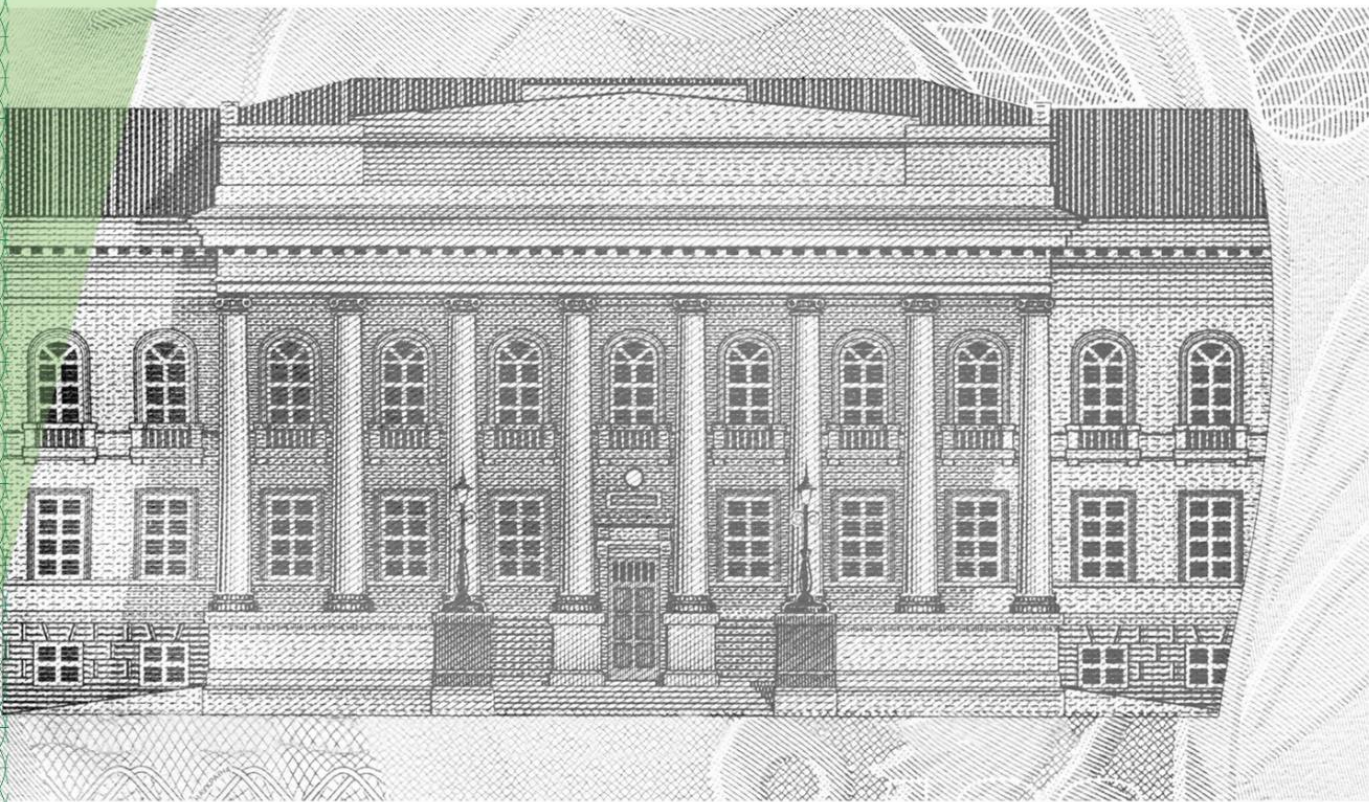
National Bank of Ukraine

Financial Stability Report

June 2022



The Financial Stability Report (hereinafter the report) is a key publication of the National Bank of Ukraine. It aims to inform about existing and potential risks that can undermine stability of Ukraine's financial system. The report focuses on risks and threats for Ukrainian financial sector and economy that have emerged since the onset of russia's full-scale war against Ukraine, and on measures to support the financial sector resilience.The report also offers authorities and financial institutions recommendations that aim to mitigate wartime risks and enhancing financial system's resilience to these risks.

The report is primarily aimed at financial market participants, and all those interested in financial stability issues. Publication of the report promotes higher transparency and certainty of macroprudential policy, helps to boost public confidence in the policy, and thus facilitates National Bank's management of systemic risks.

The Financial Stability Committee of the NBU approved this report on 17 June 2022.

Content

Summary

Russia's full-scale war on Ukraine has triggered a deep crisis that will have far-reaching consequences for the financial sector. However, the banking system is successfully resisting the wartime challenges: the banks are operating without interruption, maintaining their liquidity and continuing to lend. This was possible thanks to the banks' coordinated efforts, a timely response by the NBU, and years of joint work on reforming the sector since 2015. As a result, the banks came into the crisis with significant capital and liquidity cushions. They were operationally stable and efficient, and had contingency plans ready.

As a result of the war, GDP will fall by more than one-third, and inflation will surge to many times its target level. Uncontrolled depreciation has been avoided due to the temporary fixing of the exchange rate. At the same time, the NBU had to impose tight restrictions on FX transactions and cross-border capital movement. The NBU has been intervening heavily, selling foreign currency in order to balance the FX market. The record-high budget deficit is partially covered through the NBU's direct purchases of domestic government debt securities from the Ministry of Finance. This approach is temporary, and monetization of the budget deficit by the NBU should be gradually minimized and replaced with borrowing from the market.

Financing budget needs and increasing the NBU's international reserves are possible thanks to large-scale financial assistance from partner countries. The larger share of the assistance comes as long-term loans issued at low rates, and a smaller share as grants. Access to the international capital markets is currently closed to the Ukrainian government and issuers. At the same time, the closure of the external debt markets is not a problem for the banks, as they are mainly funded domestically and do not depend on foreign borrowing.

The banks have continued their operations since the war started – almost without interruption in regions where it was safe for their employees and clients. They maintained operations at branches, supplied cash, retained their staff, and continuously provided online services. As many as 85% of bank branches were already operating again by mid-June. The financial institutions have withstood numerous cyberattacks, which intensified greatly in February. In order to secure their data, the banks moved them to cloud data warehouses. However, the banks' losses from operational risk events will be large.

Depositors have retained confidence in the banks: retail deposits increased in the first months of the war. After the shock of the early weeks of the invasion, the growth in corporate deposits recovered rather quickly. However, some corporate clients tried to transfer their funds to state-owned and foreign-owned banks. This made banks raise interest rates on corporate deposits. In contrast, households did not attempt to move their money between banks – their deposits grew across all groups of banks. The stability of retail deposits even enabled banks to reduce the cost of this type of funding. However, hryvnia demand deposits stopped growing from mid-April. Term deposits and FX deposits declined at a steady pace. Although banking sector liquidity is not a concern at this point, liquidity risk cannot be ignored, as it could still materialize during the war.

The NBU hiked its key policy rate in June, in particular to make hryvnia deposits more attractive. This decision further encourages the banks to raise interest rates on deposits. Therefore, yields on domestic government debt securities should also rise. With interest rates at market levels, the banks will be able to increase the portion of government securities on their balance sheets by attracting more expensive deposits, which will not jeopardize their business models. At the same time, by offering market terms, the government will be able to support steady market demand for its debt securities and minimize the monetary financing of the budget deficit.

The banks are issuing new loans even as the war drags on, but such lending has its peculiarities. The banks' risk appetite has decreased sharply. Demand for corporate and retail loans has weakened considerably. Only certain businesses and sectors, in particular agriculture, need a funding boost. In order to keep loans accessible to them, the government expanded state support programs. Small borrowers thus continue to receive cheap loans, with

the banks sharing credit risk with the government. From the start of the full-scale war, net hryvnia corporate loans grew, fueled mainly by state support programs. Given uncertainty around macroeconomic conditions and the financial standing of borrowers, large-scale corporate lending is only possible if the government expands its support programs.

Of all of the risks pertaining to the banks, credit risk remains the key one, and its materialization is the biggest threat to the sector. The financial institutions have slowly begun to recognize incurred and expected losses. For the first time in five years, the banking sector has posted losses as provisioning has spiked. In the meantime, its operating profitability remained high. Current estimates of the banks' expected losses are still not conservative enough. The banks stand to lose at least 20% of their loan portfolio due to the war and the economic crisis, the NBU estimates. Such losses will have a significant impact on the banks' capital adequacy. To that end, the NBU will stick to the policy of regulatory easing. For example, the central bank temporarily will not apply corrective measures to banks that violate capital or liquidity requirements.

In order to assess the maximum credit risk losses that can be absorbed by the banks' capital, the NBU held reverse stress test. Its findings show that the top twenty largest banks might lose up to 25% of their loan portfolio on average, while keeping their core capital positive. Even with such loan portfolio losses, and the loss of the respective interest income, more than half of the twenty largest banks will retain their operating profitability. Maintaining operational efficiency is a prerequisite for the further capital recovery by the banks. The NBU will allow sufficient time for this. Many banks will be able to restore their capital by themselves, using their profits. However, some of the financial institutions, potentially including some state-owned banks, will require support from their shareholders.

From late July, the NBU will decrease the risk weights for unsecured consumer loans to 100%, from 150%. An increase in risk weights during the period of active credit expansion prevented excessive risks from building up and the banks from easing their lending standards too much. Therefore, this macroprudential instrument played a positive counter-cyclical role. The banks are now able to use the capital accumulated for unsecured consumer loans to cover credit losses.

Non-bank financial institutions, which have only started to recover from the negative impact of the pandemic, faced all of the risks the war brings. Unlike the banks, some market players could not cope with operational risks: financial institutions stopped their operations, their processes were disrupted, and information was lost. As of now, only about two thirds of the sector's participants submit financial statements. The NBU reaches out and allows the sector to recover by not taking corrective measures for a number of violations. The transaction volumes of non-bank financial institutions decreased markedly. Demand for insurance and lending dropped, while the loan portfolio quality of credit unions and finance companies is deteriorating. A decline in proceeds from core operations poses the threat that a number of financial institutions might lose liquidity.

Transparency in reflecting the financial standing of the banks and NBFIs will be key to achieving a rapid recovery of the financial system after the crisis. With sufficient information on the sector's development, the NBU will be able to respond more effectively to current challenges and ensure financial stability.

MACRO LEVEL

Full-scale russian invasion into Ukraine caused:

- a plummet in economic activity and household incomes
- a surge in public budget deficit
- critical dependence of Ukrainian economy on international assistance

NBU

NBU contained risks for financial by:

- fixing exchange rate and imposing currency restrictions
- supporting bank liquidity
- introducing timely regulatory easing

BANKS

Banks were resilient by the onset of the war:

- well-capitalized, liquid
- with well-arranged operations
- with prepared contingency plans

- successfully coped with operational challenges – banks did not suspend their work
- liquidity was not an issue: depositors' trust kept the banks from bank runs
- lending continues thanks to government support programs
- credit risk is the key challenge for profitability and capital: banks may lose over 20% of their loan portfolio; however, many of them have capital to absorb these losses
- banks should adjust their business models to current conditions in order to recover after the crisis.

The NBU will give banks with viable business models enough time to restore their capital

NONBANKS

Many nonbank financial institutions were hit hard by COVID crisis and only started to recover:

- the sector remains weak because of previous crises
- operational challenges proved to be too hard for some institutions and they seize to operate
- liquidity and solvency risks increase
- there are resilient financial institutions in each segment that continue to provide quality services.

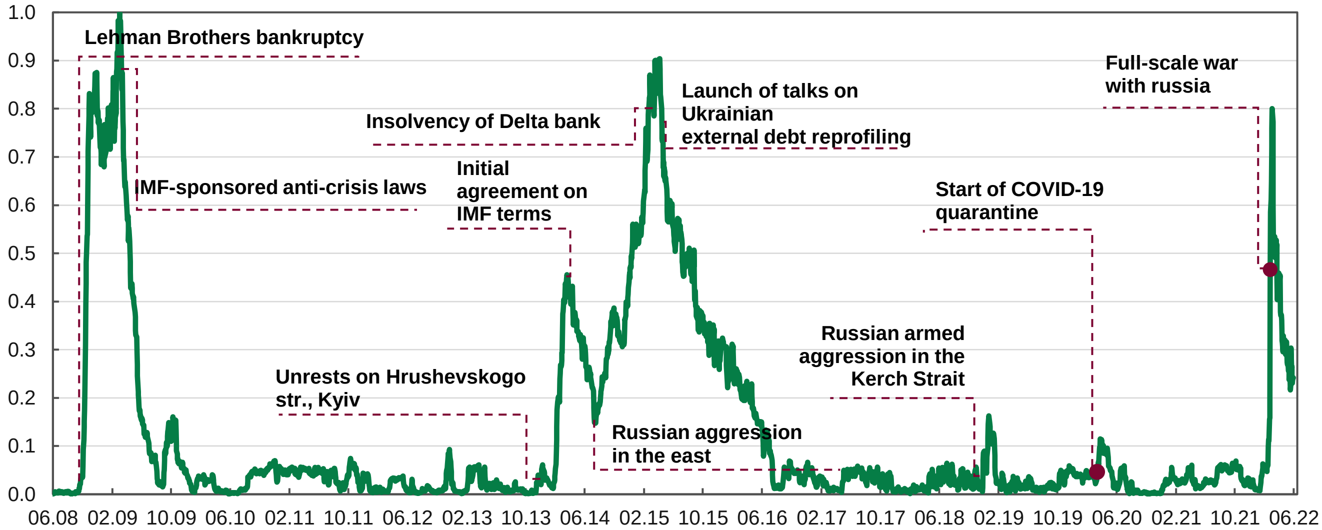
In order to recover, the financial institutions should mobilize their own resources

Financial Stress Index

The Financial Stress Index (FSI) spiked because of the full-scale russian invasion and approached its historical maximum. Growth was seen in all of its components, which is evidence of the systemic character of the stress on the financial sector. Only the household behavior sub-index remained relatively low, as trust in the banking system was maintained and deposits did not flow out, supporting growth in the overall index. However, the Financial Stress Index started to decline from mid-March. In particular, yields on government and corporate securities adjusted somewhat after seeing a sharp rise. The banking sector sub-index improved due to the high level of liquidity. The FX sub-index remains high mostly due to large interventions by the NBU to sell foreign currencies and the volatility of the cash exchange rate. Despite having since declined, the level of stress on the financial market remains high by historical standards.

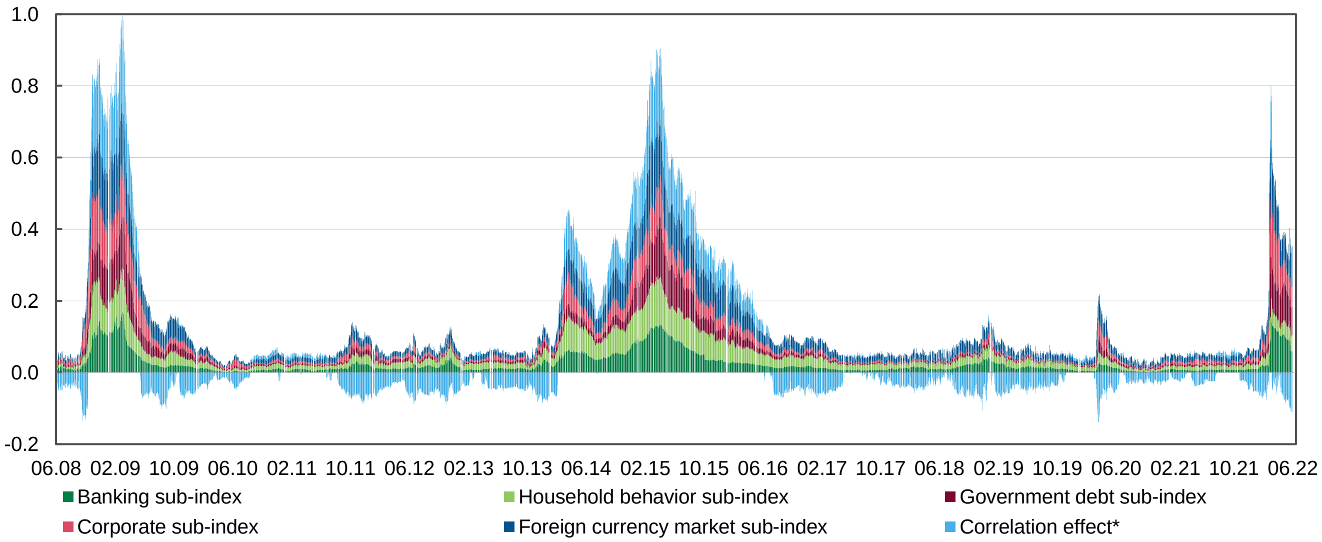
The FSI reflects only the current condition of the financial sector and does not signal future risks that may arise over the short or long term.

Figure FSI1. Financial Stress Index



Source: NBU.

Figure FSI2. Financial Stress Index decomposition



* The correlation effect is the contribution of the current correlation between sub-indexes compared to the average over the entire observation period.

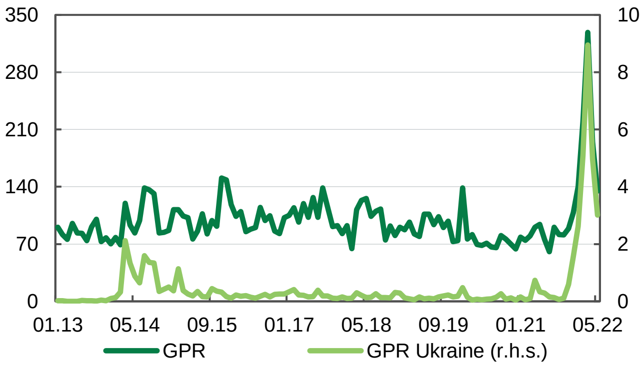
Source: NBU.

Part 1. External Conditions and Risks

1.1. External Developments

The war and its further escalation have become a dominant risk for the global economy. The invasion has caused deaths, destruction, refugee flows, and rising energy and food prices. Ukraine's international partners are currently providing the country with military, financial and humanitarian assistance. At the same time, sanctions are restricting the economic potential of russia. The war will result in a noticeable slowdown in production and a further acceleration in inflation worldwide. Meanwhile, Ukraine has the opportunity to make progress with its European integration.

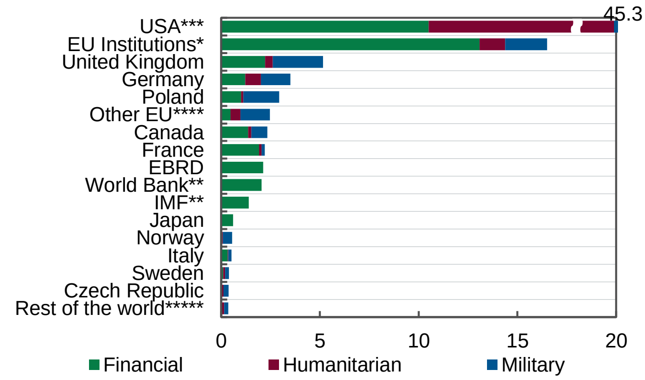
Figure 1.1.1. Geopolitical Risk Index (GPR)*



* Based on the methodology that was updated in late 2021. The figures for Ukraine in this report differ from those in the June 2021 report. https://www.matteoiacoviello.com/gpr.htm

Source: Dario Caldara and Matteo Iacoviello.

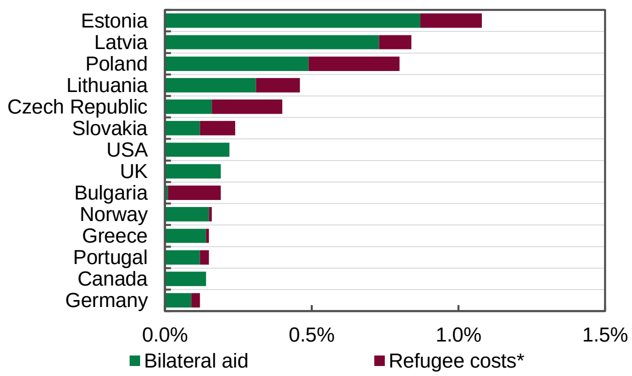
Figure 1.1.2. Commitments of official assistance for Ukraine from its partners, from end-January through 7 June, USD billions



* Commitments of the European Commission, EIB, the European Council and the European Peace Facility; ** Assistance from countries provided as part of IFIs' donor projects is excluded from IFI assistance; *** Including 10.5 billion in financial aid, 9.4 billion in humanitarian aid, and 24.5 billion in military aid. **** 21 EU Member States. ***** Australia, New Zealand, South Korea, Switzerland, and Türkiye.

Source: Kiel Institute for the World Economy (Germany).

Figure 1.1.3. Countries providing the most support to Ukraine in terms of their own resources, % of the GDP of the country



* Rough baseline estimate.

Source: Kiel Institute for the World Economy (Germany).

The main threat is the ongoing russian aggression

A key risk – a full-scale russian invasion of Ukraine – has materialized. At the end of February, the enemy invaded Ukraine, advancing from the north, south and east. Belarus provided territory from which russia launched its attack. At one point, about 35% of Ukraine's territory was either under hostilities, encircled, or temporarily occupied. Heroic fighting by Ukrainian soldiers thwarted russia's invasion plans. Kherson is the only oblast center that russia has managed to occupy since 24 February. Ukraine's northern regions have already been liberated from the invaders, and russian troops have also been partially pushed back in the south and in Kharkiv oblast. At present, the fiercest fighting is taking place in eastern Ukraine. Russia continues to fire missiles at all of the regions of Ukraine. Enemy troops are violating all of the rules and customs of war, including those relating to the treatment of civilians. Tens of thousands of civilians have been killed, homes and civilian infrastructure have been destroyed, and supplies and the property of people and businesses have been stolen or destroyed. Looking ahead, protracted fighting will be the key risk, even if the hostilities are localized. This will require the economy to operate under extreme conditions for a long time, threatening to deepen economic decline and increasing the need for assistance from partners. The negative impact of the war on the global economy will increase.

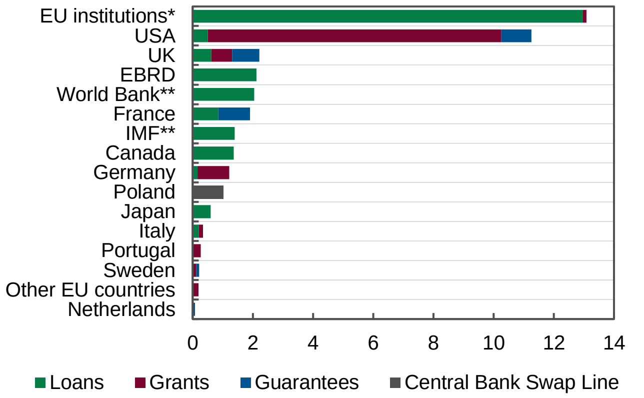
Ukraine has the support of a wide coalition of partners

International support for Ukraine is growing thanks to the armed resistance, effective diplomacy, and wide coverage by the international media. The main support mechanisms are arms supplies, financial and humanitarian aid, and sanctioning russia.

As estimated by the Kiel Institute for the World Economy, in early May, the amount of weapons and military goods pledged or sent to Ukraine totaled about USD 30 billion. A meeting of defense ministers from over 40 countries at the Ramstein U.S. Air Base was key to bolstering military support for Ukraine, as the participants approved supplies of heavy weaponry to Ukraine. In May, the United States passed a lend lease act for Ukraine, similar to the one that was in effect during the Second World War, to speed up arms supplies. The United States approved a USD 40 billion emergency military and humanitarian aid package for Ukraine. The weapons Ukraine will receive under the lend lease act will significantly reduce the budget's military expenditures.

Ukraine's partners are also providing substantial financial support to directly finance budget expenditures. The loans Ukraine received from the IMF, the EU, the EIB, the World

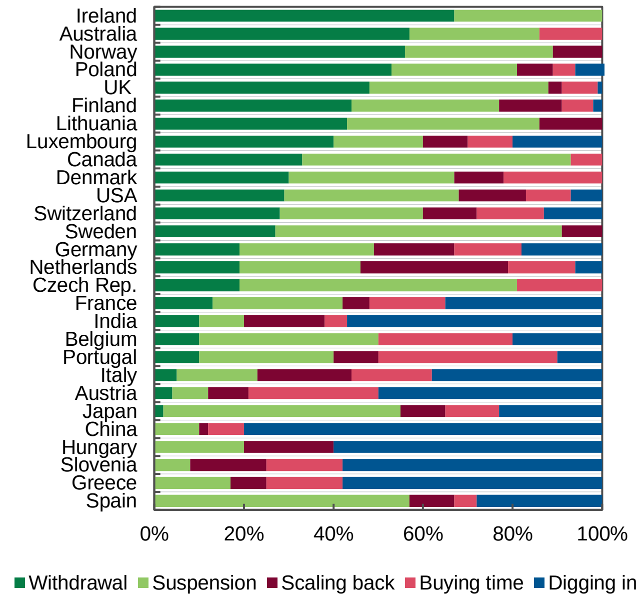
Figure 1.1.4. Committed financial assistance for Ukraine from its largest partners, EUR billions, from end-January through 7 June



* * Commitments of the EC, EU Council, EIB and European Peace Facility; ** Assistance from individual countries through multi-donor is excluded from the IFI assistance.

