

## ARTICLES

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### THE IMPACT OF THE WAR ON BANKING IN UKRAINE

**Abstract:** *The article is devoted to the study of the operation of the banking system of Ukraine during the war period. The key indicators of the banking sector have been analyzed, in particular, the number of banking institutions and the dynamics of assets and liabilities. The key financial results of the banking sector, namely net profit and loss, return on assets and capital have been analyzed. It is revealed that maintenance of operational efficiency and effective measures taken by the National Bank of Ukraine allowed the banking sector to adapt to the crisis conditions and make a profit under martial law.*

**Keywords:** *russian-Ukrainian war, martial law, banking, National Bank of Ukraine.*

**JEL Classification:** *E44, E58, G21*

#### 1. Introduction

In recent years, Ukraine's financial sector has been developing under difficult conditions. One of the last most painful crises, which, unfortunately, is still ongoing, began back in the year 2014 during the deployment of the «hybrid war» of the Russian Federation against the integrity of Ukraine in the East of Ukraine and the annexation of the Autonomous Republic of Crimea. The war provoked by the Russian Federation against Ukraine back in 2014 generated significant risks for the operation of the national banking system, which have significantly increased after the full-scale aggression

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in February 2022. The banking sector is highly sensitive to political, economic and regulatory fluctuations. During 2014-2022, the war significantly changed and restricted the banking sector's operating environment, affecting the lending, discount rate, foreign exchange transactions, deposit rates, and the stability of banks, as a result of which their number in Ukraine was reduced.

In recent years, Ukrainian researchers have increasingly focused on the issues of banks' operation in wartime. In particular, the article (Prokopenko et al, 2022) is devoted to determining the basic principles of the functioning of the banking system of Ukraine under martial law. The publication (Zabchuk & Ivashchuk, 2022) discusses the peculiarities of credit, market, currency, and liquidity risks to the operation of the banking system of Ukraine under martial law. The study (Tymoshyk et al, 2023) identifies the problems of the banking sector of Ukraine that were generated by a full-scale military invasion of the country, analyzes trends in the industry's indicators, and develops proposals for measures to stabilize the situation. The purpose of the article (Rats, 2023) is to study the efficiency of the domestic banking sector under martial law. In addition to these publications, the following studies are also noteworthy (Kovalenko, 2022; Pravdykovska & Doroshenko, 2022; Drugov & Drugova, 2022; Shkolnyk et al, 2022; Sytnyk & Pritsak, 2023; Nakonechna, 2023).

The problem of the impact of the russian-Ukrainian war on the development of the economy and the financial sector is the subject of research not only by Ukrainian scholars, but also by foreign ones. In particular, it is worth highlighting the publications (Deng & Li, 2023), (Batten et al, 2023), (Taera et al, 2023), (Zhou & Lu, 2023), (Guénette et al, 2022). This suggests that the war in Ukraine not only has led to changes within the country, but also affects the global economy. In particular, according to some researchers (Taera et al, 2023), the russian-Ukrainian war causes a decline in global growth from 5.7% in 2021 to 2.9% in 2022, with a projected average 3% slowdown in 2023-2024, and GDP is projected to be at least USD 2.8 trillion lower in 2023.

The purpose of this publication is to study the key changes in the banking sector of Ukraine in 2014-2022, caused by the impact of the russian invasion.

Statistical methods, methods of feasibility and financial analysis and observation were used to study the development trends and the current status of the banking system of Ukraine. Statistical and graphical methods were used to process and summarize statistical data and display them in tables and figures. The statistical data of the National Bank of Ukraine were used to write this article.

## 2. Analysis of the key indicators of banking activity in Ukraine during the war period

Today, all areas of business, including illegal ones, depend on the stable operation of the banking system, which is the basis of production and operational processes. Since the beginning of the war in Ukraine, not only businesses but also ordinary citizens have felt dependent on it. In the first days of the full-scale invasion, the payment system was on the verge of shutting down. Because employees could not go to work, a large number of bank branches closed. A massive attempt to withdraw cash from ATMs also hit the Ukrainian banking system.

