraine by the world's leading countries and international financial institutions;

- higher yields on external loan bonds in the secondary market and the actual closure of external private sources of financing;
- issuance of domestic military bonds by the Government and attraction of issuance resources of the central bank;
- the outflow of resources of commercial banks of Ukraine from the domestic bond market when banks have excess liquidity (Bohdan, 2022).

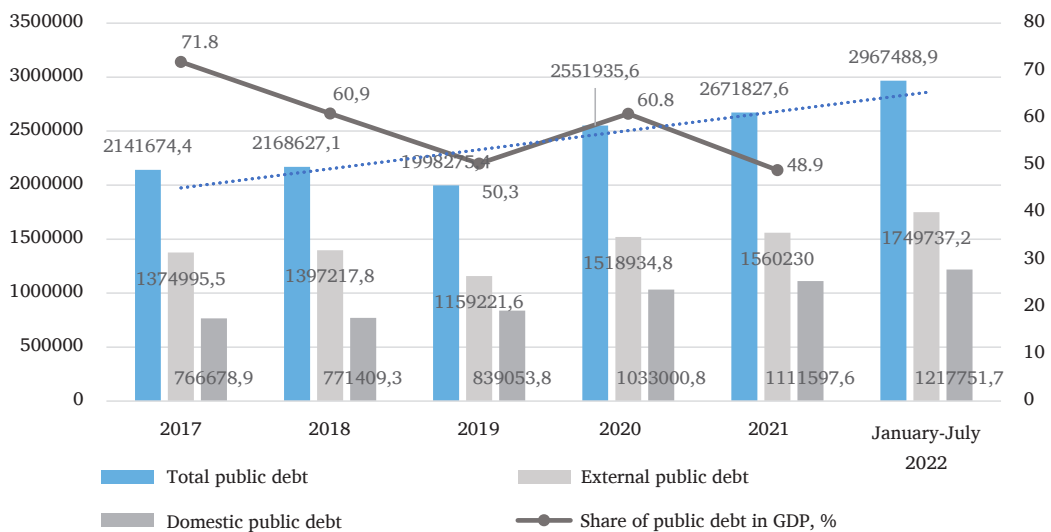


Figure 5. Public domestic, external and publicly guaranteed debt in 2017-2021 and January-May 2022, billion UAH

Source: compiled based on NBU data (The National Bank of Ukraine, 2022)

The amount of public debt in the first five months of 2022 increased by UAH 183.65 billion, including domestic public debt by UAH 33.81 billion, external public debt – by UAH 159.79 billion, and publicly guaranteed debt decreased by UAH 9.91 billion (The Ministry of Finance of Ukraine, 2022).

The war has an adverse effect on the country's economy. This impact is systemic and manifests itself in various sectors of the economy. The study confirms the adverse impact of the war on the country's financial system, which is manifested in a reduction in the number of financial resources redistributed through the country's budget system, exchange rate volatility, high inflation, and an increase in the level of debt burden on the budget.

Conclusions

The study established that the decline in GDP is the foundation for the deterioration of the state's fiscal capacity, which is manifested in a reduction in tax revenues and a decrease in consolidated budget revenues. Military operations require funding, which in turn increases the expenditure side of the budget. Under such conditions, the state budget deficit and public debt will grow, and the country's foreign exchange reserves will decline, which will generally worsen the state's financial capacity.

In the research, the authors of the study demonstrate, based on data analysis, that different Ukrainian and

international institutions estimate Ukraine's economic losses in 2022 differently, as these organisations conventionally use different approaches and methods for forecasting and calculating. The final figures for losses have not yet been calculated, but it is already clear that the decline in GDP is in the range of 30 to 50%, meaning that there is a significant difference between the upper and lower limits. The lack of more precise figures is still preventing from making immediate decisions to improve the economic situation.

The author's assessment of Ukraine's economic losses from the war is based on the difference between the "pre-war" level of the indicator and the forecast values of the indicators obtained with the impact of the war. However, it is not enough to limit ourselves to the projected figures presented in the study to assess the scale of the situation, since in addition to specific (direct) losses that can be calculated, there are indirect losses, which consist of several lost potential growth opportunities.

The assessment of financial losses contributes to understanding the nature of the war's impact on the financial system and can serve as a foundation for developing a financial strategy for the country's recovery. Future research will emphasise the impact of the war on Ukraine's economic security and the development of measures to neutralise it.

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Анотація. Військова агресія спричинила багато негативних наслідків у різних сферах життєдіяльності українського суспільства, зокрема суттєвих збитків зазнала економіка. За таких умов актуально поррахувати фінансові втрати, для того щоб визначити необхідні обсяги допомоги та інвестицій для повоєнного відновлення економіки. Мета статті – оцінити вплив війни на динаміку основних економічних показників та розрахувати фінансові втрати держави. Для досягнення мети в роботі здійснено прогнозу оцінку макроекономічних показників. Для визначення рівня падіння ВВП розглянуто прогнози Міжнародного валютного фонду, Світового банку та українського уряду. В оцінці очікуваного рівня зниження показників враховано регіональну структуру виробництва ВВП. Утрати оцінювались як різниця між «довоєнним» рівнем показника та прогнозними значеннями показників, отриманими з урахуванням впливу війни. Установлено, що військова агресія є причиною скорочення обсягів виготовленого ВВП, що в майбутньому значно скоротить податкові надходження, доходи зведеного бюджету, суми фінансових ресурсів, що перерозподіляються державою. Зауважено, що серед наслідків війни є прямі втрати (ті, які можна оцінити в грошових одиницях) та непрямі (втрачені можливості, які не можна виразити в грошовому еквіваленті). Окреслено наслідки, до яких призведе війна в майбутньому. Визначено, що причиною тривалих негативних наслідків є збільшення рівня державної заборгованості, знецінення національної грошової одиниці, скорочення золотовалютних запасів, відтік прямих іноземних інвестицій. Результати дослідження орієнтовані на те, аби їх могли використати органи державної влади, що формують фінансову політику, науковці, потенційні інвестори. Також вони можуть стати основою для визначення суми репарацій, яку Україна заявить після завершення війни

Ключові слова: втрати від війни, падіння ВВП, знецінення грошової одиниці, золотовалютні резерви, державний борг