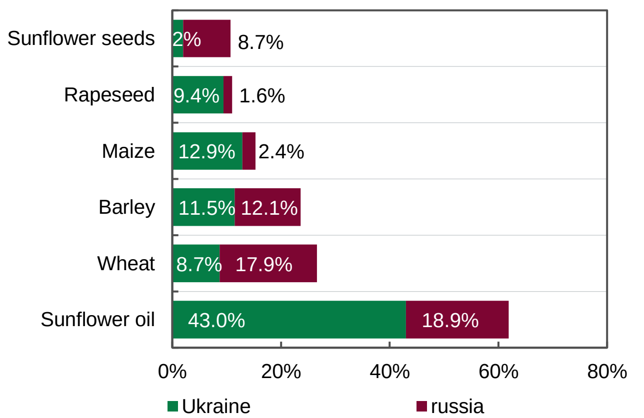
Source: Kiel Institute for the World Economy (Germany).

Figure 1.1.5. Corporations' plans as to whether or not to continue operations in russia, by home jurisdiction



Source: Yale Chief Executive Leadership Institute.

Figure 1.1.6. Shares in the volumes of global exports of some foods*



* Average for 2016–2020.

Source: FAO UN, October 2021.

Bank and foreign governments from the start of the war to the mid-June exceeded USD 7 billion. Overall, the financial assistance provided and committed is around USD 30 billion. Grants comprise up to a third of this support, the rest being low-interest loans and loan guarantees. The US Congress is considering provision of external debt relief for Ukraine. Ukraine is relying on financial assistance from its partners, as it runs a monthly budget deficit of around USD 5 billion and has no access to the external private capital markets.

The EU has temporarily lifted restrictions on Ukrainian exports, while the United States has lifted steel tariffs. Ukraine has also signed an agreement with the UK that cancels import duties and tariff quotas, and Canada plans to expand its free trade agreement. Neighboring countries are also providing access to their own transport infrastructure to support Ukrainian exports. Humanitarian aid is steadily coming through various channels and in various forms.

Russia has become the most sanctioned country

Russia, on which sanctions have been imposed since 2014, became the most sanctioned country in the world in early March, overtaking Iran and North Korea. According to Castellum.AI estimates, from February 24 to the end of April, the number of sanctions against russia increased from 2,754 to 7,374. The key sanctions imposed include the following:

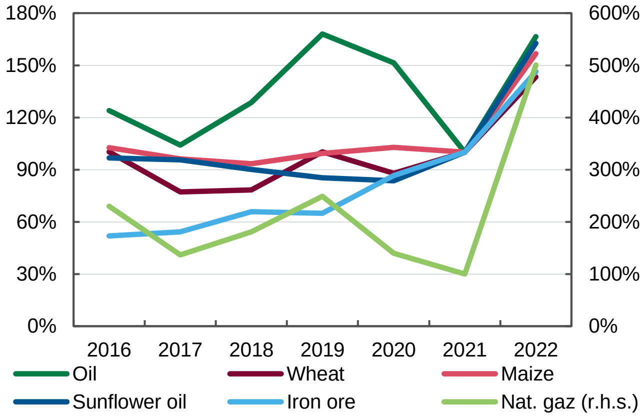
- About USD 300 billion reserves of the Bank of russia that were placed in developed countries have been frozen. This is almost half of the reserves the country had at the end of 2021. All international transactions with russia's reserve gold have been prohibited
- Ten large banks (currently excluding Gazprombank) have been banned from SWIFT. Eleven banks have had their assets frozen or have been denied access to the stock markets of Europe, the UK, the United States and Japan
- A ban has been imposed on exports to russia of technologies and technological products, primarily threatening the viability of russian mechanical engineering, including the military one, transport, and IT
- Russian coal and, partially, oil exports have been banned
- Personal sanctions have been imposed against over a thousand persons who initiated the war and their related parties. The assets of these persons have been frozen.

About 1,500 international corporations are leaving the country voluntarily, as they do not want to do business in russia. Upcoming sanctions packages are expected to include a ban on exports of russian gas. Ukraine is calling for an increase in sanctions pressure to reduce russia's potential for waging the war. In April, the World Bank, taking into account the sanctions that had been imposed by that time, forecast that in 2022 russia's GDP would drop by 11.2%, its exports and imports would fall by one third, foreign investment would flow out, and inflation rise to 22%. The full effect of the sanctions will be felt in several months, while their repercussions will persist for decades.

Commodity prices have spiked in the wake of the war

Global food and energy prices grew most of all because of the war. Although adjusting noticeably after the winter period ended and alternative suppliers were found, European oil and

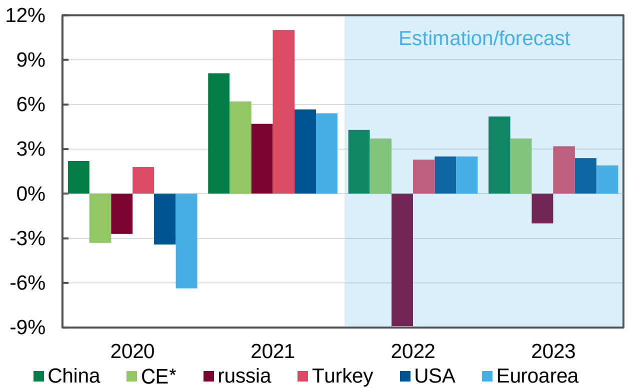
Figure 1.1.7. Global commodity prices*, 2021 = 100%



* Brent crude; russian natural gas; Chinese iron ore concentrate; sunflower oil, maize, wheat – international prices.

Source: IMF World Economic Outlook, April 2022.

Figure 1.1.8. Change of GDP of Ukraine's major trading partners and russia



* Central Europe: Bulgaria, Croatia, Hungary, Poland, Romania.

Source: World Bank, Global Economic Prospects, June 2022.

Table 1. EU candidate countries

Country	Status
Kosovo	Potential member-state.
Iceland	Rejected candidate country status in 2015.
Bosnia and Herzegovina	Application rejected, reforms required to meet accession cirteria. Remains a potential member-state.
Ukraine, Moldova, Georgia	Applied for EU membership in March 2022.
Albania*, North Macedonia*	In 2019, received approval to open negotiations with the EC.
Turkiye*	In negotiations since 2005.
Montenegro*	In negotiations since 2012.
Serbia*	In negotiations since 2012.

* Officially recognized EU candidate country.

Source: European Commission (EC).

natural gas prices remain significantly higher their pre-war levels. Instead, importers plan to bring in more energy from existing suppliers, while also considering limited imports from currently sanctioned countries like Venezuela and Iran. Discussion has resumed as to whether or not countries should wean themselves off nuclear energy, and on the need to dramatically cut down on the use of hydrocarbons.

Significant cuts in Ukrainian exports due to the hostilities and the russian naval blockade of Ukrainian seaports have pushed up food prices. In the first few weeks after the invasion, wheat, corn and sunflower oil prices reached highs not seen in more than 12 years. The prices later adjusted downward, but they still remain high – especially those for wheat. Despite the fact that Ukraine and its partners are looking for alternative ways to export their commodities, unless the ports are unblocked, a global food crisis will persist. This could lead to social tensions in Africa and the Middle East, and therefore in Europe through migration.

The global economy have faced new challenges

Global economic growth, according to the IMF's estimates, will almost half compared to 2021. Inflation is accelerating: to 5.7% in advanced economies and to 8.7% in emerging markets. In response to inflation, central banks are more rapidly adopting tighter monetary policies. This will make borrowing more expensive. Countries neighboring Ukraine and russia could feel additional pressures on the risk premiums expected by investors, due to the risk that the war could escalate and spread.

Ukraine has made progress in European integration

On 28 February, Ukraine signed an official request to join the EU, which has already been endorsed by the European Parliament and European Commission (EC). Based on the EC opinion, member states may confer candidate country status on Ukraine. After that, accession negotiations with the EC will begin. Accession to the EU involves bringing national legislation, institutions and standards into line with the union's requirements to achieve the four freedoms of the EU: the free movement of goods, capital, services, and people. This will ensure transparent conditions for doing business in Ukraine, open up the Ukrainian economy to European capital, and the EU to Ukrainian goods. The experience of new EU member states shows that EU membership contributes to the faster growth of the economy and household income, while reducing the cost of borrowing. The EU provides candidate countries with technical and financial assistance to enable them to carry out the required reforms. In the case of Ukraine, this assistance is likely to be combined with the assistance Ukraine will receive to rebuild its economy.

Recovery plans for Ukraine are in preparation

Work has already started on recovery plans for the Ukrainian economy. The EC estimates that Ukraine will require EUR 500 billion. The EC has proposed establishing a new plan called *RebuildUkraine* to serve as the main tool to support the recovery of Ukraine after the war. The G7 and G20 countries, together with IFIs, could join forces to implement this project. Ukraine and some of its partners are calling for reconstruction to be funded using seized russian assets.

Box 1. What the War Has Changed for International Financial System

The war took transnational financial institutions by surprise, and caught them largely unprepared, a GARP poll has shown. Commodity market volatility, aggravated by war, will likely have the greatest impact on the global financial system. However, it will probably sustain only moderate direct losses from the war, as the Ukrainian and russian financial systems are relatively small, and global exposure to them is limited.

Financial sector came into war unprepared

Most foreign financial sector companies were ill-prepared for the full-scale russian war against Ukraine. This is according to data from a GARP[1] (Global Association of Risk Professionals) survey conducted in April. About two-thirds of respondents said their companies had been partially prepared or ill-prepared for this exact scenario. Despite their geographical proximity to Ukraine, institutions from Europe were, on average, less prepared for the war's escalation than their peers in the United States or Asia. The assessment of respondents' readiness for hostilities did not depend on how closely tied they were to Ukraine or russia.

Respondents said market risk was the key risk associated with the war. This answer was given by most respondents, regardless of region, company type, or company affiliation with Ukraine or russia. Credit risk, including counterparty credit risk (CCR), was often cited as the second most important risk. However, operational risk was the second most important one for respondents with significant exposure to assets in Ukraine. Reputational risk was one of the most significant ones for European companies and active participants in the russian market. For European companies, compliance risk was also important. For U.S. financial institutions, cyber risk mattered a lot.

Sanctions imposed on russia have had a significant impact on the financial sector. They have driven up capital costs, compliance costs and other operating costs. Nearly three-quarters of respondents said sanctions had reduced financial institutions' risk appetite. In the next 12 to 18 months, risk managers expect the sanctions to have a significant growing impact, primarily on price volatility in the commodity and stock markets.

The impact of the war on the global financial system is limited overall, but it is significant for some banks

Overall, the direct impact of war on the global financial system is limited. However, banks with subsidiaries in Ukraine or russia are experiencing a stronger direct effect from the war. The NBU has reviewed the Q1 2022 earnings reports of foreign banking groups with subsidiaries in Ukraine. The vast majority of them also operate in russia. Only for four banking groups from Central and Eastern Europe (ProCredit Holding, Raiffeisen Bank International, OTP Group, PKO Bank Polski) can business in Ukraine and russia be considered significant in terms of the share in group's assets and profits.

In Q1, many banks reported the fallout from the war as credit risk losses. These estimates varied across banks. The weighted average expected loss due to credit risk in Ukraine is about 7% of local subsidiary banks' assets. Central and Eastern European groups with a higher exposure to Ukraine were more restrained in their assessment of losses, while Western European banking groups' loss estimates included the impairment of the value of their businesses, including those based in russia. The impairment sometimes reached half the value of the assets of their subsidiaries. Banks also reflected the adverse impact on capital adequacy at the group level from the increased risk weights of subsidiaries' investments in government instruments. The reason for this increase was the deterioration of credit ratings of Ukraine and russia.

Table 2. Share of Ukrainian and russian subsidiaries in assets and profits of international banking group, %

Bank	Share of assets		Share of profits in 2021	
	Ukraine	russia	Ukraine	russia
ProCredit Holding	12.72	–	31.08	–
Raiffeisen Bank International	2.11	9.75	8.08	31.42
OTP Group	3.57	2.90	7.85	7.57
PKO Bank Polski	1.21	–	9.81	–
Citibank	0.05	0.42	0.29	0.01
Piraeus Bank	0.23	–	2.03	–
SEB	0.03	0.20	0.06	0.26
ING Bank	0.04	0.09	0.19	0.06
Intesa Sanpaolo	0.03	0.10	-0.19	0.12
BNP Paribas S.A.	0.10	0.03	0.50	0.03
Deutsche Bank	0.01	0.11	0.01	0.30
Credit Agricole Group	0.08	0.03	0.55	0.01

Source: banks' websites.

Because of sanctions, most international banks plan to scale back or cease operations in russia. However, it is currently extremely difficult to shut their businesses down and exit the russian market due to the lack of buyers and capital controls imposed by russia. Meanwhile, no foreign banks have announced plans to leave the Ukrainian market.

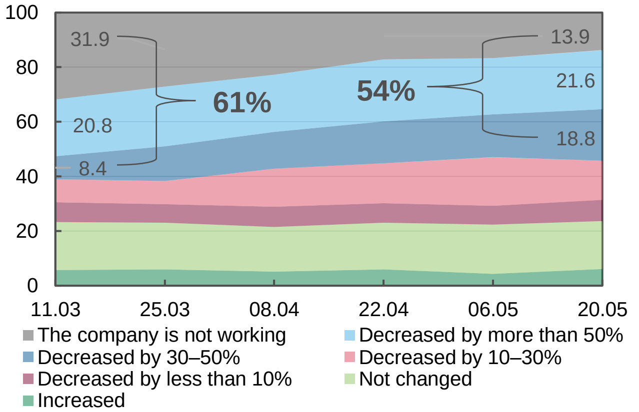
[1] The survey was conducted through an online poll of 850 risk managers from different regions (Europe, Asia, America) and companies (asset management companies, banks, investment banks).

Part 2. Domestic Conditions and Risks

2.1. Macroeconomic and Fiscal Risks

Full-scale war has led to an unprecedented fall in the Ukrainian economy. Ukraine may lose at least one-third of its GDP in 2022. Macrofinancial stability largely depends on the international support. Expected assistance from international partners will reduce risks for financing the budget deficit and allow international reserves to be maintained at an acceptable level. Uncertainty remains high. The pace of economic recovery in Ukraine will depend on the duration of the war and the speed of de-occupation, as well as on international support.

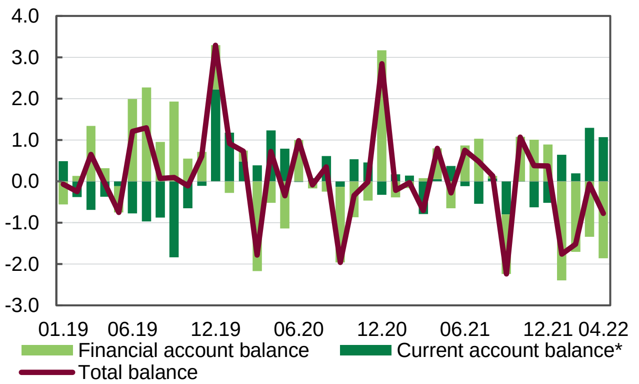
Figure 2.1.1. Production capacity load of Ukrainian companies in March–May 2022*



* Compared to the period before the full-scale war started.

Source: NBU surveys.

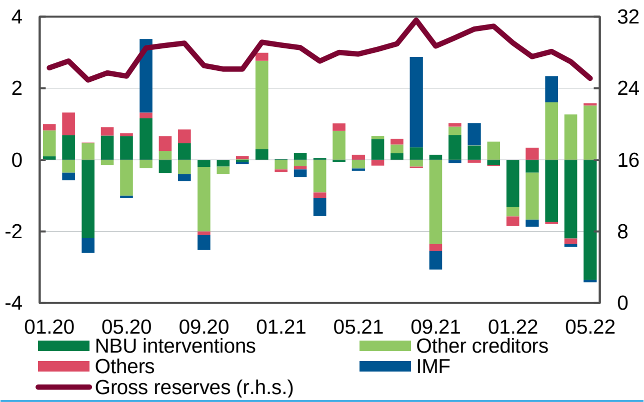
Figure 2.1.2. Monthly balance of payments in 2019–2022, USD billions



* Current account and capital account.

Source: NBU.

Figure 2.1.3. Change in gross international reserves, USD billions



* NBU interventions: (+) refers to purchasing FX to increase reserves; (-) refers to selling FX from reserves; "other" means the revaluation of financial instruments due to changes in their market value and exchange rate fluctuations, as well as other transactions.

Source: NBU.

Ukraine's GDP may shrink by more than a third

Macroeconomic and fiscal risks are at their highest ever due to the large-scale russian invasion. In February–March, hostilities continued in regions that generated around a half of Ukraine's GDP. Therefore, production almost stopped there, and consumption fell sharply in practically all regions. Since April, the economy has been recovering slowly from the shock of the first weeks of the war. This was driven by the liberation of territories by the Armed Forces of Ukraine, the gradual return of workers, and the recovery of production and supply chains.

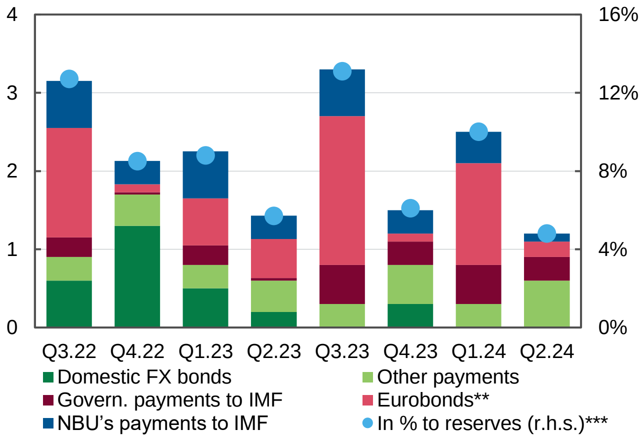
As of mid-June, regions that accounted for 20% of the country's GDP last year remained affected by active military combat or occupation. According to results of NBU surveys, the share of companies that reduced the load on their production capacities by more than a third or that did not work at all decreased from 61% in early March to 54% in late May. However, key problems persist: the sea ports are blockaded (excluding the Danube ports), logistics are disrupted, there are still fuel shortages, and domestic demand is weak. GDP will fall by more than a third in 2022. It is expected that end of the war and de-occupation would drive a rapid recovery in GDP in following periods. On the other hand, the key risk is that the war drags on.

Apart from affecting current output, the war significantly reduces the economy's potential. According to the NBU's estimates, as of the start of May, physical capital losses from the destruction of businesses, housing, and infrastructure reached USD 100 billion, which is equivalent to 50% of GDP in 2021. The loss of human capital is also very large because of migration and deaths. Investment activity is paused in view of high uncertainty. Economic recovery may require a lot of time and assistance from international partners in order to overcome the consequences of the war.

The balance of external accounts depends on international support

The russian invasion caused a sharp decline in exports – primarily due to blocked Black Sea ports and destruction of transport and production infrastructure. This led to a sizeable decrease in FX proceeds from exports. A single day of the port blockade costs Ukraine about USD 170 million. New logistical routes and lifting the blockade of the ports are needed for exports to increase. Even increasing the capacity of existing road and railway routes would not be sufficient to restore the country's previous export capacity.

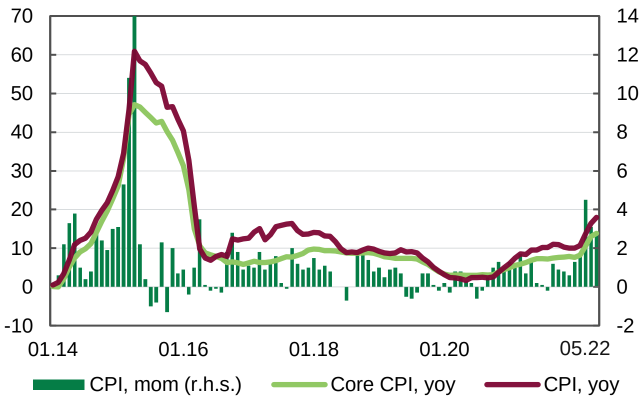
Figure 2.1.4. FX payments of the government and the NBU, USD billions equivalent*



* Including interest. ** In Q2 2023, including payments on derivatives. *** The ratio of estimated repayments in the respective quarter to Ukraine's gross international reserves as of 1 June 2022.

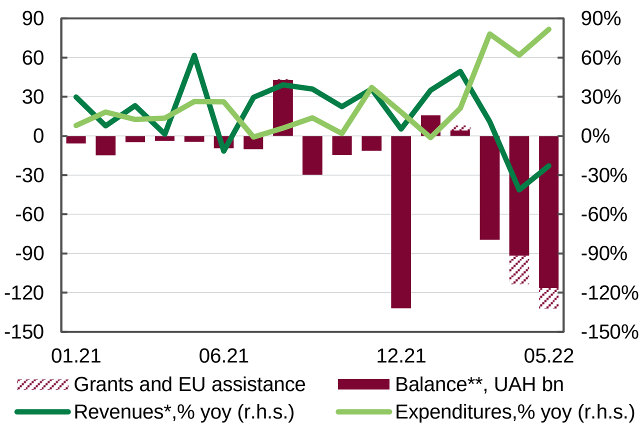
Source: MoF, NBU.

Figure 2.1.5. Inflation in 2014–2022, %



Source: SSSU.

Figure 2.1.6. State budget parameters in 2021–2022



* Revenue dynamics – excluding grants and EU assistance programs. ** Negative values – deficit, positive – surplus. The patterned fill reflects the impact of grants and assistance programs from the EU on the balance of the state budget. Grants increased the surplus in August 2021 and February 2022 and reduced the state budget deficit in April–May 2022.

Source: STSU, MoF, openbudget.gov.ua, NBU calculations.

Imports declined as domestic demand weakened, logistics were disrupted, and limitations were imposed on the purchase of FX cash to pay for noncritical imports. However, imports are recovering faster than exports as they are less dependent on sea routes and are supported by preferential taxation. Imports of services grew significantly as displaced people spent money to buy goods and services abroad. At the same time, remittances remained stable. According to the preliminary estimates, the current account surplus was USD 3.2 billion in January–April 2022.

Since the start of full-scale war, the NBU has prohibited the majority of cross-border capital transactions. However, there have been large outflows of funds due to settlements with nonresidents under trade transactions and cash withdrawals by individuals abroad. Overall, the outflow of capital from the financial account was USD 7.3 billion in January–April. This was partially eased by loans received from international financial institutions and partner countries. These resources increased international reserves.

The NBU takes part in balancing the FX market

The NBU fixed the official UAH/USD exchange rate from the start of the full-scale russian invasion. This was necessary to prevent panic on the FX market and stop a potential uncontrolled depreciation. Taking into account the shortage of FX proceeds, primarily due to weaker exports, the NBU was forced to sell large amounts of foreign currency on the market. Financing from international donors supports reserves. As of the start of June, gross international reserves were at an acceptable level of USD 25.1 billion. The NBU will continue to be active on the market until there are preconditions for a return to market-driven exchange rates.

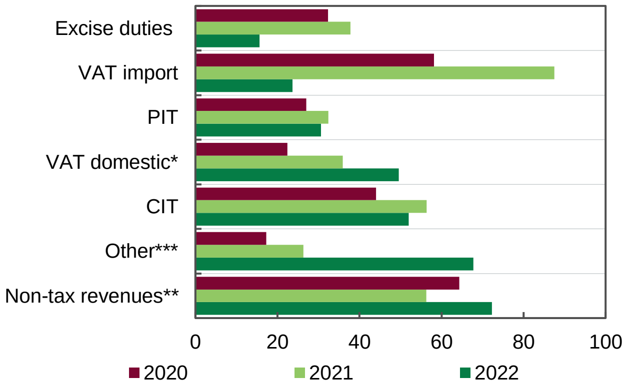
Inflationary pressures increased notably

The war has caused a rise in inflation and made it very uneven across groups of goods, and across regions. The growth in prices was caused by a disruption in supply chains, the destruction of production and warehouse capacities, and an increase in production costs, in particular due to an increase in energy prices. In May, inflation accelerated to 18.0% yoy.