Despite a number of challenges, the banking system continues to operate. Banks are trying to ensure uninterrupted operation of their branches in regions where there is no threat to the life and health of the population.

In the context of the war with Russia, the Ukrainian banking system operates under the restrictions established by the Resolution of the Board of the National Bank of Ukraine No. 18 dated 24.02.2022 on the Operation of the Banking System During the Period of Martial Law. These restrictions are related to cash withdrawal from customers' accounts, cash disbursement in foreign currency, the foreign exchange market, the official foreign exchange rate, etc. At the same time, the Resolution lifted restrictions on non-cash payments, ATM replenishment, access to safe deposit boxes and governmental payments. Regulatory measures taken by the National Bank of Ukraine help to withstand the martial law. Thanks to this, as well as new approaches, principles, and measures that the banking system of Ukraine has invented, the country has maintained the relative stability of the national currency and ensured business activity (Prokopenko et al, 2022).

Between 2014 and 2022, the number of banks in Ukraine decreased by almost 100 institutions, from 163 in 2014 to 67 in 2022 (Table 1):

**Table 1. Number of banks in Ukraine in 2014-2022**

Parameter	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>Number of operating banks</b>	163	117	96	82	77	75	73	71	67
<b>including those with foreign capital</b>	51	41	38	38	37	35	33	33	30
<b>including those with 100% foreign capital</b>	19	17	17	18	23	23	23	23	22

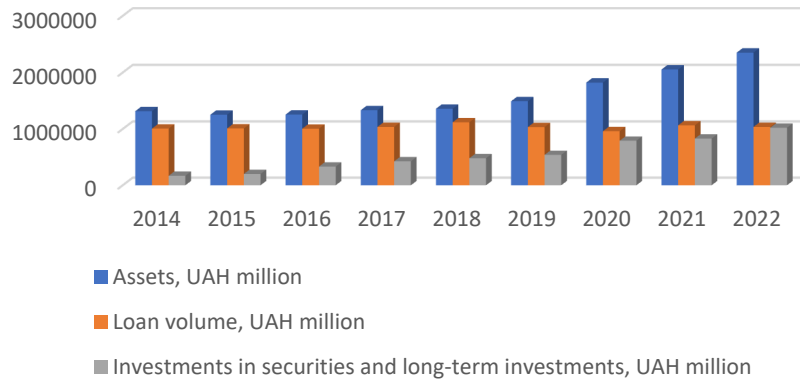
Source: The author's own research on the basis of National Bank of Ukraine

The largest reduction in the number of banking institutions over the analyzed period was observed in 2015, i.e. 46 institutions, which is explained by the revocation of licenses by the National Bank of Ukraine (NBU) in connection with the annexation of Crimea and the deterioration of banks' solvency, which resulted in a decision to liquidate them. The year of 2014 has become a turning point, when Ukraine faced one of the worst crises in its history. It was then that the NBU decided to increase the minimum capital requirements for banking institutions in order to improve the banking system, which in turn led to the liquidation of low-quality and financially non-transparent banks. The fact that despite the reduction in the number of banks, lending volumes in Ukraine remained almost unchanged is evidence of the banking sector's cleanup. It is noteworthy that the reduction in the number of commercial banks was primarily due to the liquidation of banks with private capital. The main reasons for foreign banks to leave the market were political and economic instability, as well as the government's revocation of the licenses of banks with Russian capital.

According to statistics, the leading banks with foreign capital in Ukraine are represented by such developed European countries as Austria, France, Britain, Poland, Germany, Turkey, etc. The consequences of the presence of a significant share of banks with foreign capital in the domestic market are rather ambiguous: on the one hand, they contribute to the financial development of the country, and on the other hand, they conceal certain threats. The study (Khoma & Papirnyk, 2022) shows that banks of foreign banking groups generate about a third of the total assets, equity, liabilities, and net profit of the banking system, while following the so-called "cream-collecting" strategy, which implies lending predominantly to legal entities, in particular large companies. Further to that, the high profitability of foreign banks and their compliance with the economic standards set by the NBU during the study period indicate that these institutions played a significant role in maintaining the resilience of the Ukrainian banking system during the 2014 crisis.