The risks of inflation acceleration remain high, especially as the costs of production and logistics rise. The price growth will be limited by a recovery in production, large supplies of grains and oilseeds resulting from difficulties in exporting, fixed utility tariffs, and weak domestic demand.

In the first months of the war, the NBU did not change the key policy rate, as the usual market channels of monetary transmission were not working. Supporting the exchange rate was essential in order to maintain price and financial stability. Fixing the exchange rate after martial law was imposed had an anti-inflationary effect: it restrained negative expectations and slowed the growth in prices for imported goods. In early June, the NBU Board hiked the key policy rate by 15 pp, to 25% per annum. This should be sufficient to ease the pressure on the FX market and stabilize inflation expectations.

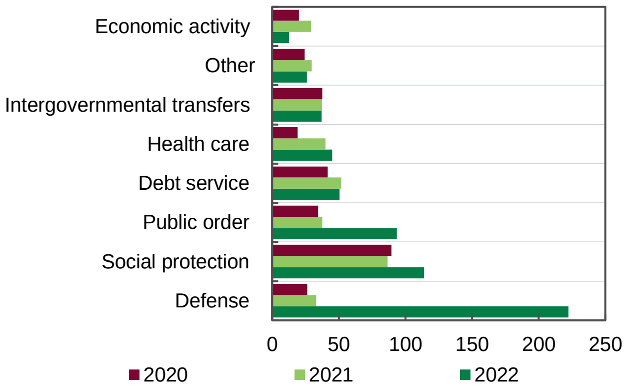
Figure 2.1.7. Revenue components of the state budget in March–May 2020–2022, UAH billions



* Including refunds (in March–May 2022 refunds were practically not carried out). ** Mainly transfers of a portion of the profits of state-owned enterprises and the NBU. *** Including grants and assistance from the EU in 2021–2022 (UAH 37.7 billion in April–May 2022). CIT– corporate income tax; PIT – personal income tax.

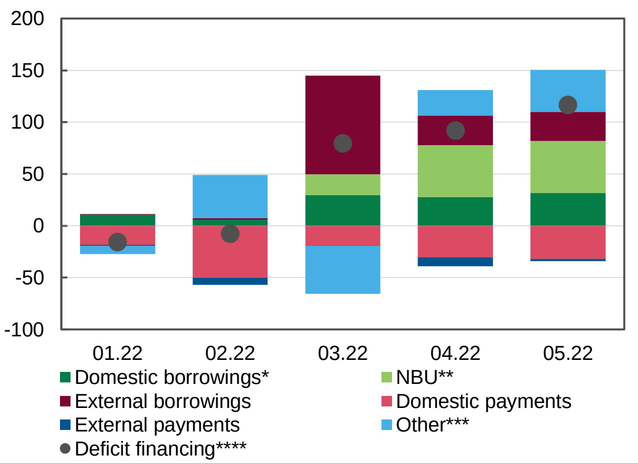
Source: STSU, MoF, openbudget.gov.ua, NBU calculations.Ministry of Finance, openbudget.gov.ua, NBU estimates.

Figure 2.1.8. Expenditure components of the state budget in March–April 2020–2022, UAH billions



Source: STSU, MoF, openbudget.gov.ua, NBU estimates.

Figure 2.1.9. State budget financing in 2022, UAH billions



* Excluding the NBU. ** Financing by the NBU for the duration of martial law by means of purchasing the government's war bonds on the primary market. *** Change in budget funds (in particular FX holdings), financing from the single treasury account, and proceeds from privatization. **** Negative values refer to a budget surplus.

Source: STSU, MoF, openbudget.gov.ua, NBU estimates.

Significant international assistance is the basis for financing the budget deficit

The war caused an extraordinary rise in expenses on defense and support for the people and the economy. The economic downturn drove a major decrease in budget income. Uncertainty over the depth of the crisis pushes up the risk that planned revenues will not be collected. The decrease in incomes was also driven by the introduction of tax incentives for imports. Therefore, the size of the state budget deficit had to be revised up for the current year. It now amounts to UAH 744 billion, compared to the UAH 189 billion planned last year. The monthly need for financing the budget deficit exceeds USD 5 billion.

International assistance is the main source for covering the state budget deficit. Around USD 7.4 billion has been received since 24 February. As of mid-June, the assistance that Ukraine's partners have provided or committed to provide was about USD 30 billion. International assistance and its timely receipt will continue to be critical for financing defense and social expenses and supporting the economy.

The government receives additional financial resources directly from the NBU through the central bank's purchases of war bonds. March through May, the NBU bought war bonds worth UAH 120 billion, which accounted for 32% of total government borrowings in the first five months of 2022. After the NBU raised its key policy rate, it purchased another UAH 70 billion worth of war bonds, this time at a floating rate pegged to the key policy rate. Monetary financing of the budget was a reluctant measure. Stronger inflows of international assistance and an increase in borrowing from the domestic market will significantly reduce the need to use this instrument.

Debt burden to rise sharply

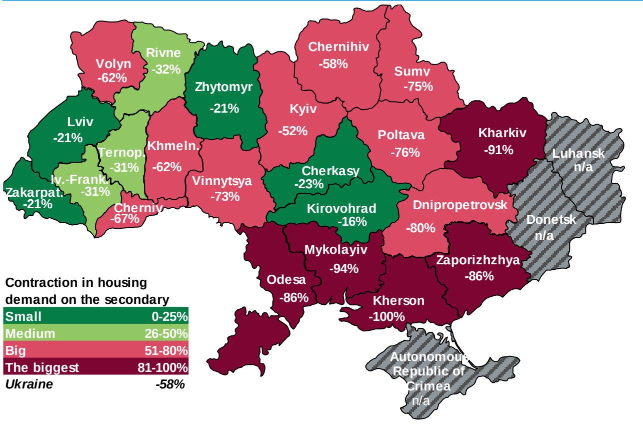
The debt-to-GDP ratio will rise markedly in 2022. Loans from partner countries and international financial institutions account for around two thirds of expected international assistance. While being provided on preferential terms – at low interest rates and for long periods – they still pose FX risks for the future. A major deterioration in its debt ratios should not create problems for Ukraine, as it is not borrowing from the international markets. At the same time, Ukraine continues to service its public debt. Repayments will be moderate in the coming year.

The government is also borrowing from the domestic debt market. However, borrowing does not exceed redemptions for the respective period. At the same time, the banks have a large liquidity cushion. Therefore, there is significant potential for increasing the portfolio of domestic government debt securities. The Ministry of Finance raising yields and a more rational term structure of rates should spur investment.

2.2. Real Estate Market and Mortgage Lending

The war in Ukraine is a real challenge for the real estate market: at the beginning of the invasion the market stopped – both construction and sales. The market is now slowly recovering, but in general its state depends on the security level in a given region, with the best conditions being seen in Ukraine's western oblasts. Quoted prices are not supported by demand and are fueled mainly by the expectations of the seller. The market is imbalanced. Mortgage portfolios are at significant risk in areas close to the hostilities, due to destruction and the decline in borrowers' solvency. The situation on the commercial real estate market is difficult. Only in the retail space segment conditions are partially under control. While the crisis is likely to be long-lasting for the office segment, the retail space segment is able to recover a bit faster.

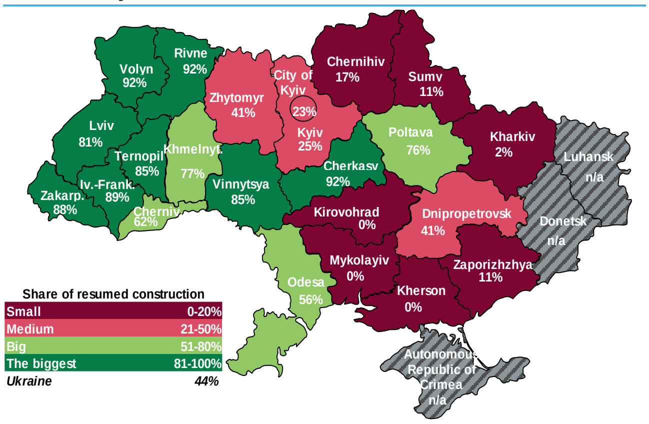
Figure 2.2.1. Change in housing demand on the secondary market, by Ukraine's oblasts



* In May 2022 compared to October 2021.

Source: Flatfy website.

Figure 2.2.2. The share of new housing, construction of which has resumed*, by Ukraine's oblasts



* Compared to the number of construction sites that were active on 23 February 2022. As of 25 May 2022.

Source: LUN website.

Since the beginning of the full-scale war, the real estate market has become almost inert

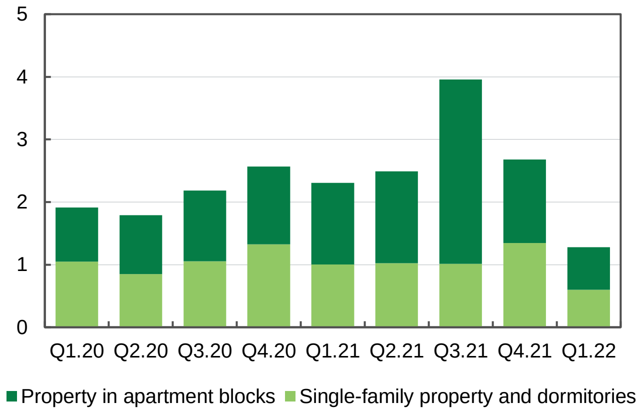
The war in Ukraine is devastating for the real estate market not only because of the destruction of housing and commercial real estate, but also because of the exorbitant uncertainty. Security threats have increased significantly, and a large portion of the population has either moved abroad or relocated within Ukraine. Thus, people are putting off making decisions regarding their place of residence until after the situation has calmed. Liquid assets – such as cash, deposits and securities – are more attractive than real estate. Demand for housing has almost disappeared: those people who planned to buy it for themselves have mostly given up the idea for security reasons; and for those who wanted to invest, this asset has become less attractive as it is currently difficult to assess future price dynamics.

No housing purchases or sales took place as there was no access to the State Register of Titles to Immovable Property through 19 April 2022. After that, access was restored, but with some restrictions to ensure the security of transactions. According to market participants, this has not yet revived the market, despite there being an increase in the views of real estate agencies' websites. Demand for newly built housing is practically nonexistent in Kyiv. The situation is better in western regions, but even there demand has more than halved compared to the pre-war level. Only investors with significant savings are willing to buy real estate, and even then only at a significant discount. According to the Flatfy housing search service, the demand for housing on Ukraine's secondary market has also more than halved compared to October 2021. Activity has declined across all regions of Ukraine, with demand being practically nonexistent in areas that are close to the hostilities. Western oblasts have seen the smallest decline, as expected.

Although construction is slowly recovering, the supply of new housing is under threat

As of the end of May, developers had resumed work on less than half of Ukraine's housing complexes. In Kyiv and Kyiv oblast, construction has resumed on less than a third of the sites that were under active construction on the eve of the war. Mainly those whose housing is at its final stage of building and those who have sufficient savings will be completing their construction projects now. Under current conditions, no commercial investment in new construction is being made.

Figure 2.2.3. **Commissioned residential property, million sq. m**



Source: SSSU.

Figure 2.2.4. **Index of prices offered in advertisements for housing, Dec. 2019 = 100%**

Source: real estate agencies, NBU, NBU estimates.

Rising prices reflect higher costs, but are not in accord with low demand

In the first month of the full-scale war, nominal prices on the capital's primary market did not change, as the market froze. However, in April, after invading russian troops had retreated from Ukraine's northern oblasts, the situation stabilized. Quoted house prices grew by up to 5% per month – much faster than under normal circumstances. In western regions, on average, the cost of housing on the primary market grew at a similar rate. Developers are raising the cost of new housing in an attempt to adjust quoted prices to the expected depreciation of the hryvnia, inflation and rapid growth in construction costs.

In general, the secondary market has seen an increase in prices, albeit somewhat chaotic. In some oblasts, quoted prices are rising due to these oblasts being safer and remote from the borders with russia. For instance, prices in Lviv oblast have risen by more than a half compared to October 2021, according to Flatfy data. In other oblasts, house prices are rising due to large-scale destruction and, consequently, a reduction in the supply of housing. For example, in Sumy oblast advertised house prices have more than doubled over the said period.

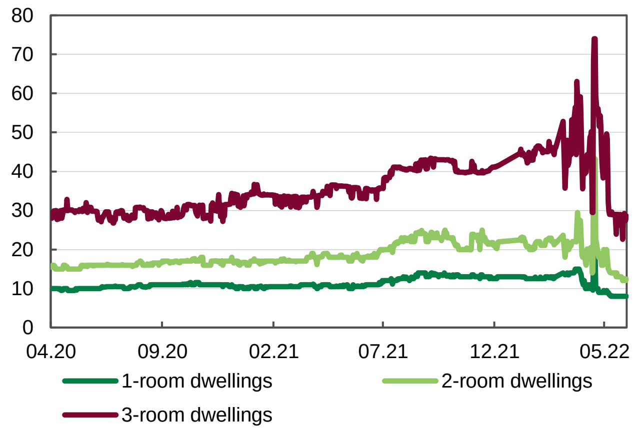
That said, most prices quoted on the primary and secondary markets in all likelihood reflect sellers' optimistic expectations. With very low demand and a meager number of deals, it is extremely difficult to calculate the actual cost per square meter. Those transactions that are entered into on the market might be concluded at a significant discount. The size of a discount depends on the seller's liquidity needs. Therefore, current prices do not reflect the state of the market, and the market is yet to achieve equilibrium.

Looking ahead, housing prices will be affected by both lower housing demand and supply. The lower demand will be due to lower income, emigration, and reduced mortgage lending. In western oblasts and in Kyiv, demand will recover faster due to internal displacement. The lower supply of housing will result from the construction business being less attractive to investors, and from the priority channeling of construction resources to rebuilding destroyed and damaged houses, using state funds. Higher construction costs will remain an important price driver.

Rents have fallen noticeably

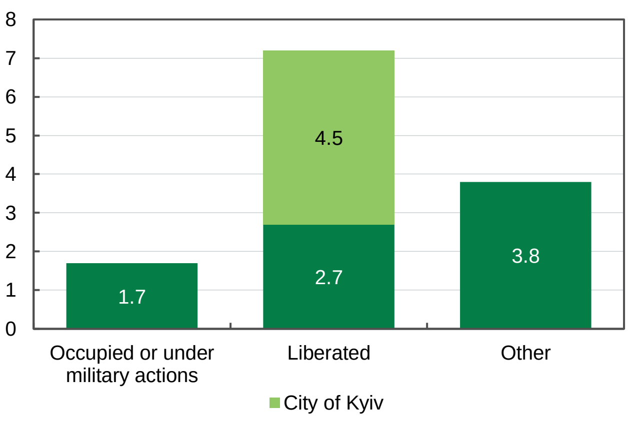
Unlike housing purchases, the rental market is adapting more quickly to current conditions, with its prices responding actively to changes in demand. According to the data on the number of visitors of Bird housing rental website, the demand for rented housing in Kyiv had by the end of May roughly halved compared to its pre-war level. Accordingly, rents had on average decreased by almost 40%. The fact that rents and real estate prices are moving in opposite directions and that the reasonably stable historical ratio between these prices has begun to change indicates that both markets are in a transitory state. The market has yet to the reach equilibrium price.

Figure 2.2.5. Housing rental rates in Kyiv, UAH thousands



Source: Bird.

Figure 2.2.6. Mortgages issued in 2020–2021, by the status of each oblast as of end-May 2022, UAH billions



Occupied or where hostilities are taking place: Donetsk, Zaporizhzhia, Luhansk, Mykolaiv, Kharkiv, and Kherson oblasts. Liberated: Kyiv, Sumy and Chernihiv oblasts, and the city of Kyiv.
Source: bank data.

The war in Ukraine poses a challenge to mortgage lending

According to the Kyiv School of Economics, from the start of the full-scale war until the end of May, 44 million square meters of housing was damaged, which is equivalent to losses of USD 39.4 billion. As a result, a significant share of the mortgage portfolio may turn into NPLs, due to the destruction of housing and people's worsening solvency. Mortgages issued in areas that are currently under occupation and where hostilities are taking place are at greatest risk. These mortgages make up 13% of the total amount of mortgages issued over the last two years. Borrowers with troubled loans with a damaged or destroyed collateral, will need mechanisms for restructuring and compensating for their losses to be able to rebuild their old housing or buy new ones. Losses that will be incurred on mortgage portfolios should not fall solely on the banks' shoulders. Rather, they should be taken into account when developing a mechanism for compensating Ukraine for its losses.

The commercial real estate market is fully driven by demand

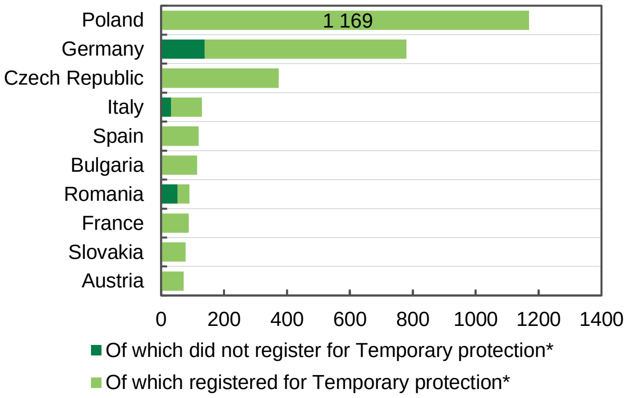
The state of the retail real estate market now directly depends on how safe and remote from the hostilities a region is. In western oblasts, most retail spaces had resumed operations by the end of May, the figure being close to 95% in Lviv. After the northern regions were de-occupied, Kyiv began to recover quickly – at present about 80% of the capital's retail space is operational. At the same time, the situation is much worse in those regions where the hostilities are taking place and in adjacent ones, due to the lack of demand, danger, and destruction. According to the Ukrainian Council of Shopping Centers, in the first three months of the war, 19 shopping malls were damaged in Ukraine, with losses amounting to over USD 300 million. The vacancy rate among operating facilities has increased moderately, due to multinational corporation lessees temporarily leaving the market for security reasons, russian businesses halting their operations, and demand decreasing in the entertainment segment. With weak demand, the market remains governed by lessees. Lessors and lessees have been able to agree on special payment terms: retailers are currently paying only a percentage of their turnover, without paying a fixed rate, which used to be mandatory in most cases. In future, the occupancy of shopping malls will depend on how quickly people return to the cities, and on consumer sentiment.

The office real estate market has been hit the most, with workplace attendance falling well below the COVID-19 level. Lessees quickly transferred their employees to working remotely, as remote work mechanisms had already been in place. Defying expectations, workplace attendance did not increase even in the large cities of Ukraine's western oblasts. However, these oblasts did not see such a dramatic decline in attendance compared to other regions. The owners of retail space are receiving about a third of their usual income under existing agreements. Lessees are more likely than not to stop renting retail spaces once the relevant agreements expire. The market is expected to see a protracted vacancy crisis and, consequently, a revenue crisis.

2.3. Households and Related Risks

The war has materialized the majority of the risks for households: security threats, mass migration, and partial or full loss of employment, and thus loss of income. A significant loss of labor resources reduces the potential for economic recovery. Demand for labor remains low, and employment is recovering very slowly. The real income of households has decreased, and their financial standing will continue to deteriorate. Lower consumption has reduced households' demand for loans. Due to a decline in income of some categories of households, their debt load will increase. The households hold their savings in the form of liquid assets. The attractiveness of FX funds has increased.

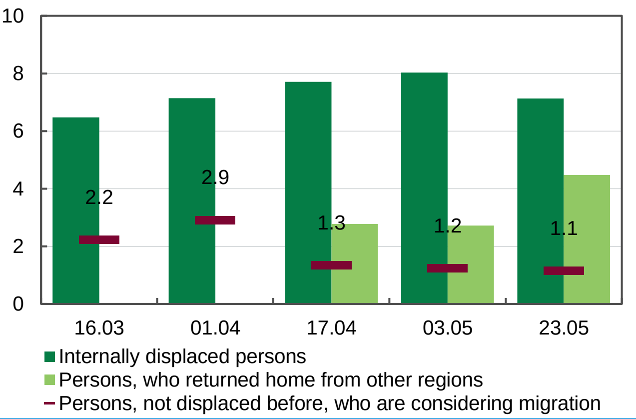
Figure 2.3.1. Number of displaced persons from Ukraine in countries that accepted the largest number of Ukrainians, as of 17 June 2022, thousand persons



* Temporary protection is a special procedure to provide shelter in the EU to individuals who migrate from non-EU countries and cannot return home for objective reasons.

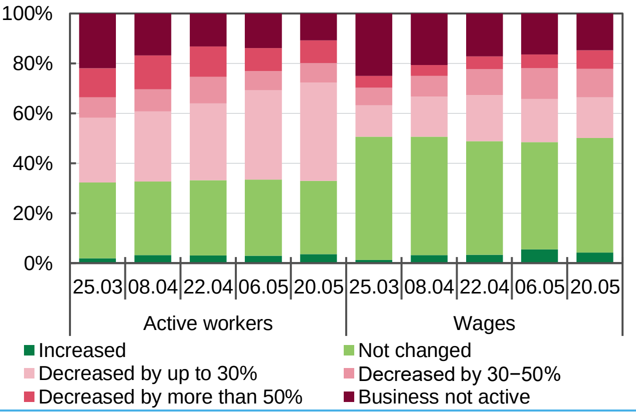
Source: the Office of the United Nations High Commissioner for Refugees.

Figure 2.3.2. Estimated number of internally displaced people in Ukraine in 2022, million persons



Source: International Organization for Migration.

Figure 2.3.3. Change in wages and number of active workers in companies compared to pre-war period



Source: NBU, business activity survey.

Households have suffered immense losses from the war

The full-scale war in Ukraine has led to the materialization of almost all household risks. Extreme security threats occurred, which forced a massive migration both inside Ukraine and abroad. Households lost their income, and some were also left without property. According to a survey conducted by Info Sapiens in May, households estimated their wealth had dropped by one third since the start of the war.

Massive migration will have a prolonged effect on the economy

According to the UN, outward migration exceeded inward migration by roughly five million persons over the period from the onset of the full-scale war to mid-June. The lion's share of displaced persons found shelter in the EU, of which around two thirds received temporary protection (a special procedure to obtain shelter in the EU over a long term). According to Gradus Research, a third of Ukrainians who are currently staying abroad do not plan to return home yet. Based on the estimates of the International Organization for Migration, more than seven million persons became internally displaced as of the end of May. At the same time, almost two million internally displaced persons returned to their homes in May. Although the population has been returning to Ukraine over the past few weeks, the number of labor resources lost, at least temporarily, is huge. The International Labor Organization estimates almost a half of working-age migrants abroad were previously employed, while two thirds have a university degree. Over the medium term, the loss of labor force will slow the pace of economic recovery and will have an adverse effect on demand for financial services.

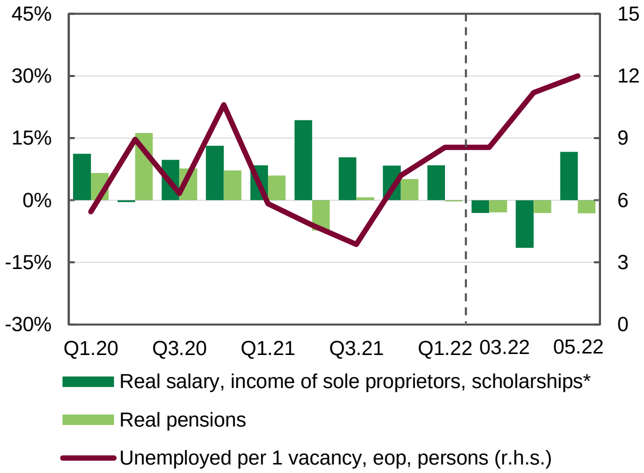
Unemployment rose despite a decline in the labor force

The war has forced companies to reduce their staff. As the NBU's flash surveys show, around 20% of companies ceased their operations in March, and nearly half of respondents were forced to cut their staff numbers. After the first shock of the war the situation has started to improve gradually – companies resumed their operations and employment increased little by little – albeit remaining much below the pre-war level. Demand for labor remains well below supply due to weaker business activity. According to job search websites, the number of vacancies remained less than half of the pre-war level, and the number of CVs increased markedly. According to the EBA, as of late April, only 3% of surveyed companies planned to continue raising their headcounts.

Real household income fell

In February, employers paid payroll in advance and provided other forms of compensation in order to help their workers

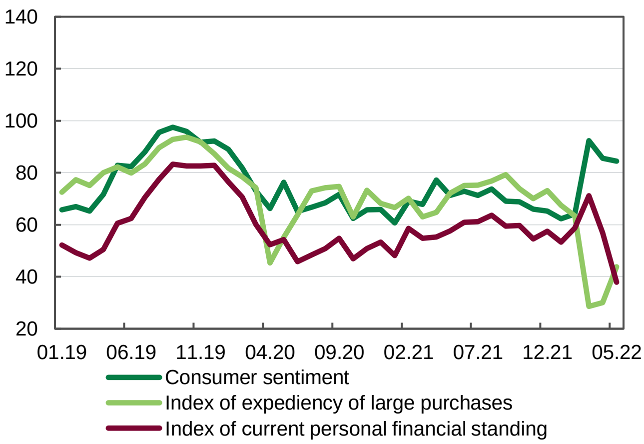
Figure 2.3.4. Change in real household income paid through banks, yoy



* Calculated on the basis of data on cash payments and cashless transfers of salaries, incomes of sole proprietors, and scholarships paid to bank accounts.

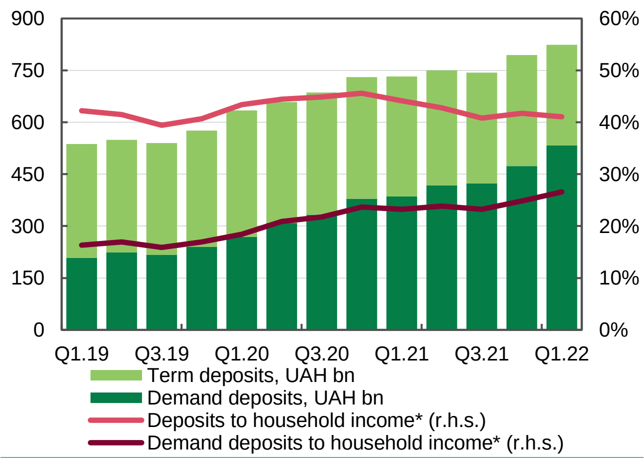
Source: NBU, Pension Fund of Ukraine, Cabinet of Ministers of Ukraine, State Employment Service of Ukraine.

Figure 2.3.5. Households' consumer confidence, points



Source: Info Sapiens, monthly surveys of households (age 16+).

Figure 2.3.6. Retail deposits



* Household income comprises paid wages, income of sole proprietors, scholarships, pensions, and benefits. Income data are calculated on the basis of data on cash payments and cashless transfers of salaries, incomes of sole proprietors, and scholarships paid to bank accounts.

Source: NBU.

survive distress. However, later earned income dropped. In May, remuneration of employees was more than a quarter less than the pre-war level, according to the NBU survey. At the same time, payments to military personnel increased severalfold and state paid out assistance to internally displaced persons and vulnerable social groups. This significantly mitigated the decrease in other components of income. However, the income of a number of population groups, mainly hired workers, were significantly affected. Their nominal income will recover slowly, while inflation is accelerating. Therefore, real income will further decline.

The debt burden will rise for some borrowers

Households limited their consumption, responding to the decline in their income and to uncertainty. The index of the feasibility of big purchases fell steeply in March, and remains much below the pre-war level. Demand for loans decreased on the back of weak consumer demand, in particular for expensive goods. Demand for mortgages is almost zero due to high uncertainty. At the same time, households are gradually repaying their old loans. Therefore, the ratio of loans to nominal income actually declined slightly. Furthermore, the loan repayment holidays offered by the banks eased borrowers' repayment schedules. However, as a result of the current crisis, a large share of households lost their jobs (and thus their income) and even property. Such borrowers will find it difficult to service their debts according to schedule.

Current accounts and cash are the main forms of savings for households

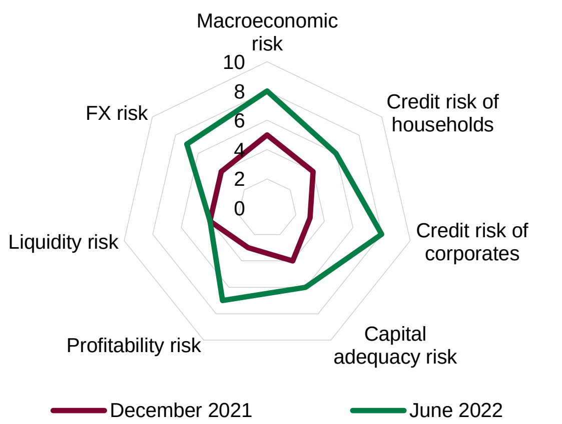
Liquid and mobile assets have the highest value during the emergency conditions of war. Funds held in accounts and cash are the most attractive forms of savings. A large share of funds credited to households' hryvnia accounts in spring remained in the banks. The ratio between bank account balances and household income was the same as before the war. The attractiveness of term deposits declined, as the majority of households wish to have unlimited access to their savings. Households that have large amounts of savings were actively purchasing war bonds. The number of investors[2] increased to almost 89,000 persons. For a long time, tight restrictions on the banks' FX sales prevented households from converting their bank savings into foreign currency. However, the growth in prices and the hryvnia depreciation enhances incentives to look for alternatives to hryvnia savings.

[2] Estimated on the basis of aggregated information of depository institutions, not taking into account that investors may hold securities of different issues at the same time.

Part 3. Banking Sector Conditions and Risks

3.1. Financial Sector Risk Map

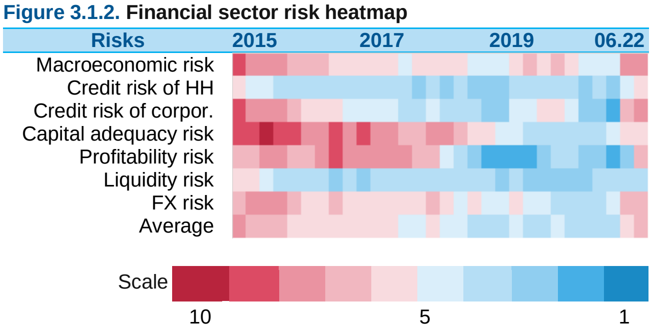
Figure 3.1.1. Financial Sector Risk Map*



* The NBU assesses risks on a scale from 1 to 10, with 1 being the lowest level of risk, and 10 the highest. The assessment reflects the outlook for the next 12 months. The methodology for building this risk map has been adjusted to factor in the data availability.

Source: NBU estimates.

Figure 3.1.2. Financial sector risk heatmap



Source: NBU estimates.

Description:

- Macroeconomic risk indicates the level of threats arising in the real economy or the fiscal area
- Credit risks of households and of corporates reflects expected changes in the share of non-performing loans in bank loan portfolios and the need for extra provisions for those loans
- Capital adequacy risk measures the ability of banks to maintain an adequate level of capital
- Profitability risk measures the ability of banks to generate net profit
- Liquidity risk is a measure of the ability of banks to meet their liabilities to depositors and creditors in full and on time
- FX risk is the risk that foreign exchange market trends will affect the resilience of banks.

Macroeconomic risk: increased

The full-scale war has led to a significant increase in macroeconomic risk due to the deep economic downturn, a record-high increase in the budget deficit, and rising pressures on the FX market.

Credit risk of households: rose

This risk has intensified due to falling household income and the resulting actual and expected rise in the share of past due loans. The banks have also worsened their expectations about the quality of their retail loan portfolios. That said, the moderate debt burden on households is limiting the risks.

Credit risk of corporates: surged

The credit risk of corporate borrowers is assessed as high due to a spike in expected credit losses. The banks have also significantly downgraded their expectations of the quality of their corporate loan portfolios.

Capital adequacy risk: increased

Capital risk has increased moderately, as capital has declined only slightly since the war broke out. Currently, capital adequacy ratios significantly exceed the minimum requirements. However, a significant increase in capital adequacy risk could be predicted for the next 12 months due to the materialization of credit risk.

Profitability risk: rose

This risk is currently assessed as high. The banking sector is incurring losses due to the banks' substantial loan loss provisioning. At the same time,, fee and commission income has decreased amid reduced demand for banking services and lower tariffs. Nevertheless, the banks' interest income grew, while the net interest margin remained unchanged.

Liquidity risk: unchanged

Liquidity risk remained moderate. Household deposits have risen and are stable. Although declining at the start of the full-scale war, corporate deposits returned to growth over time. The banks continue to have substantial stocks of high-quality liquid assets. That said, the banks expect liquidity risk to rise in future.

FX risk: increased

FX risk has increased noticeably due to significant imbalances on the FX market. These imbalances have led to a substantial worsening in depreciation expectations. At the same time, the temporary fixing of the exchange rate, the record-moderate dollarization rate of bank balance sheets, and the banks' almost balanced FX positions are limiting this risk.

Box 2. First Regulatory Response to War

On the onset of the full-scale russian invasion, the NBU launched sweeping measures to maintain financial sector stability. These are in part derived from experience from previous crisis episodes. The NBU's next actions will depend on current economic developments and the situation on the front lines.

In the earliest days of the russian invasion, the NBU deployed a wide range of measures to support financial institutions and borrowers. The regulator's rapid response drew on the experience of the COVID-19 crisis: many steps were similar to those taken in 2020. However, this time they were more decisive, in proportion to the scale of the threat. The most important steps to stabilize the financial sector are as follows:

- **Cross-border movement of capital is restricted, and the exchange rate is fixed.** FX purchases and cross-border payments were prohibited, except for critical imports. The official exchange rate of the hryvnia against the dollar remains fixed at the 24 February level, but restrictions on exchange rate setting in the cash market have been lifted.
- **Access to refinancing has been expanded.** Starting 24 February, one-year unsecured refinancing loans to cover up to 30% of retail deposits were made available to banks. As liquidity risks eased, the terms for taking out refinancing loans changed. Banks can now qualify for unsecured loans only if they face a retail deposits outflow of 5% or more and if they have no eligible government debt securities. Approaches to the valuation of domestic government debt securities as collateral against refinancing loans have also been revised: the securities are accepted at fair value without applying adjustment ratios, but not higher than their face value.
- **The NBU will not apply sanctions against banks for violating prudential standards**, open currency position limits, and deadlines for the filing of statistical reports if such violations have been due to russian aggression. After the war ends, banks will be given enough time to bring their activities into line with regulatory requirements.
- **Banks are forbidden to distribute capital, including by paying dividends.**
- **A blanket coverage has temporarily been introduced for retail deposits** (see Box 3)**.**
- **A number of new regulatory requirements have been postponed. Some other were suspended.** The NBU has delayed plans to activate capital buffers and increase risk weights for FX domestic government debt securities and the NSFR requirement to 100% as previously scheduled. The requirements for impaired assets management have been temporarily relaxed, and those for regular updates of recovery plans and the revaluation and verification of the availability and condition of collateral have been suspended.
- **Loan repayment holidays for borrowers have been regulated.** During martial law and 30 days after it is lifted, credit institutions are prohibited by law from charging penalties and fines or raising interest rates on loans. For its part, the NBU has eased its approaches to assessing credit risk on loans restructured because of the war (see Box 5).
- **Some operational requirements have been simplified.** Banks are allowed to use cloud services based in Europe, the United States, and Canada to prevent data destruction. A number of customer identification requirements have been eased. The limit for simplified remote verification procedures has been raised to UAH 400,000 per month from UAH 40,000. Onsite AML/CFT inspections have been suspended until martial law is lifted.

The measures taken at the beginning of the full-scale invasion quelled panic and helped Ukraine survive the earliest and most difficult weeks of the war. The NBU will continue to respond promptly to changes by adjusting its regulatory requirements as the situation develops.

Table 3. The NBU's bank-oriented measures in response to the COVID-19 pandemic and the full-scale war

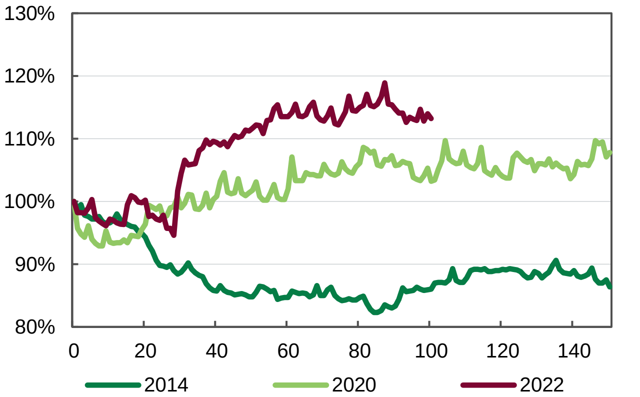
Measures	During the COVID-19 crisis (as of April 2020)	Under martial law (as of May 2022)
Monetary	Regular revisions (cuts) of the key policy rate Long-term refinancing loans were introduced Interest rate swaps with banks were introduced Municipal and publicly guaranteed bonds were included in the list of eligible collateral for refinancing loans	Key policy rate revisions were suspended (until June) One-year unsecured refinancing loans were launched Adjustment ratios for domestic government debt securities pledged as collateral for refinancing loans were abolished
Regulatory and operational	The NBU recommended not to pay dividends Bank resilience assessments, including stress tests, were canceled The introduction of capital buffers was postponed The filing of financial statements was delayed The revaluation and verification of collateral were postponed Regular updates of recovery plans were suspended NBU SEP fees were temporarily waived	Banks were exempt from corrective actions for violating capital adequacy and liquidity ratios and other requirements Dividend payouts were forbidden Bank resilience assessments, including stress tests, were canceled The introduction of capital buffers was postponed The NSFR increase to 100% (currently 90%) was postponed The submission of financial reports and some statistical reports was postponed The revaluation and verification of collateral were postponed Regular updates of recovery plans were suspended Fees for NBU BankID services were temporarily canceled The use of cloud services by banks was allowed Simplified verification was temporarily expanded, onsite AML/CFT inspections were suspended
FX		The exchange rate was fixed FX purchases and cross-border FX transactions were restricted. Withdrawals from FX accounts were restricted The option to exchange cash hryvnias abroad was offered
Customer-oriented	Loan repayment holidays and loan restructuring were promoted	Fines, penalties, and loan rate increases were forbidden. Loan restructurings were promoted The interchange fee for PROSTIR NPS services was cancelled for two months, then lowered below pre-war level.

Highlighted in blue are similar or identical measures taken during the COVID-19 crisis and martial law.

3.2. Liquidity and Funding Risks

Liquidity risk has not materialized during the war: total bank funding grew as retail current accounts in hryvnias increased. Therefore, the NBU rather quickly eased the restrictions it imposed at the start of the war. Retail deposits were stable and their rates even declined. On the other hand, corporate deposits at first decreased, but then started to grow from early April as some companies resumed their operations. Banks comply with required liquidity ratios by a comfortable margin. There was therefore no need to ease these regulatory requirements. The higher key policy rate will require the banks to continue raising their deposit rates. This will maintain the attractiveness of hryvnia deposits and ensure the stability of the hryvnia funding base under conditions of great uncertainty.

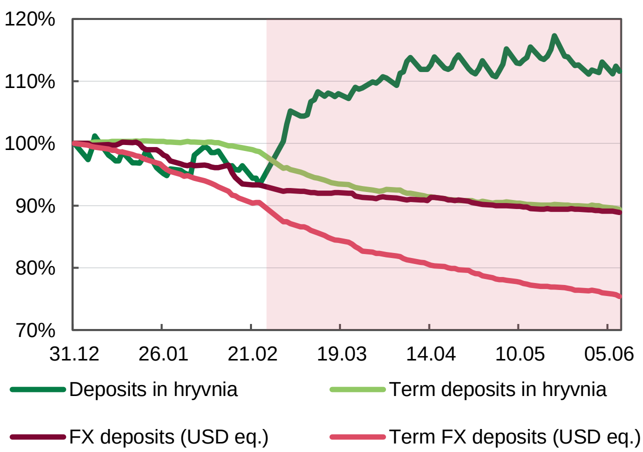
Figure 3.2.1. Hryvnia retail deposits, last day before the outflow = 100%*



* The number of working days is shown on the X axis. 0 (starting point) is the last day before the outflow of funds: 23 January in 2014, 10 March in 2020, and 17 January in 2022.

Source: NBU, daily data.

Figure 3.2.2. Retail deposits, 31 Dec. 2021 = 100%



Source: NBU, daily data.

Deposit outflow risks rose from the start of the year

From the start of the year, depositors' behavior signaled a likely increase in liquidity risks in the event of a full-scale war. The negative information environment, filled with news about the expected attack, led to a gradual outflow of hryvnia deposits from banks. The NBU thus took a number of decisions to support the system as active hostilities began. The central bank:

- set loose limits for withdrawing hryvnia retail deposits (UAH 100,000 per day within Ukraine; cash withdrawals abroad were later limited to UAH 50,000 per month)
- first banned the withdrawal of FX deposits, and then gradually raised the limit to the equivalent of UAH 100,000 per day
- introduced unsecured refinancing for covering potential retail deposit outflows; the refinancing limit was set at 30% of pre-war volumes of retail deposits.

The parliament also initiated and implemented a 100% public guarantee of bank retail deposits for the period of martial law (read more in Box 3).

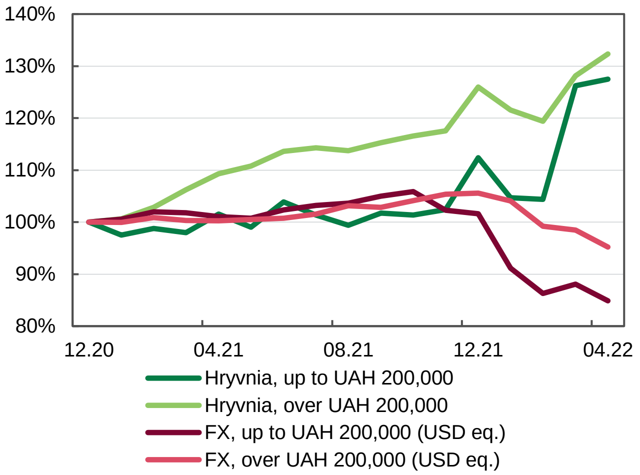
Liquidity risk did not materialize, and households retained their trust in the banks

The risks of a large deposit run did not materialize as the full-scale invasion started. On the contrary, bank funding grew, primarily thanks to inflows of hryvnia retail deposits. Employers paid out large amounts of wages in advance. Pensions and social benefits from the state were an additional source of funds on bank accounts. Over the last 10 days of February and the whole of March, hryvnia retail deposits with the banks grew by around 20%.

In the first weeks of the full-scale war, replenishing ATMs with cash was difficult in some regions. Bank branches could hardly work in those locations where the risk of occupation was the highest. On the other hand, the online payment system worked flawlessly. In addition, the initiative of large store chains to disburse cash from clients' cards widened households' access to cash and reduced cash collection costs. All these factors helped support trust in the banks and minimized threats to the banking system's liquidity.

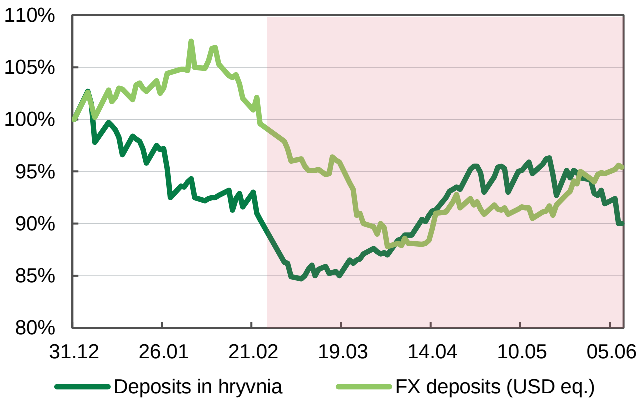
The growth in hryvnia retail deposits slowed in April–May. Retail deposits are unlikely to grow rapidly further on due to the decline in incomes. A survey of banks show that they also expect retail deposits to be little changed in the near future. FX retail deposits were at first almost unchanged, and then started to decrease slightly as withdrawal restrictions were eased.

Figure 3.2.3. Change in retail deposits by deposit amount, 31 Dec. 2020 = 100%



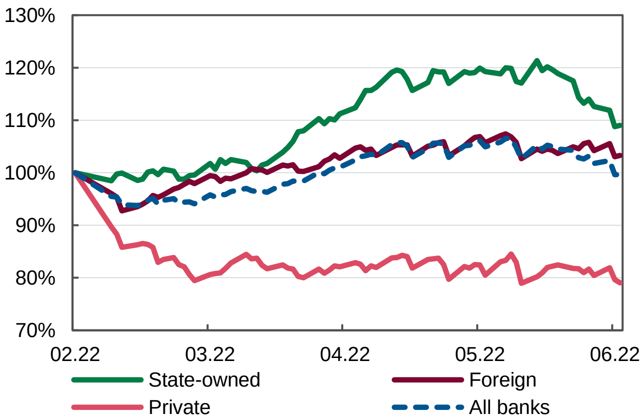
Source: DGF, NBU estimates, Oschadbank was excluded.

Figure 3.2.4. Corporate deposits, 31 Dec. 2021 = 100%



Source: NBU.

Figure 3.2.5. Hryvnia corporate deposits by groups of banks, 23 Dec. 2022 = 100%



Source: NBU.

The structure of retail deposits changed

The share of smaller deposits has been growing since the onset of the full-scale war. Hryvnia deposits of UAH 10,000–200,000 increased by 21.8% in March–April, while larger deposits grew by only 10.8%. This trend differs from the pre-war situation when larger deposits were growing faster. The share of current accounts is also on the rise. Households want to have full access to their money during the war. Demand for term deposits thus fell as expected, and is likely to be low in the near future. The share of demand deposits in total retail deposits in all currencies increased from 56.1% in January to 64.7% as of the end of May.

Changes in corporate deposits correlate with the level of economic activity

Corporate deposits declined over the first several weeks after the full-scale invasion. Outflows were caused by wage and tax payments and a large decreases in revenues. This trend was the same for both hryvnia and FX deposits. The fall in hryvnia deposits had already reversed by mid-March. The gradual economic recovery led to the accumulation of hryvnia funds on companies' accounts. FX deposits rose as well, although their growth was much slower. Considering the continued revival of economic activity, corporate deposits will continue to increase.

The banking sector is a safe haven during times of crisis

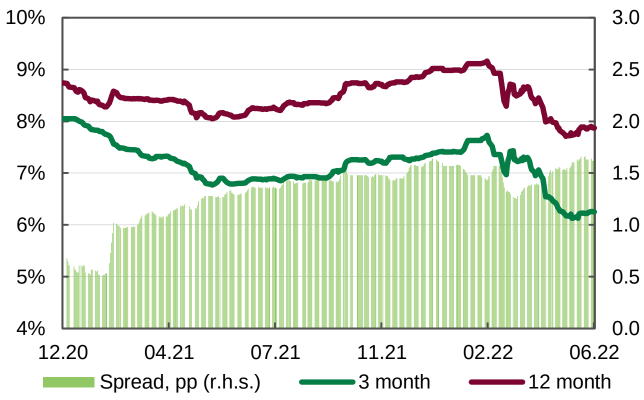
One of potential effects of the crisis often seen in the past is client deposits moving to banks that are considered more reliable. This time, there was no significant redistribution of retail deposits between groups of banks. Retail deposits grew across all groups of banks. Growth was the fastest at the financial institutions that offer salary projects and social benefit accounts. On the other hand, corporations paid more attention to their own assessments of the banks' resilience. Deposits increased with the financial institutions that are traditionally viewed as more resilient: state-owned and foreign banks. On the other hand, corporate deposits decreased at private banks. In some of them, they fell by 50% over the first two months of the full-scale invasion. However, these outflows ceased as the economy started to recover gradually.

Deposit rates will continue to grow

As during the coronavirus crisis, in the time of the full-scale war rates on retail deposits have declined, reaching new all-time lows. At first, the banks significantly reduced their rates on demand deposits, and later on term deposits, as they did not feel liquidity pressure. This proves households' trust in the banks. However, accelerated inflation raises risks that clients will withdraw their deposits – especially term deposits. The NBU hiking its key policy rate to 25% in June signals that deposit rates should continue to be raised gradually. Banks should at least partially compensate for the depreciation of clients' funds, driven by price growth and depreciation on the cash market. However, the total cost of funding will grow in proportion to the share of term deposits.