In 2022, banks were forced to close every fifth branch in Ukraine. Most branches were closed by foreign and state-owned banks. Branches were closed and staff dismissed mostly in the regions where active hostilities were or are currently taking place, and thus the demand for banking services is lower. The most massive cuts occurred in Kharkiv and Donetsk regions, as well as in the city of Kyiv and Kherson region. At the same time, banking services are not currently available in all settlements. State-owned banks ensure inclusion of these settlements through mobile branches.

Despite the decline in the number of banks in Ukraine, there has been an increase in assets in 2014-2022 (Figure 1):



**Figure 1. Dynamics of Ukrainian banks' assets in 2014-2022**

Source: The author's own research on the basis of National Bank of Ukraine

This trend is positive, as banking assets form the income of banking institutions. During 2014-2022, the value of assets increased from UAH 1,316,852 million to UAH 2,351,678 million, and their growth during this period was about 80%.

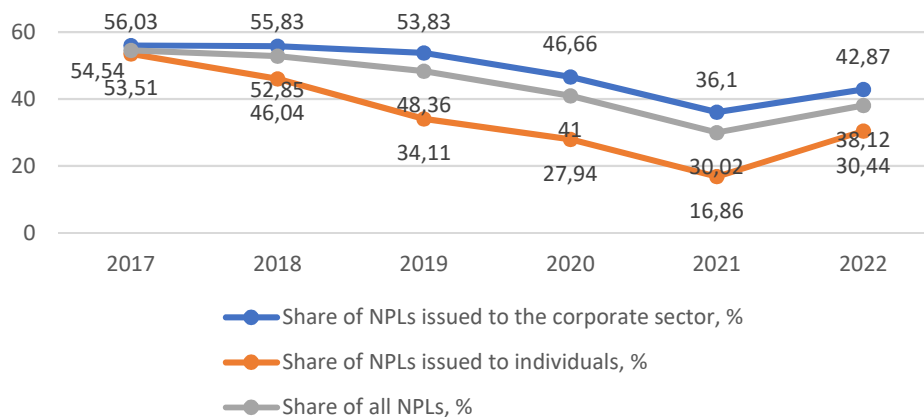
In 2014-2018, asset growth was generally driven by the growth of the banks' loan portfolio. During this period, the share of loans in banks' assets was about 80%. However, since 2019, there has been a decline in bank loans, and their share in assets amounted to 44% at the end of 2022. At the same time, there has been an increase in investments in securities and long-term investments. Between 2014 and 2022, their share in assets increased from 13% to 43%.

According to the National Bank of Ukraine, from the beginning of the full-scale war until December 31, 2022, the government of Ukraine raised UAH 152,390.6 million, USD 1,929.0 million, and EUR 977.3 million from the placement of domestic government bonds at auctions. Over the same period, UAH 213,337.7 million, USD 2,793.3 million, and EUR 662.3 million were allocated for repayment on domestic debt securities. During the martial law period, the Ministry of Finance of Ukraine raised interest rates on a number of hryvnia-denominated domestic government bonds (with the maximum rate of 19.5% per annum), as well as on dollar-denominated domestic government bonds (with the maximum rate of 4.5% per annum) and on euro-denominated military bonds (with the maximum rate of 3% per annum). The largest volume of these securities is concentrated by primary dealer banks.

After the outbreak of the full-scale war, the demand for loans declined. Due to the war, credit risk has become one of the biggest risks, the final amount of losses from which can only be calculated over time, as a large part

of Ukraine's territories is occupied, businesses are not operating, many people have gone abroad, and many are unemployed, unable to pay loans and interest on them (Kovalenko, 2022; Pravdykowska & Doroshenko, 2022).

In 2017-2021, Ukraine saw a downward trend in the share of NPLs. In particular, their share decreased threefold during this period, from 53.51% to 16.86%. However, in 2022, it almost doubled and amounted to 30.44% (Fig. 2). This growth was driven by an increase in NPLs of both the corporate sector and individuals. As of the end of 2022, they amounted to 42.87% and 38.12%, respectively.