Unlike retail deposit rates, the rates on corporate deposits have grown since the start of the full-scale war. As

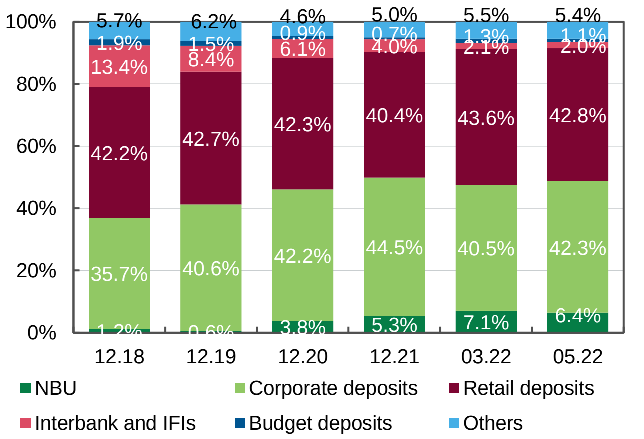
Figure 3.2.6. Retail Deposit Rates*



* Five-day moving average.

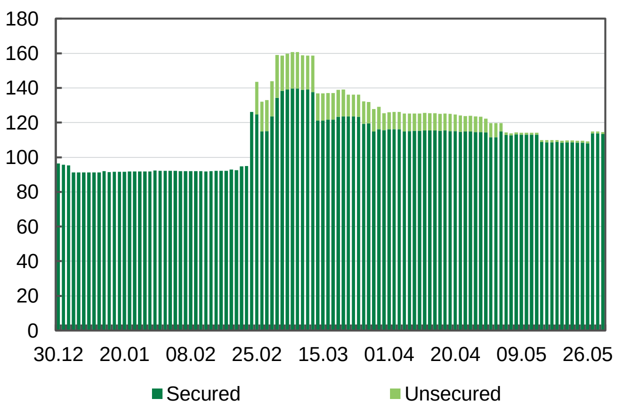
Source: Ukrainian Index of Hryvnia Retail Deposit Rates, NBU, based on Thomson Reuters data.

Figure 3.2.7. Components of bank liabilities



Source: NBU.

Figure 3.2.8. Outstanding refinancing loans from NBU in 2022, UAH billions



Source: NBU.

businesses' account balances decreased and they looked for more reliable banks, the financial institutions had to use both price and nonprice incentives to retain their clients. Bank managers surveyed by the NBU expect further growth in the cost of corporate deposits.

As during the coronavirus crisis, the NBU's assistance was not required

The banks showed limited demand for the unsecured refinancing offered by the NBU. Expecting cash outflows, the banks promptly took out around UAH 25 billion in such loans. However, the financial institutions had already started to repay them within two weeks. Banks with retail or mixed funding were the first to do so, followed by banks that mostly fund themselves with corporate deposits. The repayment of refinancing loans was motivated by an increase in client deposits and by the cost of deposits being much lower compared to those of refinancing loans. Almost all loans were repaid at the end of May. The share of NBU loans in liabilities decreased to 6.4% as of the end of May. The NBU limited access to refinancing due to weak demand and an absence of need. This instrument remains available only in the case of a large deposit outflow.

Liquidity risk remains moderate

In June, the banks' available liquidity was at a decade-high as funds flowed into the banking system, but their allocation was limited. The banks' holdings of certificates of deposit remained mostly at around 8% of assets, while high-quality liquid assets totaled around 38% of assets as of the end of May. The system's liquidity coverage ratio (LCR) was almost twice the required value, as it was until the start of the active stage of the war. FX liquidity declined somewhat, due to a decrease in FX balances in banks. However, the sector's foreign-currency LCR was greatly above the required ratio.

Despite a pronounced deterioration in the term structure of deposits, the majority of banks met the Net Stable Funding Ratio (NSFR) by a comfortable margin, with the requirement being 90%. The current level of liquidity thus poses no concerns for the banking sector.

Banks did not rely on borrowing from external markets

On the eve of the attack, the banks' external debt was small, at 4% of liabilities, of which the larger share came from international financial institutions. Therefore, the practical closing of international markets for Ukraine and the deterioration in sovereign credit ratings had virtually no effect on financial institutions' resilience. The banks were allowed to continue servicing their loans.

Box 3. The Guaranteed Amount of Household Deposits Has Been Increased, as Has the DGF's Resilience

Recent amendments to the Law of Ukraine On the Household Deposit Guarantee System have addressed the issue of the DGF's solvency, making it possible to increase the guaranteed amount of retail deposits. In addition, full coverage of retail deposits has been instituted for the duration of martial law and three months thereafter. This will increase the confidence of bank depositors.

On 13 April, amendments to the Law of Ukraine *On the Household Deposit Guarantee System* (hereinafter the Law) took effect. The key amendments are as follows:

- An increase in the guaranteed amount of deposits to UAH 600,000
- A temporary full guarantee of retail deposits for the duration of martial law and three months thereafter
- The inclusion of Oschadbank in the deposit guarantee system
- The DGF's solvency problem has been resolved
- A target level for the DGF's capital was set.

There has been a longtime debate about updating the threshold for the guaranteed amount of deposits. The last coverage increase was a decade ago. The threefold increase in the guaranteed amount of deposits, to UAH 600,000 from UAH 200,000, makes it equivalent in real terms to the level of ten years ago. The new coverage is in line with international principles for a deposit guarantee system design: it covers the vast majority of deposits up to a certain point[3]. After this change, the ratio between this reimbursable amount and the whole volume of retail deposits in the banks will increase to 74%, from 59%. This decision will encourage households to hold their savings in banks.

Under martial law and for three months after it ends, the full amount of retail deposits, including those of sole proprietors, will be guaranteed in Ukraine. This creates additional security for bank depositors in emergencies and meets global best practices. As an emergency measure, some countries have been known to declare a temporary blanket guarantee for not only retail deposits, but also corporate and interbank deposits and certain bonds. Sweden did this in 1992, Mexico in 1993, Turkey in 1994 and 2000, and Indonesia, South Korea, Malaysia, Thailand, and Peru did so during the financial crunch of 1997–1999. A wide range of countries, including Australia, Denmark, Slovakia, Germany, Iceland, Malaysia, and Mongolia, announced blanket coverages during the financial crisis of 2007–2008. After the crisis ended, this emergency response was phased out, and guarantees were rolled back to a balanced level.

In addition, the Law stipulates that Oschadbank should join the deposit guarantee system. Up until now, Oschadbank has been the only bank to have its retail deposits covered by a full direct public guarantee. While martial law is in effect, the whole volume of the bank's retail deposits will be guaranteed by the DGF, but after martial law is lifted, the DGF's guarantee will cover only up to UAH 600,000 per person. Bringing Oschadbank under the common guarantee system has a number of advantages. Such an inclusion:

- Complies with the global principle of the participation of all banks in a deposit guarantee system
- Eliminates the bank's nonmarket competitive advantages over other market players
- Promotes more effective management of the bank to attract depositors in a competitive environment
- Enables the further privatization of the bank in accordance with the Reform Strategy for State-Owned Banks.

The law has finally addressed the DGF's solvency problem. It dates back to the crisis of 2014–2017, which left the DGF making payments to depositors of 96 failed banks. As the DGF ran out of assets, the NBU and the Ministry of Finance granted it almost UAH 80 billion in loans. The DGF's capital went into negative territory. The DGF started making repayments on this debt as it received contributions from solvent banks and proceeds from selling the property of bankrupt financial institutions. As of 1 April 2022, the DGF's debt to the NBU was repaid in full. However, it still owed the Ministry of Finance more than UAH 65 billion. This debt was almost 24 times the level of the annual contributions the DGF received from its member banks in 2021. The DGF's revenues were therefore insufficient to service this debt.

The Law stipulates the gradual repayment of the principal amount of the debt out of the DGF funds. The interest on this debt will be paid from whatever proceeds come from the sale of assets of insolvent banks or from the recovery of what is owed by their former owners and related parties whose activities have rendered these institutions insolvent. The state has thus partially shifted the burden of the banking crisis away from the deposit guarantee system, allowing it to gradually scale up its resilience for future payments.

Going forward, in order to maintain the required level of security for the deposit guarantee system, the DGF will set a target ratio of own capital and reserves for expected payments to insolvent banks' depositors to the guaranteed amount of deposits. The level of the target ratio will be based on the sum of estimated expected and unexpected payments in a stress scenario, and must be at least 2.5%. Efforts to maintain the target level of own funds and accumulated reserves will ensure the stability of the guarantee system and promote financial stability. The DGF will not make debt repayments if it falls short of meeting the target ratio.

[3] Principle 9 of the Core Principles for Effective Deposit Insurance Systems approved by the Basel Committee on Banking Supervision (BCBS) and the International Association of Deposit Insurers (IADI). It recommends that 90%–95% of deposits be covered. Approaches differ with regard to the share of the total value that needs to be covered. For Europe it is about 60%.

Box 4. Assessment of Operating Losses of Banks due to War

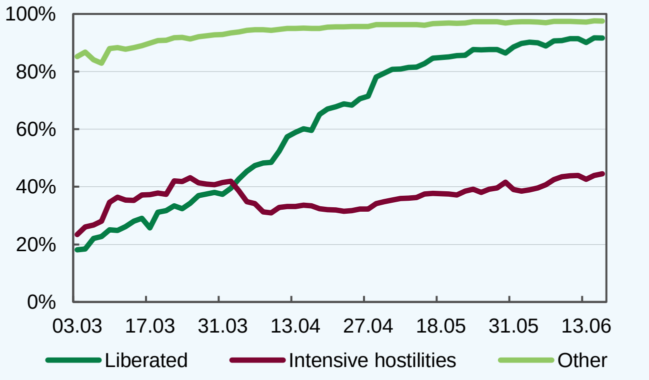
The banks have withstood challenges that the first months of the full-scale war posed to their operating activities: branches are reopening, critical processes are being maintained, and data are retained. However, the total loss from operational risk events related to the full-scale war is already estimated at UAH 6.6 billion. This amount could grow further on.

The full-scale war can lead to the materialization of a wide range of operational risk (OR) events: disruption of processes, damage and destruction of assets, malfunction of systems, and so on. In June, the NBU surveyed all 68 solvent banks about their operating activities during the war and losses from OR events.

As of early May, 51 banks recognized losses from the war in their databases of OR events. These losses totaled UAH 6.6 billion[4], which was more than triple of the losses caused by hostilities and the crisis of 2014–2015, and more than ten times above the losses incurred in the first year of the COVID-19 pandemic[5]. The losses of one large bank account for a large share of this amount. Overall, the banks use different approaches to recognizing OR losses. Some of the financial institutions take into account not only damages from the loss of assets, but also excessive expenses or profits lost due to changes in operating conditions. In reality, losses may be much higher as a result of continued hostilities and the lasting adverse effect of operational risk events.

From day one, the banks were forced to wind down operations of their branches in the territories where the safety of their staff was under threat. At the start of March, only 21% of branches of systemically important banks were operating in the combat areas or adjacent territories, with 60% operating across Ukraine. By mid-June, 85% of branches were open in Ukraine thanks to the de-occupation of the northern oblasts.

Figure B.4.1. Proportion of working branches of systematically important banks by regions

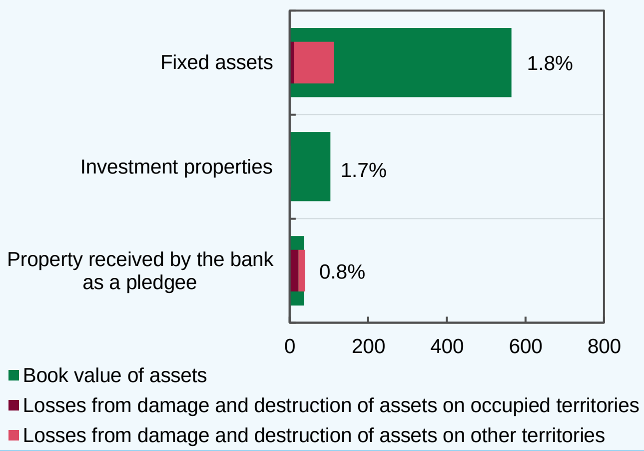


Regions were qualified into three groups: "Liberated" – Kyiv city and Kyiv, Sumy, and Chernihiv oblasts; "Intensive hostilities" – Donetsk, Luhansk, Kharkiv, Zaporizhzhia, Mykolaiv, Kherson oblasts, and others.

Source: NBU, a survey of systemically important banks.

Hundreds of branches, investment property, and other property owned by the banks remained in territories affected by war. As of the beginning of May, the residual value of banks' property in these territories exceeded UAH 700 million. Banks have already recognized UAH 154 million in losses, of which UAH 33 million is in combat areas or occupied territories. The financial institutions have no information about the destruction or loss of the rest of the property due to limited access, so they are in no hurry to write it off. However, the risk of the potential loss of this property is extremely high. It will only be possible to make a final assessment of losses once the war is over.

Figure B.4.2. Banks' real estate in war-affected territories* as of 1 May 2022 and losses from lost assets for February–April, UAH millions



* War-affected territories are located in combat areas or are temporarily occupied as classified by banks.
Percentages refer to the share of real estate located in the respective territories in the total value of real estate on the banks' balance sheets.

Source: NBU, Survey of bank operations in wartime.

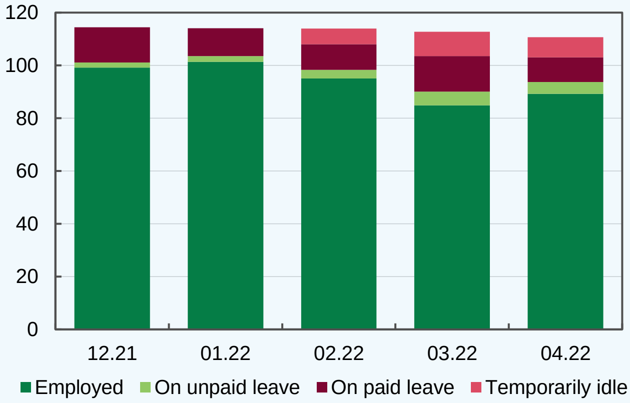
Another category of expenses is cash the banks kept in the territories affected by hostilities or in occupied territories. By the start of May, the amount of banknotes lost due to robbery or seizure of branches was UAH 470 million, which was only 0.6% of all cash held by banks the day before the invasion. This cash was almost evenly distributed between hryvnias and foreign currencies. Banks destroyed and transported in order to exchange at the NBU hryvnia banknotes worth another UAH 60 million.

From the start of the full-scale war until May, the banks cut their staff by 3%. Another 11% of employees were on unpaid leave or were idle. In part, these changes are explained by a decrease in the number of operating branches. Some employees moved abroad or were mobilized into the Armed Forces of Ukraine. However, the level of dismissals in the banking sector is much lower than in the economy overall[6]. At the same time, the banks' labor costs have increased. In the first days of war, the financial institutions paid salaries to their employees in advance and financed the evacuation and

[4] Some loss components are not reflected in the profit and loss statement, in particular lost profits.
[5] Financial Stability Report, December 2020. [Box 2. Operational Risk Losses Caused by COVID-19 Pandemic](#).
[6] According to the study by Gradus Research Company [Diagnosing the State of Ukrainian Business during the Full-Scale War between Russia and Ukraine](#).

organization of new working places for the internally displaced. Some banks even raised salaries.

Figure B.4.3. Banks' staff numbers, thousand persons

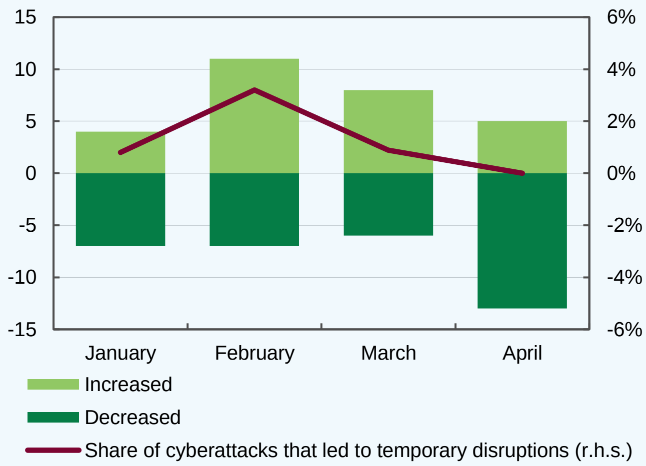


Source: NBU, Survey of bank operations in wartime.

The banks managed to maintain the uninterrupted operation of their information systems as internet connections were not lost in the country, and they switched to remote working quickly. They also withstood cyberattacks, which intensified on the eve of the invasion. The largest of these attacks, which was a DDoS attack, took place on 15 February. As a result of this cyberattack, several large banks faced problems with their websites and internet banking systems. Afterwards, the damage caused by the cyberattacks decreased thanks to cybersecurity systems.

The issue of saving information in case of the damage or loss of access to data centers required special attention. Before the invasion, only a small share of banks had backup data warehouses that were far enough from their main one. The majority of banks had them all in one locality. Creating new data centers without respective equipment is almost impossible, while moving existing ones could lead to equipment damage or loss. The NBU also allowed banks to process personal data and client transactions using cloud services with equipment located abroad. As many as 46 banks used the option to relocate or duplicate data to a cloud resource abroad, with half of these banks planning to use this option on a permanent basis.

Figure B.4.4. Distribution of banks depending on the change in the number of cyberattacks in 2022 compared to December 2021



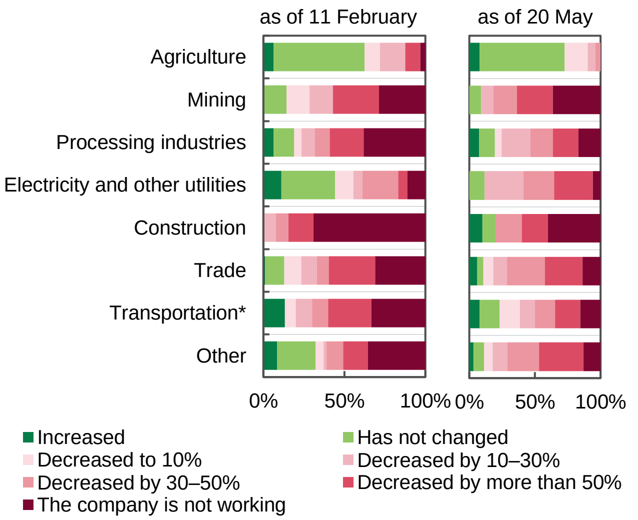
During the period, 25 banks experienced cyberattacks.
Source: NBU, Survey of bank operations in wartime.

The banks have been successful in overcoming the first wartime challenges: they continued to operate and provide high-quality services where possible. The system of electronic payments and transfers has been working without interruption. This maintains clients' trust in the financial institutions and reduces liquidity risks. However, the banks' losses – of which there are as of yet only preliminary estimates – will affect the banks' profitability and capital. Losses could grow due to the prolonged effect of the materialization of certain operational risks. The banks have the capital buffers necessary to absorb these losses – from 1 January 2022, the banks have been maintaining capital to cover OR. The capital requirement to cover operational risks will remain in place, as envisaged by international standards.

3.3. The Real Sector and the Quality of the Corporate Loan Portfolio

Following a slump, real sector companies are gradually resuming operations as they adapt to working under conditions of the war and uncertainty. Logistical problems and the loss of markets are the main obstacles to their recovery. Credit demand remains low, while lending standards have tightened. Under such conditions, lending is being driven by government support programs, which the government should continue to fund. The banks are reluctant to recognize their expected credit losses, which could be very significant. Timely restructurings could decrease the negative impact of the crisis on loan portfolios.

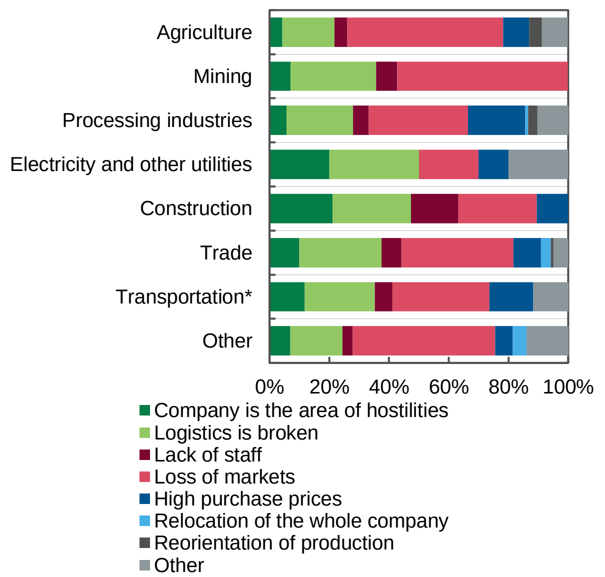
Figure 3.3.1. Production capacity load compared to pre-war one by sectors, % of responses



* Includes transportation, warehousing, postal and courier activities, telecommunications.

Source: NBU surveys.

Figure 3.3.2. Reasons for a decrease in the capacity utilization rate, % of responses as of 20 May 2022



* Includes transportation, warehousing, postal and courier services, telecommunications.

Source: NBU surveys.

The real sector is slowly recovering from the war shock

Russia's invasion of Ukraine was a shock for businesses. NBU surveys show that by mid-March, more than half of the country's companies had either halted operations or more than halved production. After the northern regions were de-occupied and the hostilities were localized in eastern and southern oblasts, the economy started to gradually adapt to the new working conditions. In late May, the share of companies that had completely stopped operations was 14%, with the share of those that had more than halved production totaling 22%. Almost a quarter of companies, which are mostly located in western Ukraine, are operating at their pre-war capacity. According to a survey of enterprises, the capacity utilization rate decreased by 40% compared to the pre-war level.

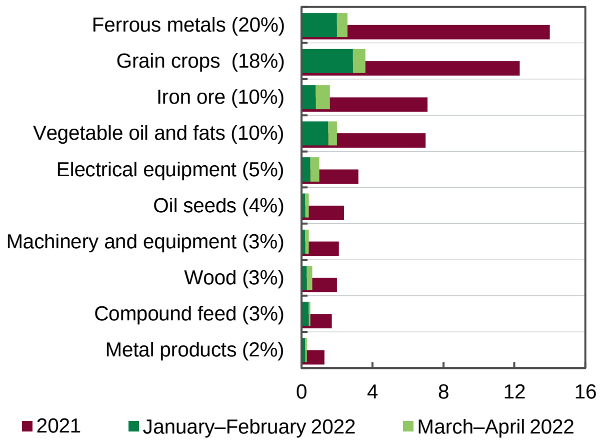
At present, the main reasons for companies' weak economic activity include logistical problems and the loss of markets. Domestic demand has declined significantly and will remain subdued due to a fall in real household income. Access to foreign markets is limited. Before the war broke out, more than 62% of all exports and 98% of all grain exports were transported by sea. The blocking of Ukraine's ports and the limited capacity of the country's railways have led to a logistical collapse and broken production chains. Logistical difficulties are forcing Ukrainian exporters to reduce production. Addressing logistical problems is made difficult by fuel shortages and rising fuel prices. The high prices for gas, oil and petroleum products are putting pressure on all sectors of the economy.

Production recovery requires a cessation of hostilities, the withdrawal of Russian troops from Ukraine, and investment in reconstruction. The state and IFIs should already be putting in place mechanisms to compensate the most war-affected companies, especially capital-intensive ones. Without strong incentives and additional security guarantees, investment is unlikely to recover even in a few years.

The sectors with facilities located in the war-affected areas were hit the most

The close proximity of the largest industrial centers to the frontline threatens the operation of many businesses. The war has already affected the largest metallurgical plants and oil refining infrastructure, while also damaging mechanical engineering and chemical plants. Metallurgical capacity has shrunk by about a third because of destruction and occupation, with some metallurgical products not being exported at all. The output of the mining industry and oil refining has probably contracted the most. Coal shortages caused primarily by logistical difficulties are making it difficult for thermal power plants to operate (these plants generate

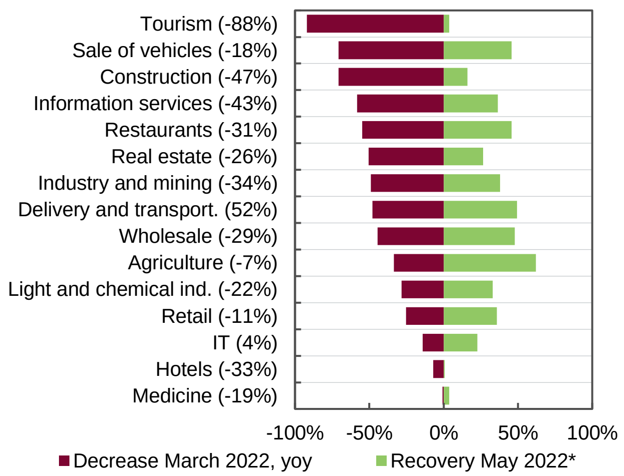
Figure 3.3.3. Exports by industry, USD billions



The brackets indicate the share in exports in sales of 2021.

Source: State Customs Service of Ukraine, NBU estimates.

Figure 3.3.4. Change in the volume of outgoing payments of PrivatBank corporate clients



* Calculated as the difference between the growth rates of May and March yoy. The brackets indicate the change in the number of outgoing payments of companies in May 2022. The bank's corporate client base includes more than 1.2 mln corporates.

Source: PrivatBank, NBU estimates.

about 30% of all electric power in Ukraine). Some chemical companies have either suspended or ceased operations, practically halting the production of fertilizers. In view of the physical destruction of facilities, affected industries need significant investment to recover.

Agriculture, trade, and the food and light industries are recovering the most rapidly

Farmers conducted a spring sowing campaign. The sowing of spring grains and legumes was completed on 82% of the areas that were sown last year. Producers are adapting their crop structure to the current conditions by focusing on high-margin crops and on those for which exports require less shipment capacity. That said, the harvest is expected to almost halve. With grain elevators being filled to overflowing, Ukraine's capacity to store newly harvested crops is threatened. What is more, 22% of grain elevator capacity has been lost, due to the elevators being close to the areas of the hostilities, or under occupation. Oil refineries are at high risk of not being able to resume operations, as their main facilities are located near the ports on the frontlines.

Services, trade, shopping malls and restaurants are sensitive to demand in respective regions. Stronger demand in the hospitality industry in western oblasts partially offset the decline in other areas. Some light and food industry companies are actively ramping up production, thanks to an increase in government orders to supply the army. Some manufacturing companies that produce highly processed goods have maintained the pre-war export volumes. The IT industry remains one of the few to have increased its work volume, and has proved to be the most resilient to the crisis.

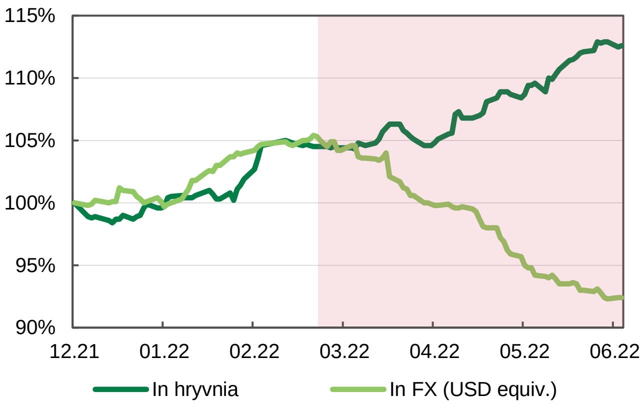
The banks are supporting the economy during the war

The decline in business activity since the start of the full-scale war has decreased businesses' demand for loans, as banks reported in the Q2 2022 Lending Survey. At the same time, deteriorating macroeconomic expectations have significantly reduced the risk appetite of the banks. In light of this, financial institutions have tightened their lending standards for businesses. As a result, the loan portfolio has almost stopped growing: FX loans shrank, while hryvnia loans grew many times slower than last year.

Since the beginning of the full-scale war, the net hryvnia corporate loan portfolio has risen by 8%. Critical infrastructure, defense industry and agricultural companies (the latter borrowed for the sowing campaign) had the most need for new loans. To meet the demand from agricultural companies, the banks relied a lot on government support programs, which were specifically tailored to include agricultural companies.

The terms of the Affordable Loans 5-7-9% program were improved. As a result in March–May UAH 33 billion was issued in loans, mostly to agricultural producers. In spring, the government guaranteed loans worth UAH 24 billion to support the sowing campaign. The banks often combined these two programs to offer borrowers reasonable interest rates, and to reduce their own credit risk. Lending under

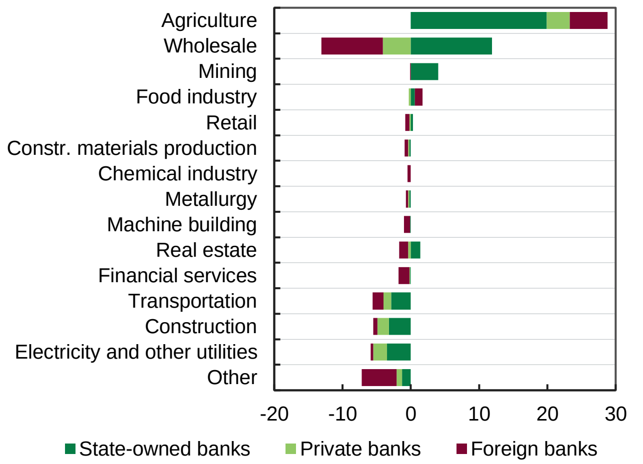
Figure 3.3.5. Net corporate loans, December 2021 = 100%



Issued by banks that were solvent as of 10 June 2022.

Source: NBU (based on the banks' daily balances).

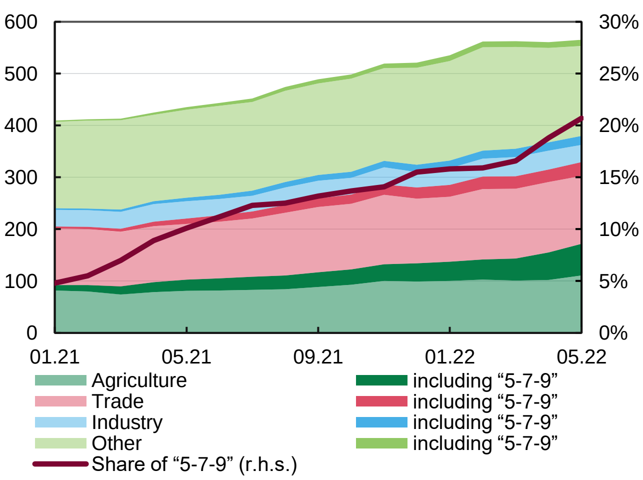
Figure 3.3.6. Change in performing corporate loans by industry from 1 March 2022 to 1 June 2022, UAH billions



Issued by banks that were solvent as of 10 June 2022.

Source: NBU.

Figure 3.3.7. Performing loans of corporate borrowers and loans under the State program "Affordable loans 5-7-9%" by economic sectors, UAH billions



Issued by banks that were solvent as of 10 June 2022.

Source: NBU, Entrepreneurship Development Fund.

government programs generated more than half of the growth in the hryvnia loan portfolio. The state-owned banks were the most active in expanding their loan portfolios through government programs. These banks also financed critical infrastructure companies, including state-owned corporations. Since martial law was declared, the debt of state-owned companies to the banks has increased by 27% on the back of increased support for defense and energy companies. That said, the share of loans to state-owned companies remains insignificant, accounting for only 10% of the performing loan portfolio.

Government support is needed to sustain lending

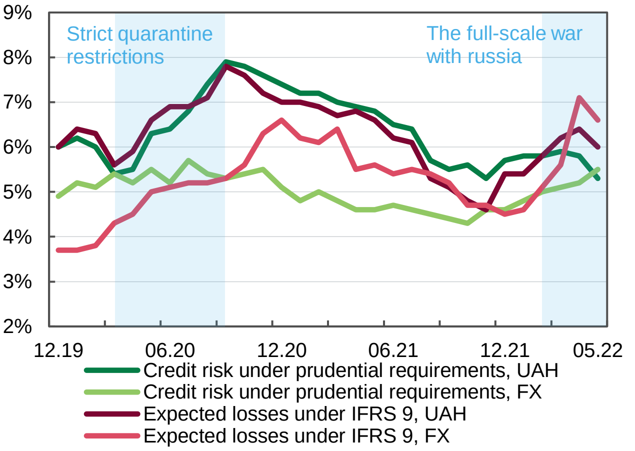
Demand for loans will remain moderate due to production remaining low and great uncertainty. According to the banks, companies will have an increasing need to restructure the loans they took out before the war. Financial institutions will also focus on restructuring, as they have temporarily lost their appetite for new lending. To support businesses, the banks should use the refinancing opportunities offered by the Affordable Loans 5-7-9% program. The relaxed terms and conditions of the program reduce credit risk. Before the war, the share of defaults in this portfolio was twice as low than in other portfolios – only 1.7% of the debt amount. In April–May, the banks issued a record-large number of loans under the Affordable Loans 5-7-9% program. Due to the growth in this portfolio, the government has already quadrupled funding for the program.

The banks are sustaining significant credit risk losses

The banks entered the current crisis with a high-quality loan portfolio: the borrowers had a low debt burden (see Chapter 3.4 of the December 2021 Financial Stability Report), and good payment discipline. The loan portfolios of most banks were well-diversified by economic activities and businesses' regional location. Provisioning for performing portfolios did not exceed 2% to 9%, depending on the sector. Given this, the banks have so far avoided significant concentrated credit losses. According to publicly available information, the production facilities of the largest 100 borrowers, which account for a third of the performing loan portfolio, had not been significantly damaged by early May. That said, a widespread decline in business activity and the resulting decline in borrowers' income and cash flows will substantially impair their solvency, at least in the short term. At high risk are the industries in which production facilities are concentrated in areas where hostilities are taking place, or that are close to these areas. These are mechanical engineering, the metals industry and renewable energy. The share of defaulting companies is expected to exceed 20%.

The banks are gradually recognizing that borrowers have problems with servicing their loans. In March–April, some financial institutions reclassified about a quarter of their corporate loans as deteriorated to stage 2, as the credit risk for these loans had increased significantly. At the same time, the banks reported practically no credit-impaired loans (stage 3 under IFRS 9) or defaulted loans under prudential requirements. The non-performing loan ratio remained close to its February level of 32.5%. Although the banks recognized

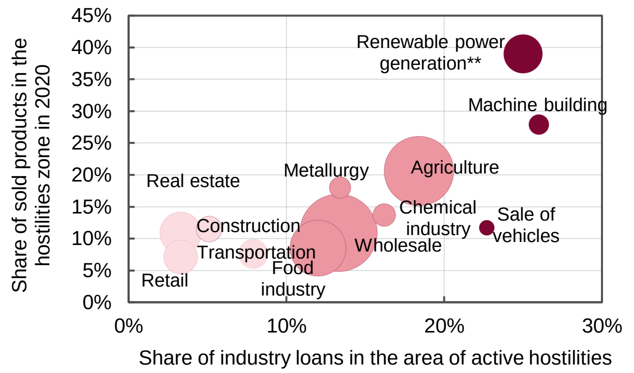
Figure 3.3.8. Provision coverage of corporates' performing loans



Issued by banks that were solvent as of 10 June 2022.

Source: NBU, NBU estimates.

Figure 3.3.9. Corporate performing loans as of 1 June 2022 and sold products in the zone of intensive hostilities*



Issued by banks that were solvent as of 10 June 2022. The size of the circle is the volume of performing loans. * Zone of intensive hostilities: Donetsk, Luhansk, Kharkiv, Zaporizhzhia, Mykolaiv, and Kherson oblasts. ** The end-2021 share of installed electricity generating facilities of renewable energy in the areas hit by hostilities.

Source: NBU, SSSU, NCSREPU, NBU estimates.

the migration of loans to lower stages, the parameters for credit risk assessment (PD, LGD and expected credit losses) were practically unchanged. Therefore, only some banks made provisions for expected credit losses, as required by IFRS. Provisioning for performing loans increased by only 2 pp, to 6.2%.

The banks should use more conservative approaches to assessing expected losses. The gradual tightening of regulatory requirements for measuring credit risk will encourage the banks to use such approaches (read more in the Box 5). At the same time, timely restructurings will ease the pressure on the liquidity of companies whose financial difficulties have been caused by russia's military aggression. This will enable businesses to recover, while also decreasing long-term loan losses.

Table 4. The corporate loan portfolio as of 1 June 2022

No.	Industry	Performing loans		Breakdown of loans issued under the 5-7-9 program, % (out of total of UAH 117 billion)	Migrations to stage 2 under IFRS in March–May, %	Loan migration to NPLs over 12 months*		NPL ratio**, %	Distribution by loan volume by the location of legal entities***, %		
		total, UAH billions	credit risk coverage ratio, %			by quantity, %	by loan amount, %		Intensive hostilities	Liberated	Other
1	Agriculture	94	3.5	52.1	20.3	1.8	0.8	5.1	18	34	48
2	Mining	11	6.4	0.5	1.0	6.3	4.2	5.5	1	89	10
3	Food industry	61	5.7	5.8	34.4	2.7	0.4	15.7	12	61	27
4	Light industry	2	2.5	0.8	12.0	7.3	2.3	21.2	18	19	64
5	Chemical industry	10	3.9	3.4	29.2	1.9	0.2	14.0	16	34	49
6	Production of construction materials	7	4.4	0.8	51.1	4.9	0.2	5.3	8	49	43
7	Metallurgy	9	3.5	1.7	50.6	3.5	35.6	32.2	13	33	53
8	Machine building	8	2.1	2.0	44.3	2.9	7.4	52.7	26	45	29
9	Electricity supply and other utilities	36	7.2	0.0	28.6	2.6	1.5	17.6	9	78	14
	including renewable energy	29	7.7	0.0	-	3.0	2.4	-	25	54	21
10	Construction	13	17.7	2.2	15.3	3.7	0.9	34.7	5	65	30
11	Sale of vehicles	4	2.0	1.8	21.1	1.8	2.5	16.4	23	40	37
12	Wholesale trade	117	3.9	20.2	33.0	3.1	2.5	9.6	13	61	26
13	Retail trade	23	4.6	0.8	13.5	2.9	10.9	4.6	3	60	36
14	Transportation	17	2.5	2.9	19.7	4.9	0.9	7.5	8	63	29
15	Hotels	6	29.1	0.0	4.1	11.1	0.0	6.1	0	94	6
16	Real estate,	34	15.1	0.5	33.8	6.3	3.8	33.2	3	84	13
	including commercial real estate	22	15.4	0.0	-	5.5	5.5	-	7	75	18
17	Financial services	11	7.6	0.1	6.1	4.3	11.9	60.0	1	89	10
18	Other	41	4.0	4.7	24.2	3.5	0.9	24.5	5	63	32
19	State-owned companies	58	3.9	0.0	2.0	4.5	3.3	2.1	6	92	2
	Total	**561**	**5.6**	**100.0**	**22.7**	**3.0**	**3.2**	**16.5**	**11**	**62**	**27**

In banks that were solvent as of 10 June 2022.

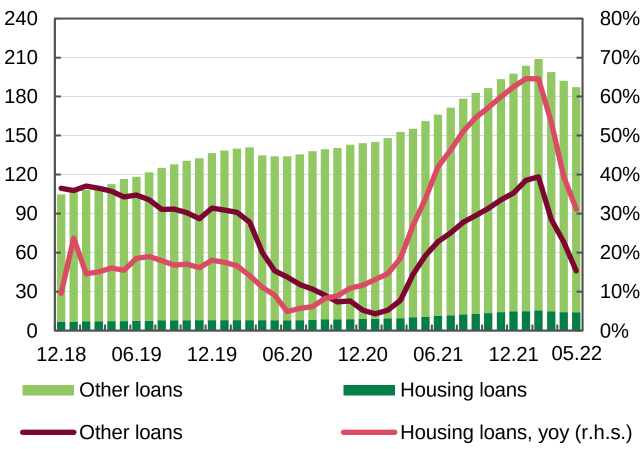
* According to microdata as of 1 January 2022 for loans exceeding UAH 2 million. No microdata on loans has been collected since martial law was imposed. ** The calculation of the NPL ratio does not include loans issued by PrivatBank to companies that belong to the bank's former shareholders' related or affiliated parties (factoring in such loans pushes the total NPL ratio up to 32.2%). *** Breakdown of loans by some oblast groups: "Liberated" – Kyiv city and Kyiv, Sumy, and Chernihiv oblasts; and "Intensive hostilities" – Donetsk, Luhansk, Kharkiv, Zaporizhzhia, Mykolaiv, and Kherson oblasts.

Source: NBU.

3.4. Retail Lending Risk

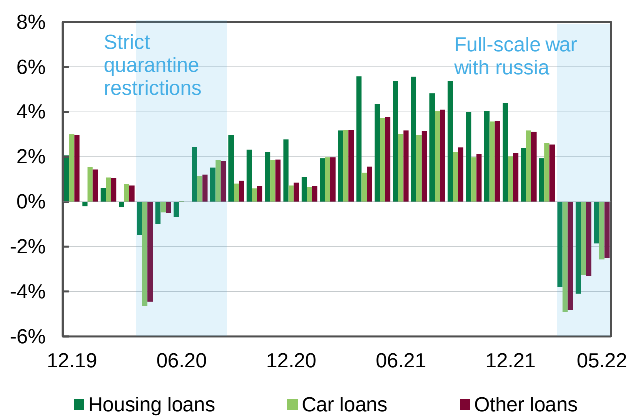
Retail lending slowed considerably with the start of full-scale war in Ukraine. Mortgage lending stopped altogether, and consumer lending was limited by a decline in demand and a tightening of banks' lending standards. Weaker lending and loan repayment holidays introduced by the majority of banks reduced the profitability of the retail segment. At the same time, there was a rise in the risk of credit losses, which may exceed 20% in view of the depth of the current crisis. The banks still show too much optimism in their assessment of expected losses. Previously built capital cushions, in particular against unsecured consumer loans, have enhanced the financial system's resilience to credit risk.

Figure 3.4.1. Net hryvnia retail loans, UAH billions



Source: NBU; at banks solvent as of 10 June 2022.

Figure 3.4.2. Change in net loans, mom



Source: NBU; at banks solvent as of 10 June 2022.

The loan portfolio has been declining since the outbreak of full-scale war

The retail loan portfolio has been declining from the start of the full-scale russian invasion. Households' demand for unsecured loans – which, in turn, depends on consumer demand – has decreased greatly. In the Lending Survey the banks reported that demand for consumer loans dropped to the level of the start of the coronavirus crisis, and demand for mortgages was the lowest since at least 2013. Banks believe that lower spending on durable goods deepened the decline in the demand for consumer loans, while worsening prospects for the real estate market put stronger brakes on the demand for mortgages. The net retail loan portfolio shrank by 10.3% in March–May. Mortgage lending has stopped.

Weaker demand was not the only reason for the decrease in the loan portfolio. The banks were quick to react to higher risks and tightened their standards for loan application approval for both mortgages and unsecured loans. On the first days of the current hostilities, large financial institutions reduced credit card limits significantly, even for their regular clients. These restrictions were eased later.

The majority of retail borrowers were offered loan repayment holidays

Expecting a decline in borrowers' income and trying to support their clients, many banks offered loan repayment holidays. The banks had a positive experience when applying repayment holidays during the COVID-19 pandemic, so they used them again. The holidays were available for a wide circle of borrowers, even without individual requests, under universal offers. The financial institutions offered to ease the following terms, in various combinations:

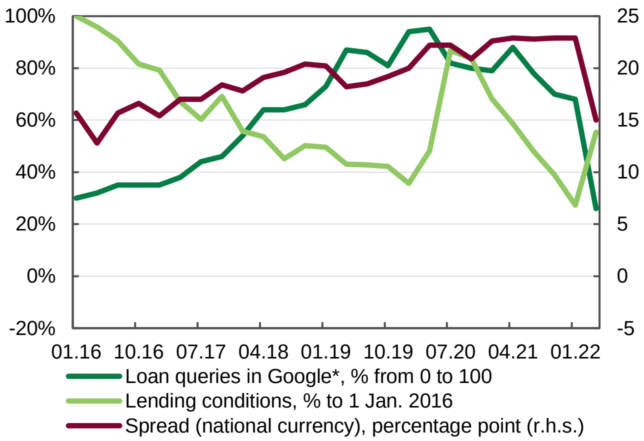
- Canceling the mandatory payment for a period of one to three months
- A temporary decrease in rates by two times or more
- Canceling fines for payments past due
- A discount in the case of early repayment.

Loan repayment holidays are effective in the short run, as they reduce the debt load and increase clients' loyalty to the institution. However, over time, the banks must stop offering massive loan repayment holidays in order to be able to finance their interest costs and operating expenses.

Interest income from the retail loan portfolio decreased rapidly

Interest income from the retail portfolio fell sharply due to slower growth in lending. The repayment holidays only

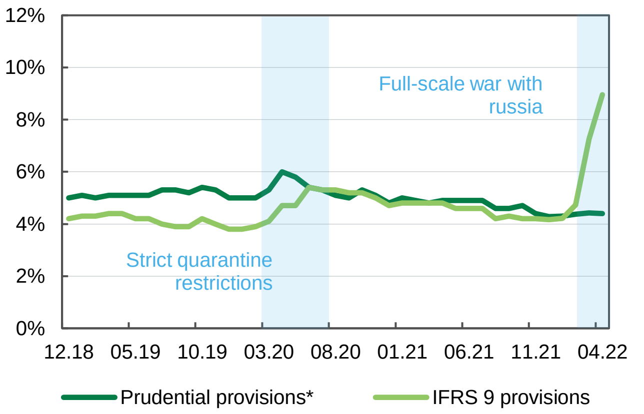
Figure 3.4.3. Lending conditions and demand for consumer loans



* Shows the number of "loan" search queries.

Source: NBU, Google trends.

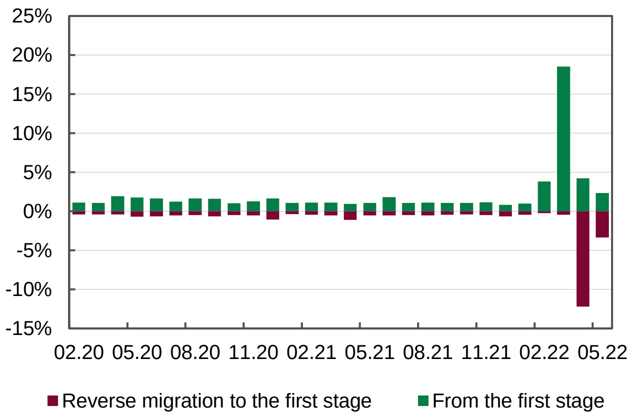
Figure 3.4.4. Provisions for performing hryvnia retail loan portfolio



* Credit risk in line with Resolution No. 351.

Source: NBU.

Figure 3.4.5. Migration of hryvnia retail loans to stage two of impairment under IFRS 9



Migration was calculated for the amount of loans at stage one of assessment in the previous month.

Source: NBU.

increased this effect. Accrued interest income from the retail portfolio declined by 17% in March–April compared to January–February. Some banks lost up to a half of their income over this period.

Recovery of retail lending will take time

Recovery of economic activity and income stabilization are essential for consumer lending revival. Uncertainty is decreasing, and the banks are restoring access to their products to clients who have a good credit history. Prudent lending standards will keep banks from making excessive losses due to the materialization of credit risks. At the same time, the mortgage segment is showing no signs of recovery in demand due to weak real estate market and the uncertainty over the long-term income of potential clients.

The banks' losses from the deterioration in retail loan quality will be large

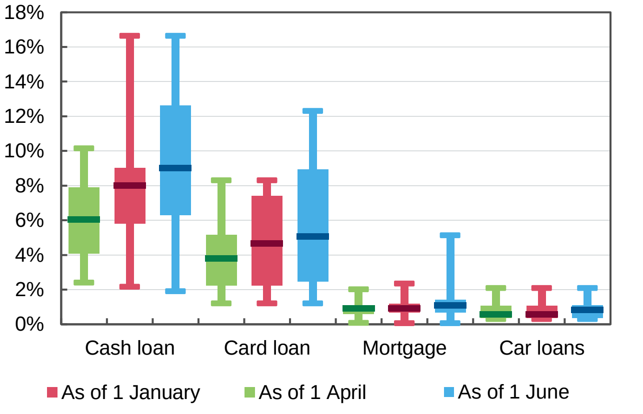
The NBU emphasized high risks of unsecured consumer lending, as borrower solvency strongly depends on the state of the economy, and as the banks were gradually easing their lending standards. Following the drop in income of several groups of households that started in March, their debt burden rose steeply. This was not visible while the majority of large banks were applying loan repayment holidays. During this time, some of the financial institutions did not receive up to half of the interest on the loans they had issued. The risks will fully materialize as standard loan repayment schedule gradually resumes. Taking into account the experience of previous crises and the profoundness of the current one, losses on the performing portfolio of unsecured consumer loans can be expected to exceed 20%.