**Figure 2. Dynamics of the share of non-performing loans issued by commercial banks in Ukraine in 2017-2022**

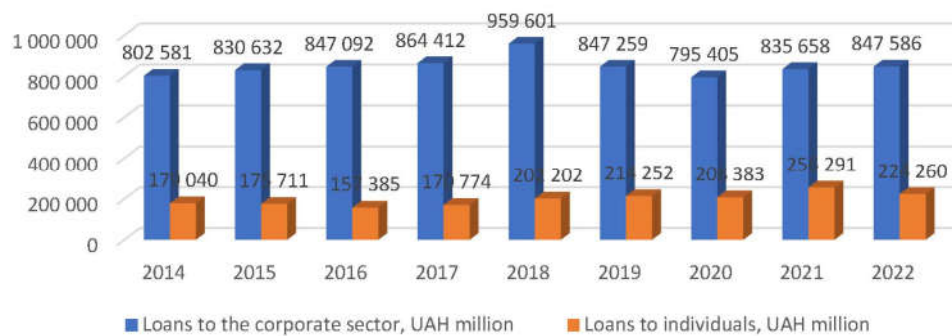
Source: The author's own research on the basis of National Bank of Ukraine

A bank loan is considered non-performing by the European Central Bank if the borrower failed to pay the agreed installments or interest for more than 90 days. At the beginning of the war, repayment holidays were introduced and credit card limits were reduced. During the repayment holidays, banks offered the following concessions: waiver of mandatory payments for a period of one to three months; temporary halving of interest rates or more; and waiver of late payment fees.

Repayment holidays are effective in the short term because they reduce the debt burden on customers and increase customer confidence in the institution. However, over time, banks need to move away from large-scale repayment holidays to be able to finance their expenses.

The NBU emphasized the high risks of unsecured consumer lending due to the dependence on borrowers' solvency. During the repayment holidays, the banks' losses were not noticeable. However, these risks will be realized as the repayment holidays gradually end and the banks return to their normal payment schedules. The normal resumption of retail lending requires

stabilization of household incomes and the economic situation in the country, which will be only possible after Russia's military aggression against Ukraine ends. Therefore, banks are now trying to adapt and fulfill their functions in the conditions prevailing in the country. Since June 1, 2022, the repayment holidays have been terminated by many Ukrainian banks. Each bank decides on benefits it provides to the borrowers who are still repaying their loans at its sole discretion. The problem is that the volume of bank loans to the corporate sector is much higher than the volume of loans to individuals in Ukraine (Figure 3):



**Figure 3. Dynamics of loans granted by commercial banks of Ukraine to the corporate sector and individuals in 2014-2022**

Source: The author's own research on the basis of National Bank of Ukraine

The volume of bank loans to legal entities exceeded the volume of loans to individuals by almost four times during 2014-2022. In 2022, the value of loans to business entities increased from UAH 835,658 million to UAH 847,586 million, while loans to individuals decreased from UAH 256,291 million to UAH 224,260 million. This situation can be explained by the government's support and incentives for commercial banks to intensify lending to the real sector during the war. In this case, the state is assuming more and more obligations to compensate for loan rates for businesses. On March 18, 2022, the government decided to launch Interest-Free Business Lending during the wartime. For the duration of martial law and for another month after its end, the interest rate on loans will be 0%. The state will pay interest for those who want to do business. After martial law, the interest rate under this program will not exceed 5%. The maximum loan amount has been increased to UAH 60 million.

According to the Ministry of Finance of Ukraine, as of the beginning of 2023, 19,738 loan agreements totaling UAH 81.61 billion were concluded under the state program Affordable Loans 5-7-9% during the period of martial

law (including 14,708 loan agreements worth UAH 42.44 billion concluded by public sector banks), of which:

- UAH 0.83 billion for investment purposes;
- UAH 6.69 billion as anti-crisis loans;
- UAH 4.36 billion as refinancing of previously obtained loans;
- UAH 25.86 billion of loans to agricultural producers;
- UAH 43.85 billion for anti-war purposes.