The situation on the mortgage market is also threatening. In a number of regions, pledged residential property might have been damaged or destroyed in the course of military actions. Around 10% of mortgage collateral is located in temporarily occupied areas or in territories affected by active military combat. Loss of income increases borrower insolvency risks on mortgages, which usually carry a higher debt load than retail loans due to the large sizes of the debts. Risks on loans issued under the Affordable Mortgage 7% state program were slightly lower. These borrowers have better debt servicing terms and care about retaining them. However, mortgages issued under this program account for only around 5% of the mortgage portfolio, as the program was in effect only for a short period before the war.

The banks are to increase loan loss provisions

Previously, the banks were rather optimistic in their assessments of retail portfolio credit risks. Although the performing portfolio coverage ratio more than doubled from February, it was as low as up to 10%. The growth in provisions was partially driven by migration of loans from stage one of assessment to stage two, in line with the IFRS (read more in Box: Credit Risk Assessment in Line with IFRS 9 and NBU Resolution, December 2017 Financial Stability Report). Since February, the banks have reclassified more than 20% of the retail portfolio into stage two. Stage two includes loans for which credit risk has increased

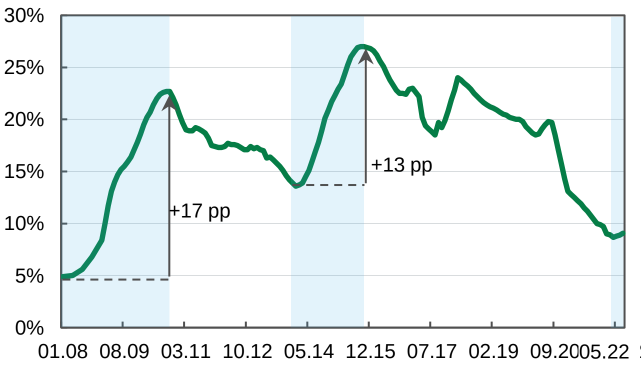
Figure 3.4.6. Distribution of expected losses on hryvnia retail loans at stage one under IFRS 9



The faces of the rectangles correspond to the distribution's first and third quartiles. The lines inside the rectangles are medians. The lines above and below the rectangle indicate the maximum and the minimum.

Source: NBU, data from 17 banks surveyed in April and June 2022.

Figure 3.4.7. Share of hryvnia retail NPLs



Source: NBU.

significantly, in particular due to payments being more than thirty days past due. Losses expected from these loans should be assessed over the lifetime of the loans, not only over 12 months. Starting from April, the banks returned a part of the loans to stage one.

At the same time, assessment parameters of expected losses on retail loans (probability of default, loss given default, expected losses) under the IFRS did not change significantly. Compared to January, expected losses grew slightly only for unsecured cash and card loans. Risk parameters remained at pre-crisis levels for mortgages and car loans. The NBU has already noted that the model assessments of the parameters of expected losses used by the banks are often not sensitive to changes in macroeconomic conditions. Therefore, the banks might underestimate potential losses. If applied models do not yield a realistic risk assessment, the banks should make respective expert adjustments based on the experience of previous crises. In particular, the share of non-performing loans in Ukraine rose by around 13–17 pp in 2008–2009 and in 2014. The economic downturn caused by the war is expected to be much deeper than in previous crises. Credit losses might thus be higher as well.

In order for the banks to recognize the state of their portfolio on time, the NBU has reimposed the requirement for credit risk assessments to rely on days past due. The NBU temporarily allowed banks to stop counting days past due, but this practice will be resumed from late June. This coincides with the time when the majority of the financial institutions stop offering loan repayment holidays. Further on, the banks will be able to determine which borrowers need individual conditions and offer them their own restructuring terms. At the same time, losses will have to be recognized for loans which cannot be serviced (read more in Box 5).

The banks will use capital built against consumer loans to cover losses

The banks have capital cushions to cover a large share of losses on the retail portfolio that will arise due to the crisis. The banks held additional capital for unsecured consumer loans, prompted by risk weights being raised to 150% from 1 January. The financial institutions will be able use this capital: the NBU decided to lower risks weights for unsecured consumer loans to 100% from end-July. The increased risk weights could be restored in the future, depending on the dynamics of retail lending development.

Box 5. Approaches to measuring credit risk in wartime

In the spring, almost all banks offered loan repayment holidays to their customers. They are starting to restructure such loans and are gradually recognizing credit losses based on the financial standing of debtors. Accordingly, the NBU is reimposing its credit risk assessment requirements, including those for calculating the number of days a loan is past due. Financial institutions must assess credit losses in a timely manner and fully reflect the impact of adverse events on asset quality.

Since February, most banks have offered their debtors blanket loan repayment holidays. This has made life easier for customers suffering from pressure driven by security threats and economic uncertainty. For the banks to be able to offer loan repayment holidays, the NBU has relaxed its credit risk assessment requirements under prudential approaches: it suspended the counting of days a debt is past due and allowed the banks not to recognize defaults on loans restructured because of the war. Thanks to the loan repayment holidays, borrowers were able to stem their liquidity outflows in the earliest months of the war and reopen. After a sharp decline in March, the economy stabilized and gradually recovered. The banks are currently starting to make detailed analyses of the financial standing of their debtors and offering them debtor-specific restructuring options.

With economic uncertainty at its current level, regular payments are probably the only reliable sign of one's debt-servicing capability. This applies in particular to small loans to households or SMEs. The NBU will therefore again require the banks to use the number of overdue days as an indicator of loan quality. The NBU has also expanded the range of loans whose quality can be assessed only on the basis of the timeliness of repayments. To do this, loans that come with a regular payment frequency – monthly or quarterly – should be grouped as homogeneous or treated under a simplified approach to quality assessment. The NBU has quadrupled the threshold for the group-based assessment of corporate loans, to UAH 20 million, and redoubled the simplified approach threshold to 0.2% of core capital.

At the same time, the banks should review the standing of debtors delinquent on large loans, and borrowers that have difficulty servicing them. In the current circumstances, loan quality assessments cannot rely solely on financial statements from prior years. Old statements often become irrelevant as abrupt changes in the business environment occur. Current financial statements, however, may not be immediately available to the banks, as the law has allowed businesses to file their reporting after martial law is lifted. Therefore, in assessing the financial standing of a client, the banks should be guided by information about:

- The condition of the debtor's industry in the current crisis
- The security situation in the indebted business's location, and whether its production facilities have been damaged
- Whether the debtor generates a sufficient operating cash flow to meet scheduled loan payments. To verify this information, the bank can use the debtor's cash flow statements based on bank accounts
- The debtor's access to government lending support programs.

Based on this analysis, the bank may propose a restructuring plan. New debt-servicing terms should help debtors regain good standing with their banks. Restructuring should be carried out in advance, before debt becomes overdue and outstanding liabilities accumulate. The terms of restructuring must include at least the repayment of interest on the debt. It may currently be appropriate to make only short-term changes to the terms of debt servicing, as long-term forecasts are highly uncertain. For this reason, the NBU is not setting strict restructuring requirements. However, window-dressing restructurings that only serve to disguise debtors' problems are unacceptable. Restructured loans can sometimes immediately be recognized as defaulted if the prospects for the resumption of the borrower's business are illusory. The banks must continue to operate on the principles of credit risk assessment by reflecting the impact of adverse events on the debtor's activities in full and on time.

As the economy recovers and more reliable economic forecasts emerge, the banks will be able to carry out long-term restructuring. The NBU's next step is therefore to establish limits for restructurings that are not to be considered default events. This includes identifying the maximum acceptable loss of loan value due to changes in the terms of a loan agreement, and setting a time frame for the restructuring.

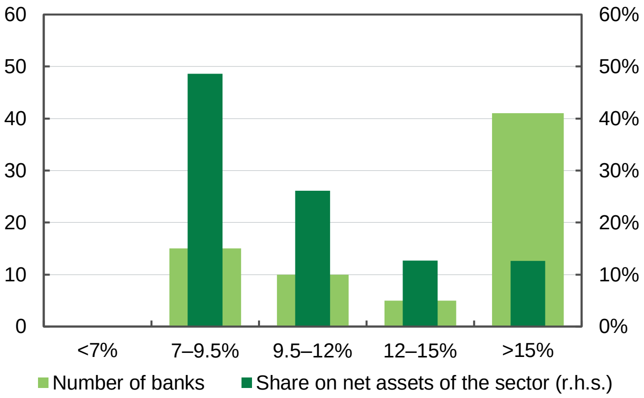
Unlike prudential requirements, approaches to estimating expected credit losses in line with IFRS 9 have not changed. The banks have moved loans from one assessment stage to another, in particular to stage III if there were signs of impairment. At the same time, the banks have hardly changed the parameters of estimating expected losses under IFRS (such as PD, LGD, loss rate) despite a significant deterioration in macroeconomic conditions. The NBU therefore recommends that banks:

- Review the macroeconomic assumptions of their models to take into account the current estimates of changes in macro indicators published by the NBU and IFIs
- Expertly adjust the estimated expected losses in their models, provided that they are not sensitive to changes in macro indicators
- Increase the weight of the adverse scenario to assess the parameters of expected losses
- Revise the level of losses in the event of default, taking into account the risk of collateral declining in value and the risk of the time required to sell it rising.

3.5. Assessing banks' resilience to crisis – stress testing of credit risk

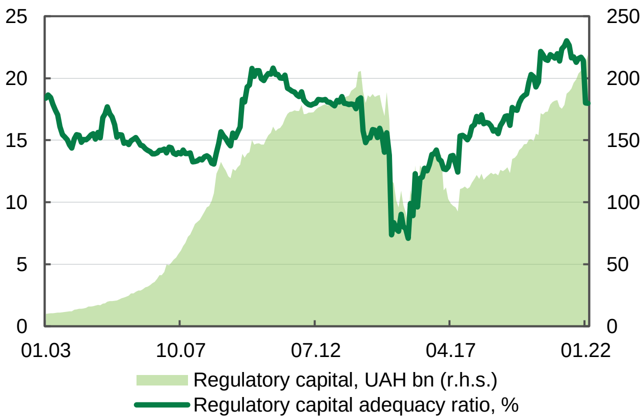
The banks came into the war with a high level of capital and record profits. However, the current crisis may go much deeper than the previous crisis episodes, meaning the increase in credit risk for the banks is also unprecedented. Reverse stress test shows that the largest banks will have enough core capital and accumulated profits to cover the loss of 25% of the loan portfolio. Most banks will retain positive capital even if losses are higher.

Figure 3.5.1. Banks' core capital adequacy ratios as of 1 February 2022



Source: NBU.

Figure 3.5.2. Total regulatory capital (RC) and the regulatory capital adequacy ratio (CAR) of banks



Source: NBU.

Table 5. Adverse scenario stress test (ST) parameters for 2021 and current estimates for 2022

Change in indicator	ST 2021 assumptions	2022 expectations
Real GDP, % yoy	-2.2	≈ -33
Consumer price index, % yoy	8.6	> 20
Exchange rate (UAH/USD),% yoy	-16.4	Temporarily fixed

Source: NBU.

Before the war, the banks were sufficiently capitalized

The banks came into this crisis significantly capitalized. In early February, the weighted average core capital adequacy of banks stood at 12%, while regulatory capital adequacy was 18%, almost double the minimum requirements. For the first time in the banking sector's history, this capital adequacy level reflected the coverage of not only credit and FX risks, but also operational risk. The requirement to take into account 50% of operational risk when calculating capital adequacy was implemented at the beginning of 2022. These capital adequacy ratios also reflect the higher risk weight of 150% for unsecured consumer loans.

At the onset of the crisis, not only did capital adequacy significantly exceed the minimum values, but also the quality of regulatory capital components was high. The NBU's requirements for capital components are very strict: they have the unconditional ability to absorb losses. Strict prudential filters have also been set up, forcing the banks to deduct from regulatory capital the accrued income they do not receive from customers.

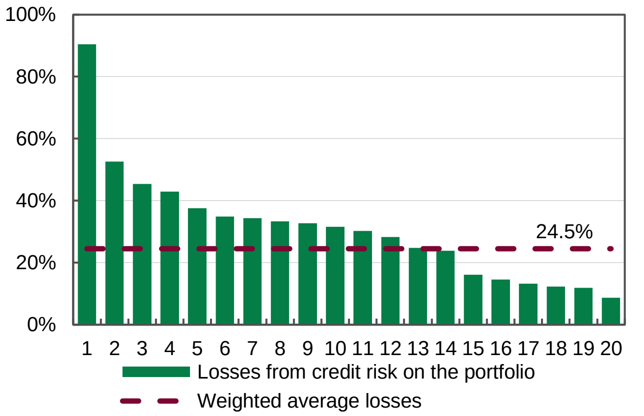
In addition, the NBU encouraged some banks to have regulatory capital above the minimum requirements or to restructure their balance sheets if the results of the stress test showed a vulnerability to crises. The adverse scenario of last year's stress test did not assume a deep economic downturn, but was based on rather conservative assumptions about the materialization of risks, especially credit risk. For exanple, the 2021 stress test assumed an average loss of over 15% of the banks' loan portfolios. The banks had at least the six months to the end of 2021 to take into account the results of last year's stress test and shore up their resilience.

This year, sector resilience has been assessed via reverse stress test

Classical stress test loses its meaning in a deep crisis, when extremely negative macroeconomic scenarios become reality. To assess the capability of banks to absorb losses and remain solvent in such extremely uncertain conditions, a reverse stress test and scenario analysis are therefore used.

A reverse stress test shows the maximum loss of assets a bank can suffer without failing. Banks take the heaviest losses from the materialization of credit risk. The NBU therefore estimated the largest share of the loan portfolio that banks could lose before their core capital became negative. Such estimates were made for the twenty largest banks, which jointly account for 89% of sector assets, based on data as of 1 January 2022. The horizon for the materialization of the adverse scenario is 12 months.

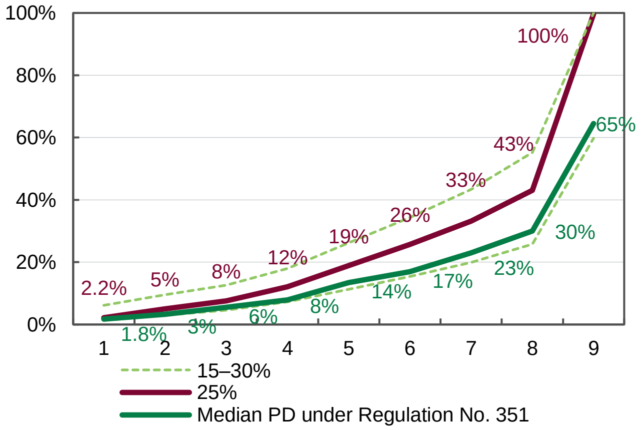
Figure 3.5.3. Losses from credit risk that the largest banks can cover with core capital (including profits from previous years)



The horizontal axis plots the codes assigned to the banks.

Source: NBU.

Figure 3.5.4. Losses on performing loans, depending on corporate borrower classes* at different levels of total credit losses



* Borrower class in accordance with Resolution No. 351.
PD – probability of default.

Source: NBU.

Figure 3.5.5. Matrix of the weighted average core capital adequacy ratio of banks (CCAR), depending on credit risk losses, %

		Retail							
		15	17	19	21	23	25	27	29
Corporate	15	7.8	7.4	7.1	6.7	6.4	6.0	5.6	5.2
	17	6.7	6.3	5.9	5.5	5.1	4.7	4.3	3.9
	19	5.5	5.1	4.7	4.3	3.9	3.5	3.1	2.6
	21	4.2	3.8	3.4	3.0	2.6	2.2	1.7	1.3
	23	3.0	2.6	2.1	1.7	1.3	0.8	0.4	0.0
	25	1.7	1.2	0.8	0.4	-0.1	-0.5	-1.0	-1.4
	27	0.3	-0.1	-0.5	-1.0	-1.5	-1.9	-2.4	-2.8
	29	-1.0	-1.5	-1.9	-2.4	-2.9	-3.3	-3.8	-4.3

>7% ≥0% <0%

Source: NBU.

In addition to the condition of losing part of the loan portfolio, the following was assumed:

- Suppressed demand for banking services due to reduced business activity will lead to a 15% decrease in commission income
- Interest rate risk does not materialize. Up until now, the banks have managed to keep the cost of funding low, as depositor confidence in the banks remains high and funding stable. Interest rates on deposits will continue to rise, but it is assumed that the interest rate spread between deposits and loans will remain unchanged
- With operational risks and inflation materializing, administrative expenses of banks increase by 20%
- FX risk does not materialize, as banks have an almost balanced FX position.

It is also assumed that banks with a higher quality loan portfolio will have lower losses at a certain level of the overall reduction in the performing loans portfolio. Technically, the level of losses on corporate loans with the worse quality class may be higher (see Figure 3.5.4). No such assumptions are made for the retail loan portfolio.

Stress test shows banks are highly able to absorb credit risk losses

Reverse stress test shows that the core capital of the largest banks is sufficient to cover an average loss of 24.5% of the loan portfolio. Under such conditions, banks will generally retain positive capital, and more than half of them, even positive operating profitability. At the individual level, thirteen of the twenty largest banks will retain positive core capital if the total loan portfolio loss from credit risk reaches almost 25%.

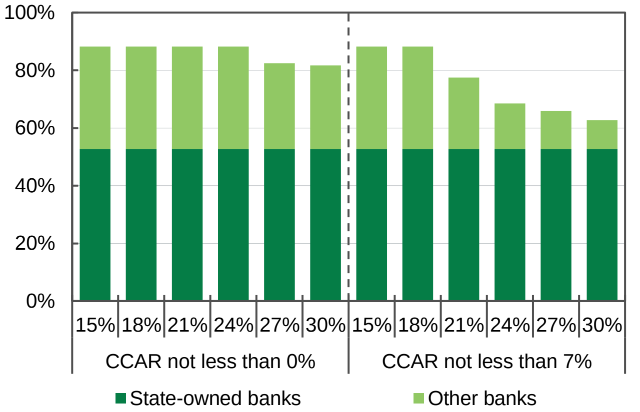
In addition to the reverse stress test, a scenario analysis was performed. The analysis looked at how different combinations of losses on corporate and retail loans (from 15% to 30%) will affect the weighted average core capital adequacy ratio. The results are presented in a matrix (see Figure 3.5.5).

Overall, of the twenty largest banks, those jointly holding more than half of the top twenty's assets showed sufficient resilience to the loss of 30% of the loan portfolio. These banks are in a good position for surviving the crisis. Add to this the share of state-owned banks that have "failed" in terms of capital but that have unconditional state support, and it can be argued that banks that own 82% of the top twenty's assets have sufficient resilience to such a highly conservative macroeconomic scenario.

Credit risk will materialize gradually. To reduce its impact, the banks should act in advance as follows:

- Restructure loans on time to maintain debtor solvency
- Maintain loan portfolios, asset structure, and operations at levels that generate operating income
- In full and on time, provision for assets that have declined in quality and are exposed to increased credit risk
- Increase operational efficiency, in particular through the use of online tools.

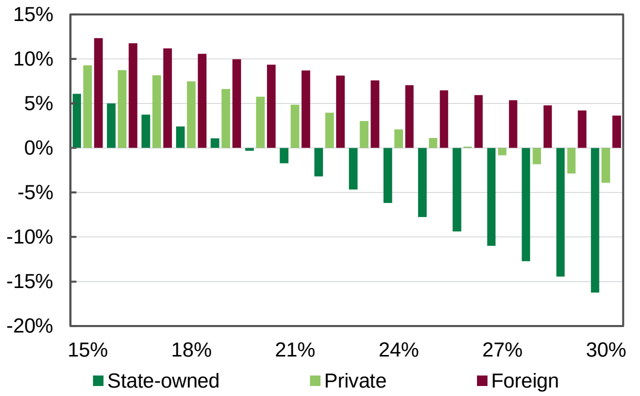
Figure 3.5.6. Banks that meet the regulatory CCAR ratio as a percentage of assets at different levels of credit risk losses



Horizontal axis plots the level of credit risk losses.

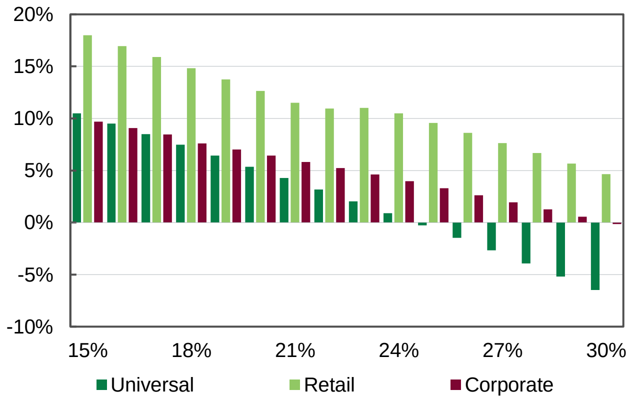
Source: NBU.

Figure 3.5.7. Median CCAR for banks by type of ownership at different levels of credit risk losses



Source: NBU.

Figure 3.5.8. Median CCAR ratio for banks by business model at different levels of credit risk losses



Source: NBU.

3.6. The NBU's Prudential Policies in Response to the Crisis

The economic and financial crisis caused by the russian aggression will result in huge losses of bank assets. Bank capital will decline, and some banks will be unable to restore their capital by themselves. The NBU will tap the experience it gained during previous crises and will give the banks enough time to recover. The main task of financial institutions in the short-run is to ensure continuous operations, and to properly manage their risks.

The banks are suffering significant losses, primarily from materialized credit risk, because of the war and the resulting economic crisis. These losses will be absorbed by capital, the pre-crisis amount of which significantly exceeded the minimum requirements. However, the deteriorating quality of loan portfolios and declining demand for banking products will reduce the profitability of the banking business. The banks will be unable to generate sufficient income to recover their capital during the crisis. As a result, financial institutions will gradually lose their capital, and some of them are likely to have negative capital by the end of the crisis.

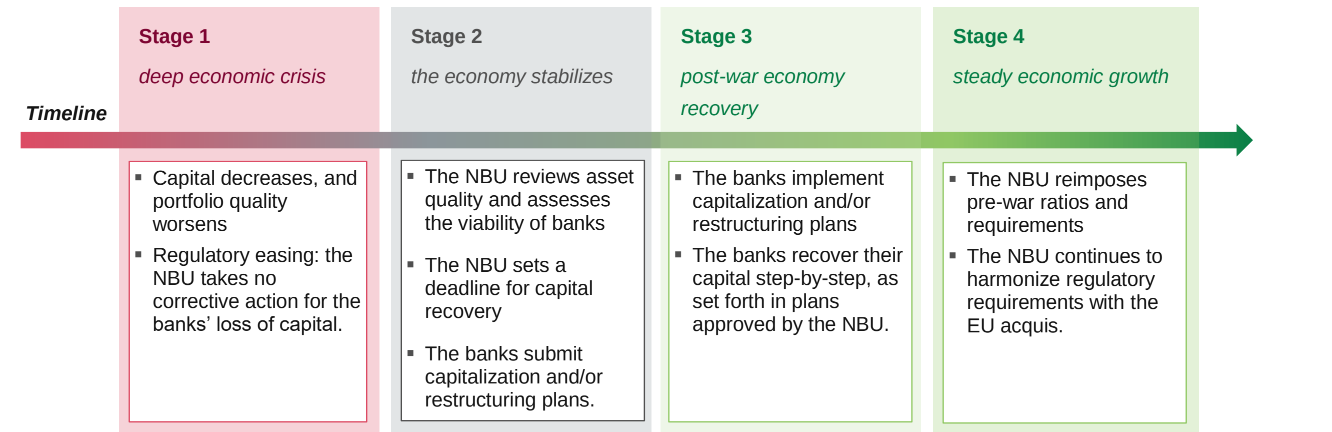
During the crisis, the NBU will not apply corrective actions against the banks for not complying with capital requirements. At the same time, at this stage it is important that banks recognize their credit losses in a timely manner. This will provide the NBU with a correct understanding of the market situation, enabling the central bank to make further regulatory decisions, including those that adjust the regulatory easing regime. However, those banks that constantly generate negative operating cash flows during the crisis will be closely supervised by the NBU. Under certain circumstances, the activities of these banks will be restricted to protect depositors.