This policy of the state through the mediation of commercial banks is aimed primarily at supporting Ukrainian enterprises engaged in the production of weapons and military equipment and energy companies that need to be restored. Further to that, the government is actively seeking ways to resume mortgage lending under martial law. To this end, the government program Affordable Mortgage 7% has been developed. Its essence is that military personnel, doctors, IDPs, teachers and researchers will be offered mortgages at 3% to 7% per annum.

During 2014-2022, the bank's liabilities increased from UAH 1,168,829 million to UAH 2,135,838 million (Table 2). This growth was due to an increase in funds of business entities and individuals, whose share in 2014 was 58%, and at the end of 2022 – more than 85% of the banks' liabilities.

**Table 2. Dynamics of Ukrainian commercial banks' liabilities in 2014-2022 (UAH million)**

Years	Banks' liabilities	Liabilities in foreign currencies	Fixed-term deposits and loans from the other banks	Due to business entities	Due to individuals	Due to non-bank financial institutions
<b>2014</b>	1,168,829	X	X	261,372	416,371	X
<b>2015</b>	1,150,672	667,246	122,592	318,568	402,137	30,474
<b>2016</b>	1,132,515	644,223	73,938	369,913	437,152	42,813
<b>2017</b>	1,172,723	613,681	50,240	403,955	478,100	22,907
<b>2018</b>	1,204,743	587,940	42,178	406,367	508,457	23,794
<b>2019</b>	1,293,377	568,621	23,912	498,157	552,115	26,885
<b>2020</b>	1,613,381	648,020	24,235	646,491	681,892	34,704
<b>2021</b>	1,797,718	613,334	24,948	758,434	726,898	41,410
<b>2022</b>	2,135,838	799,056	6,457	889,526	933,240	53,188

X – no data available

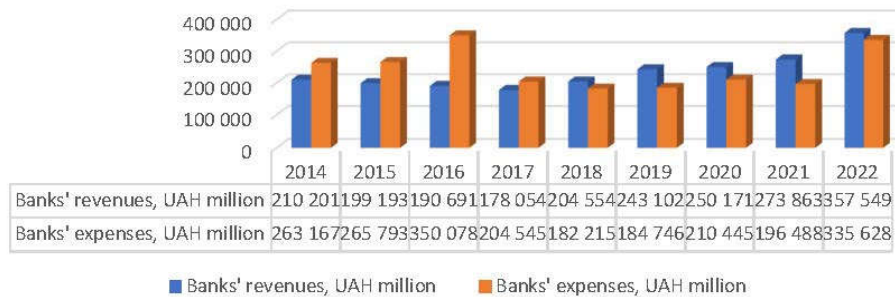
Source: The author's own research on the basis of National Bank of Ukraine



It is noteworthy that despite martial law, 2022 witness an increase in the amount of funds held by business entities and households in commercial banks. This growth occurred mainly in foreign currency. This was facilitated by an increase in interest rates on deposits due to the NBU's increase in the key policy rate to 25%. This resulted in an acceleration in the growth of fixed-term deposits in UAH. The NBU's permission to purchase foreign currency online for placement on deposits also contributed to the growth in the liquidity of banking institutions, which helped to increase the volume of individuals' fixed-term deposits in foreign currency. Thus, the increase in deposits in NBU certificates of deposit, funds on accounts with other banks, deposits of individuals and legal entities, and, ultimately, the deposit portfolio, demonstrates the adaptation of the banking business to martial law conditions, as well as the effectiveness of the NBU's measures intended to stabilize the banking system.

### 3. Analysis of the performance of Ukrainian banks in 2014-2022

In 2014-2017, the Ukrainian banking sector was unprofitable (Figure 4):



**Figure 4. Dynamics of income and expenses of commercial banks in Ukraine in 2014-2022**

Source: The author's own research on the basis of National Bank of Ukraine

In 2016, the Ukrainian banking system suffered a historically high loss of UAH 159 billion, of which about UAH 136 billion was the loss of the largest systemic state-owned bank, Privatbank, due to the loan portfolio provisions at the end of the year.

The main reasons for the unprofitability of the Ukrainian banking system in 2014-2017 were (Chaikovskiy et al, 2022) a significant drop in business activity in the economy caused by the armed conflict in the east of the country and the loss of government control over a part of the country's territory, devaluation of the hryvnia, rising inflation, which, in turn, provoked a reduction in bank deposits of the individuals, a drop in solvency and payment discipline of borrowers, unsatisfactory dynamics of industrial production, and other adverse phenomena. In general, this led to a reduction in interest

income due to poor servicing of loans by borrowers and an increase in bank expenses due to the need to form insurance reserves for bad debts.

Since 2018, commercial banks' revenues began to exceed their expenses. The banking sector received UAH 24,716 million in net profit in 2022: 46 of 67 solvent banks were profitable. The decrease in net profit in the banking sector overall amounted to UAH 52,660 million, or 68.05%. The positive financial result was achieved by maintaining high operational efficiency. According to the NBU, the structure of banks' income grew in interest income (by 28.59%) and the result from revaluation and from purchase and sale transactions (more than 5 times). Among the expenses, provisioning had the highest growth rate; in 2022 vs 2021 it increased by 3,345.73% or 34.46 times.

The return on equity (ROE) and return on assets (ROA) of commercial banks in Ukraine were also negative in 2014-2017, which is explained by the banking sector's loss-making performance over this period (Figure 5):



**Figure 5. Dynamics of return on assets and capital of Ukrainian commercial banks in 2014-2022**

Source: The author's own research on the basis of National Bank of Ukraine

During 2018-2021, the ROE increased from 14.67% to 35.08%, and the ROA increased from 1.69% to 4.09%, respectively. However, at the end of 2022, these indicators decreased to 9.68% and 1.04%, respectively, due to rising bank costs and, as a result, lower profits.

In the context of large-scale armed aggression and the introduction of martial law in Ukraine, ensuring the reliable and stable operation of the country's banking and financial system, as well as maximizing the needs of Ukraine's defense, the smooth operation of the public finance system, and critical infrastructure facilities are of paramount importance. In accordance with the Monetary Policy Guidelines for the period of martial law, the NBU will provide further support and take urgent measures to ensure financial stability. Given the structural liquidity position of the banking system (surplus or deficit) and its volumes, the NBU will, if required, adapt the operational design of its monetary policy flexibly to promote an optimal

balance between ensuring an adequate level of liquidity in the banking system to respond to eventual turbulence in financial markets and strengthening the interest rate channel of monetary transmission. If risks to the banking system's liquidity decline, the NBU will wind down its emergency support measures for banks.

#### **4. Conclusions.**

With the beginning of hostilities, despite the reduction in the number of banking institutions, the banking sector began to adapt to unfavorable operating conditions. During 2014-2022, Ukraine saw a significant reduction in banking institutions, primarily due to the liquidation of banks with private capital and the exit of foreign banks from the market, which was caused by political and economic instability, as well as the government's revocation of the licenses of banks with Russian capital. In 2022, due to the full-scale war, banks were forced to close every fifth branch in Ukraine.

Despite the closure of banking institutions in Ukraine, the volume of bank assets is growing, but their structure is changing. In particular, the share of lending is decreasing, while the share of banks' investments in securities and long-term investments is growing. This policy of the state through the mediation of commercial banks is aimed primarily at supporting Ukrainian enterprises engaged in the production of weapons and military equipment and energy companies that need to be restored. Further to that, the government is actively seeking ways to resume mortgage lending under martial law.

The active adaptation of banks' business models to the unfavorable conditions of martial law and the use of effective NBU instruments allowed the banks to achieve an overall positive financial result and profitability in 2022. There are still many risks and problems that are difficult for banks to cope with in the conditions of the full-scale war, so actions to ensure balance in the money market should be comprehensive and systemic. The further development of Ukraine's banking sector depends on maintaining its resilience, justifying customers' trust, and effective measures taken by the central bank.

The practical significance of the study lies in the possibility of applying the proposed recovery measures by other countries in crisis situations arising in the economic and political environment.

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