The negative impact of the current crisis will be long-lasting – the consequences of the crisis can be relatively accurately assessed only once macroconditions have stabilized. Then the NBU will perform an asset quality review in order to accurately gauge the losses. The NBU will also assess the viability of the banks, i.e. their ability to normalize their financial performance in the foreseeable future. Depending on the amount of losses, the NBU will set a deadline for recovering capital. The banks will have to draw up capitalization and/or asset restructuring plans. The NBU expects that most banks will be able to recover capital themselves through their future profits. The remaining banks might need to be recapitalized by their shareholders. In particular, this is a likely scenario for several state-owned banks.

The NBU will give the banks enough time to recover their capital, which may take several years. The central bank will continue to apply regulatory easing to those banks that are diligently implementing the plans they developed. The NBU will regularly check how the banks are implementing these plans.

Over time, the NBU will reintroduce all of the pre-war ratios and requirements for banks, and continue to harmonize requirements with the EU acquis.

Figure 3.6.1. Stages of the banking sector's prudential regulation



Source: NBU.

Box 6. How Banks Prepared for Working under Emergency Conditions

According to regulatory requirements, Ukrainian banks have to develop business continuity plans and recovery plans. Business continuity plans are needed to maintain critical processes and recovery of systems if there is a threat of interruptions thereof. These played a key role in February: the banks operated without interruption under extreme conditions, as they had prepared and implemented their business continuity plans. Recovery plans contain guidelines for recovering banks' financial health.

After the financial crisis of 2008–2009, the regulatory system was improved in order to ensure banks' resilience even under crisis conditions. To this end, regulators raised capital and liquidity requirements, and now hold stress tests on a regular basis, as well as expect banks to develop business continuity plans and recovery plans. Business continuity plans describe what actions are required when major operational risks materialize, whereas recovery plans are mostly related to mitigating financial risks.

A business continuity plan (BCP) describes actions to be taken by a bank if there are operational threats to its functioning. A BCP is based on an analysis of the vulnerability of processes and information systems under various business interruption scenarios. BCP measures are designed to enable the rapid recovery of the operability of systems, and maintain the functioning of a financial institution even if there are major disruptions. Banks are required to update their BCPs annually, and test them at least every two years. The BCP must be available to employees, who are supposed to start implementing it immediately when needed. Requirements for BCPs are set forth in Regulation No. 64[7].

Requirements to develop BCPs were set back in 2018. At the start of this year, the NBU encouraged banks to update their plans. Without action plans prepared in advance, it would be extremely difficult for banks to take timely measures to maintain their critical processes, relocate their critical staff to safe places, switch to remote working, and move their data warehouses. The proper functioning of the banks' systems under extreme conditions supported the trust of their clients and reduced liquidity risks. The banks' BCPs thus proved their effectiveness in practice.

Since 2020, Ukrainian banks have been developing recovery plans in accordance with Resolution No. 95. A recovery plan focuses on a bank's financial resilience. It sets out the actions a financial institution needs to take in order to restore its solvency and liquidity in the wake of adverse events. As part of this, the banks conduct reverse stress testing: they model stress scenarios under which they breach liquidity and solvency ratios over a year, to such an extent that they breach regulatory requirements. Under such conditions, the banks must decide to take measures to restore their financial health.

The need to activate a recovery plan is determined by the three-level warning system – the so-called traffic light approach. The banks continuously monitor a number of quantitative and qualitative indicators, particularly capital, asset quality, profitability, liquidity, and so on. Thresholds for the green, yellow, and red zones for each indicator are set. Under normal conditions, the indicators are in the green zone. A decrease to the yellow zone signals a need to initiate some actions under the plan. An indicator in the red zone means there is a situation of stress, which requires the activation of the recovery plan.

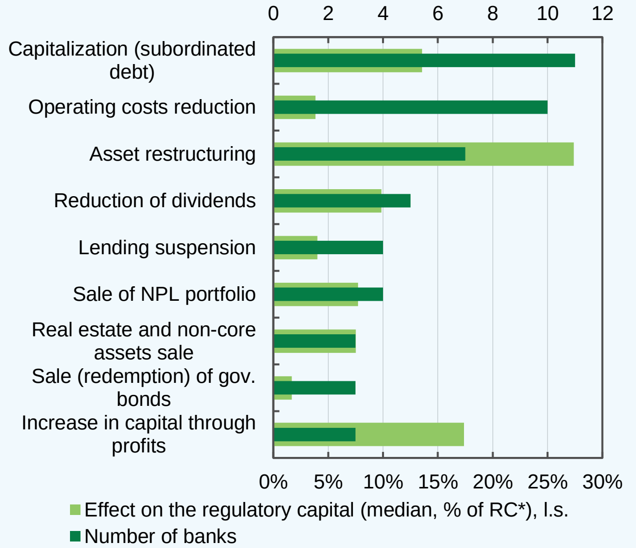
In 2021, the NBU analyzed the banks' recovery plans for the first time and detected some insufficiencies:

- Incomplete modelling of potential systemic shocks, when all banks face the need to implement certain measures at the same time; this might limit the effectiveness of the measures, or increase risks
- Insufficiently conservative stress scenarios, which did not result in a breach of the required ratios by the banks
- Not taking into account the indirect effects of measures taken, and expenses on their implementation
- The values set for the yellow and red zones are too low, which would not allow a bank to activate its recovery measures on time
- A narrow range of liquidity ratios, in particular not taking into account the structure of liquid assets and the time needed to use them to cover outflows of funds.

Banks started 2022 with improved recovery plans. They should prove useful to the financial institutions during the current crisis. The NBU analyzed the recovery plans of 15 large banks[8]**.** None of them envisaged a large-scale war, and only some of the financial institutions took into account an escalation of the hostilities in the east of Ukraine. However, all banks tried to include in their plans effective instruments to raise their financial resilience under extreme conditions. On average, the banks had in place three measures to recover their capital adequacy. Banks can quickly increase their capital or improve its structure by allocating profits from previous periods to their authorized capital, reducing dividends, carrying out capitalization, or raising subordinated debt. The banks also plan to support their capital adequacy by reducing investment in securities that have non-zero credit risk weights – domestic government debt securities in foreign currencies. In the medium term, the banks plan to maintain capital adequacy by restructuring loans, selling non-performing and noncore assets, and reducing operating expenses. The banks estimate that the greatest positive impact on regulatory capital is produced by asset restructuring and recapitalization using the profits of previous years, or using shareholder funds. At the same time, decreasing capital needs by reducing assets is one of the less effective measures, according to the banks.

[7] Regulation No. 64 *On Approval of the Regulation on Organizing the Risk Management System in Banks of Ukraine and Banking Groups,* dated 11 June 2018.
[8] The NBU analyzed the recovery plans of 15 banks, of which 14 are systemically important banks.

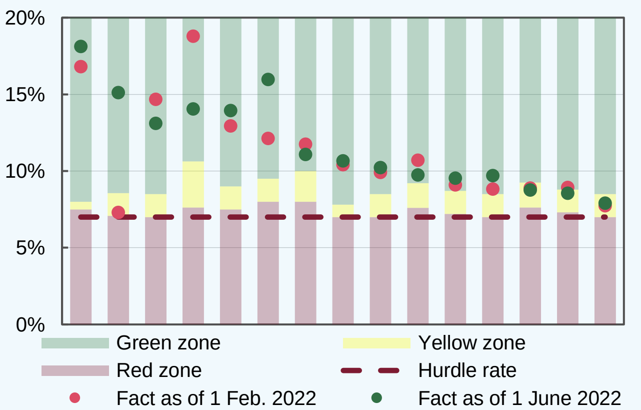
Figure B.6.1. Capital adequacy recovery measures (15 banks)



* Regulatory capital.
Source: NBU.

The adverse consequences of the war have not yet been fully reflected in the capital of the banks. In addition, the banks have substantial capital cushions that exceed minimum requirements. Therefore, as of the start of June, only some of the systemically important banks fell into the yellow zone according to their recovery plans. Some measures are almost impossible to implement now – for example selling noncore assets or non-performing loans. However, there is still a lot of space for timely and effective restructuring.

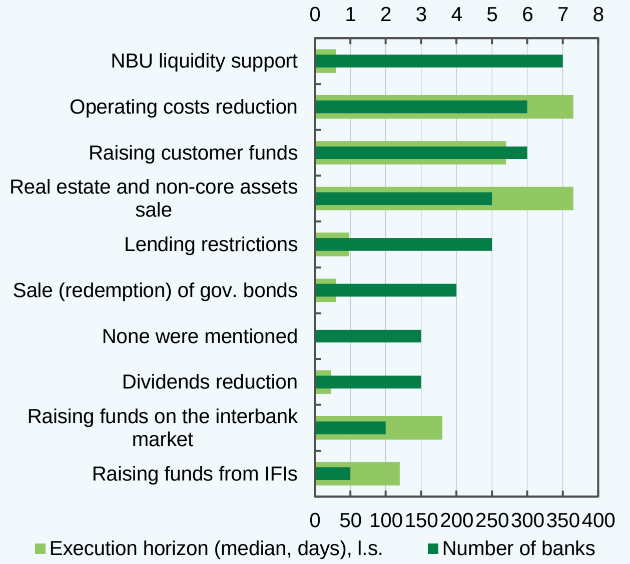
Figure B.6.2. Core capital adequacy ratio, distribution by banks



Source: NBU.

In terms of liquidity, the banks mentioned two measures on average in their recovery plans. The measures can also be divided into emergency and medium-term ones. The banks expected the emergency measures to be effective over a one-month horizon. The banks referred to receiving NBU loans, selling domestic government debt securities, and reducing dividends as emergency measures. In the medium-term, the banks expected a recovery in liquidity on the back of attracting client deposits, reducing operating expenses, and selling noncore assets.

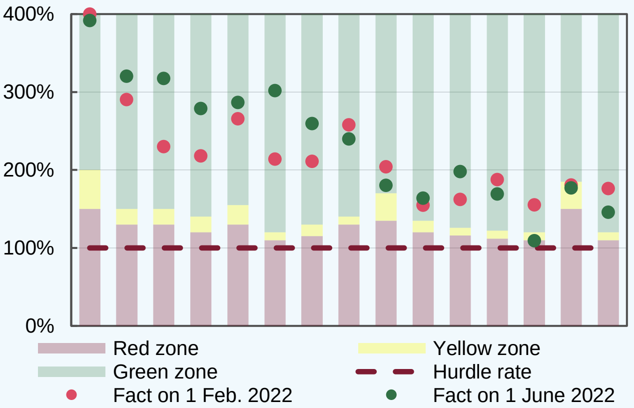
Figure B.6.3. Liquidity recovery measures



Source: NBU.

Despite the military aggression, the banks have managed to keep their liquidity ratios strong. As of the start of June, only one systemically important bank had fallen into the red zone.

Figure B.6.4. Liquidity Coverage Ratio (LCR) in all currencies, distribution by banks



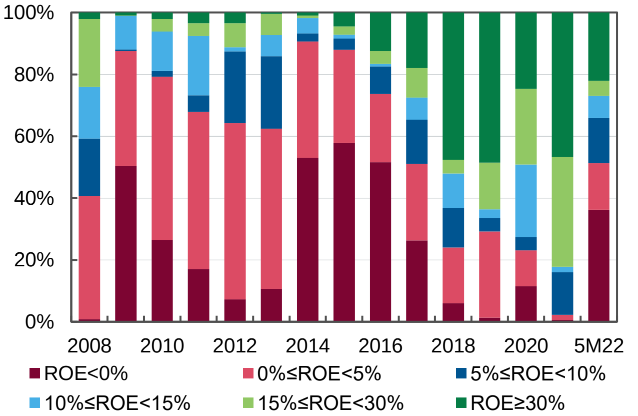
Source: NBU.

The NBU will not require banks to update their recovery plans this year. The financial institutions should now focus on current actions and the implementation of their previously prepared recovery plans.

3.7. Profitability Risks

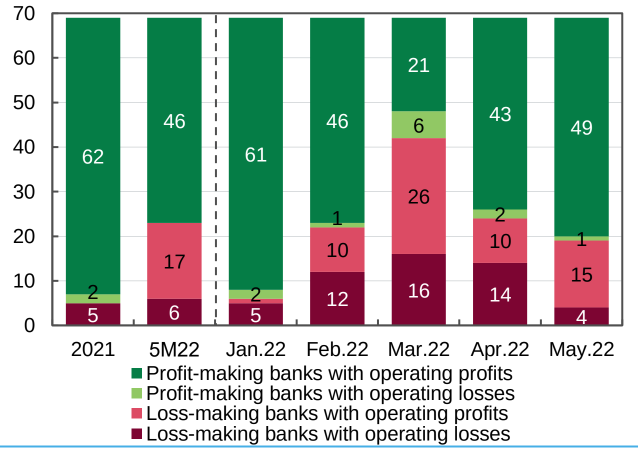
The banking sector posted losses for the first time in five years due to the materialization of credit risk. Provisioning will increase, threatening the profits of even operationally efficient banks. A decrease in demand for bank services and lower tariffs pushed down fee and commission income. At the same time, the banks' interest income grew and the net interest margin was maintained. In order to support their operational efficiency, the banks should adapt their business models to working under crisis conditions and dampened demand for bank products.

Figure 3.7.1. Distribution of banks' assets by ROE



Source: NBU.

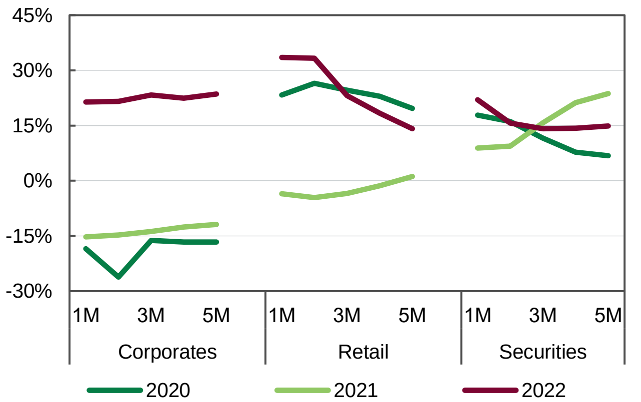
Figure 3.7.2. Profit or loss, by number of banks*



* Solvent as of 1 May 2022.

Source: NBU.

Figure 3.7.3. Change in banks' interest income, yoy



Source: NBU.

Due to the war, the sector made losses for the first time since 2017

The large-scale russian invasion caused the risk of a long-term loss of profitability, which affected almost all banks. Having made record profits last year, the sector posted losses this year. In the first five months of 2022, losses were recorded by 23 banks, which together hold more than a third of the sector's assets. They included six out of the country's twenty largest banks, and in particular the three state-owned banks. Among the remaining banks, five large banks had a return on equity of less than 5%. Higher profitability was maintained mainly by small banks, as well as the largest state-owned bank. The main reason for the losses was provisioning for expected credit losses. Overall, the sector remains operationally profitable. After a significant increase in March, the number of operationally unprofitable institutions returned to the level seen in early 2022.

Growth in interest income slowed

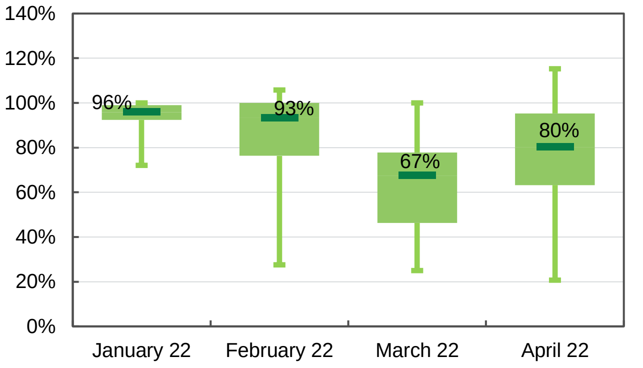
The banks' net interest income continued to rise. However, its growth rates halved, from 35% yoy in January–February to 18% yoy in March–May. Interest income declined primarily in the retail segment, with the decline being faster than at the start of the coronavirus crisis. Demand for consumer loans decreased, driving a decline in the portfolio for a certain time. In addition, all of the large banks offered loan repayment holidays, and some even temporarily reduced their rates on consumer loans. The accrual of interest dropped sharply. The situation in the segment varies. Income remained high at those banks that specialized in consumer lending and that had been ramping up their portfolio over the past year.

Interest income from corporate lending grew steadily, primarily on the back of a sizeable increase in the loan portfolio. Businesses continue to take out loans, supported by expanded state programs. At the same time, interest rates increased outside of these programs, reflecting higher credit risks. The cost of credit for large companies grew the most. Interest income from securities – mostly NBU certificates of deposit and domestic government debt securities – grew in proportion to the change in the banks' portfolios. Their share in interest income rose from the start of the year, to 36% in May.

The banks are not receiving a large share of accrued interest income

Active military hostilities are significantly worsening the payment discipline of borrowers. While in January the banks received almost the entire amount of accrued income, they received only two thirds of it in March. The situation improved in April – the income received was 80% of total accrued income – and some banks started to receive debts from

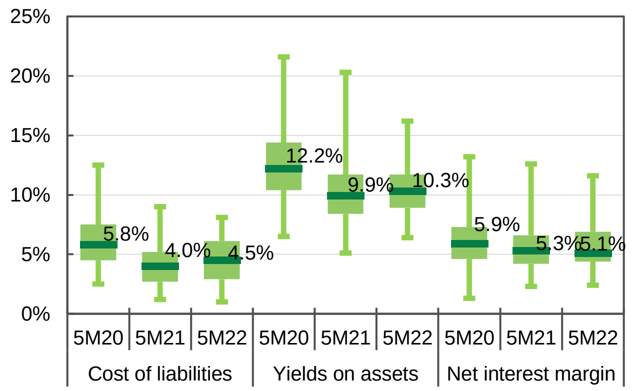
Figure 3.7.4. The ratio of actually received and accrued interest income on customer loans



* The faces of the rectangles correspond to the distribution's first and third quartiles. The lines inside the rectangles are medians. The lines extending above and below the rectangles indicate the 5th and 95th percentiles.

Source: NBU.

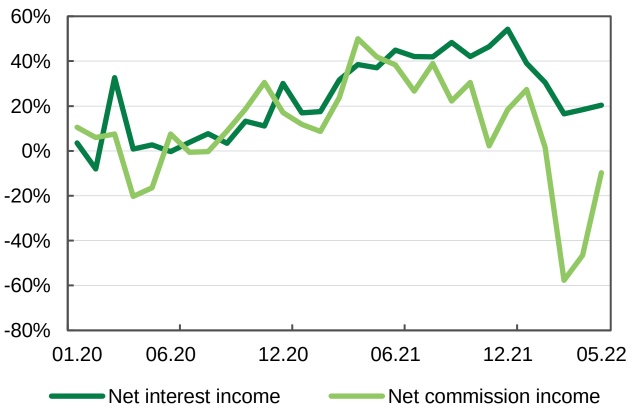
Figure 3.7.5. Yields on banks' assets and cost of their liabilities, and net interest margins, % per annum



* The faces of the rectangles correspond to the distribution's first and third quartiles. The lines inside the rectangles are medians. The lines extending above and below the rectangles indicate the 5th and 95th percentiles.

Source: NBU.

Figure 3.7.6. Change in net interest income and net fee and commission income of banks, yoy



Source: NBU.

previous periods. Underreceiving income was expectable, as banks postponed interest payments under loan repayment holidays. However, a portion of income might be lost due to a deterioration in the loan portfolio quality.

Continued inflows of interest income will directly depend on the materialization of credit risk and the banks' ability to work with borrowers to minimize it. The banks receive almost no interest income on impaired loans.

Net interest margin remains high

There was a one-off increase in interest expenses of banks in March: banks raised deposit rates in order to restrain outflows of corporate deposits. A number of financial institutions faced higher expenses due to larger holding of NBU refinancing loans (as they are more expensive than deposits), which the banks took out to minimize the risks of loss of liquidity. However, they repaid a large share of these loans quickly. On the other hand, the banks reduced interest rates on retail deposits, as they were stable. Together with a higher share of demand deposits in the funding structure, such an interest rate policy helps the banks maintain low costs of resources, which were only slightly higher than last year. Therefore, although the net interest margin narrowed from February, on average in the first five months of 2022 it was close to the level seen last year.

An increase in the key policy rate does not pose any risks to the sector's profitability

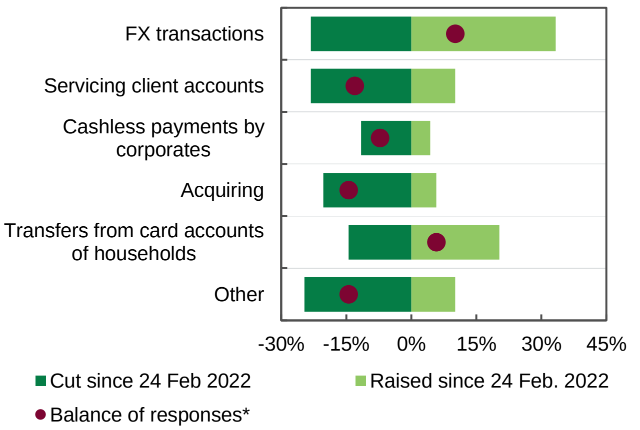
The NBU's hike of its key policy rate by 2.5 times, to 25% per annum, will not lead to any sizeable changes in the net profitability of banking (see Box 7). The banks will raise deposit rates as expected. However, costs will grow only for term deposits, the share of which has significantly decreased recently. The cost of funding will thus rise only moderately. Interest costs will rise markedly at some banks due to an increase in the cost of refinancing loans, which is linked to the key policy rate. This will encourage the banks to pay back these loans early.

On the other hand, the profitability of new loans will also rise. Now loans are mostly issued under state support programs. Under such loans, the banks earn interest at a fixed spread above the cost of three-month deposits. Borrowers pay very low notional interest rates, and the state covers the difference. Banks' income from investments in NBU certificates of deposit will also increase. In addition, yields on domestic government debt securities should approach market levels.

The dynamics of fee and commission income will be determined by economic activity

The start of russia's large-scale invasion of Ukraine led to a sharp decline in volumes of settlements in the economy. In order to encourage online payments, prevent panic among the public and keep businesses running, large banks reduced their tariffs for some transactions or stopped charging some commissions altogether. The banks encouraged cashless transactions mainly by lowering their tariffs, and in contrast even raised the tariffs for cash transactions from 24 February. Some international money transfer systems canceled

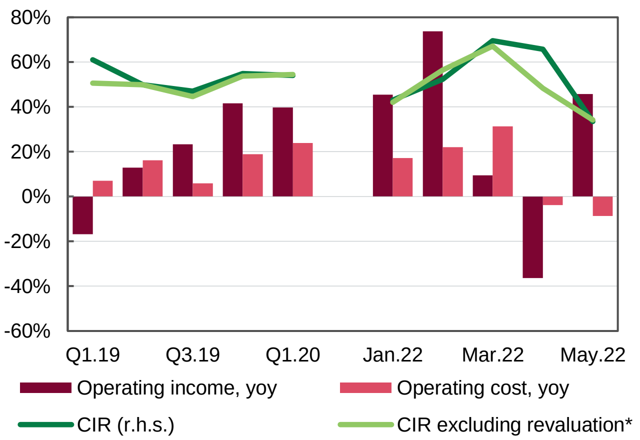
Figure 3.7.7. Change in commission tariffs by banks under martial law, % of surveyed banks



* Negative values mean that the majority of banks reduced their tariffs.

Source: a survey of the banks' operating activities under martial law held by the NBU in June 2022.

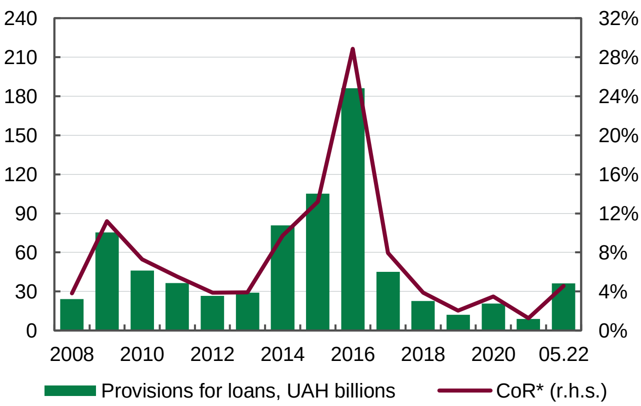
Figure 3.7.8. Operational efficiency of banks



* Pertaining to securities, foreign currencies, and derivative financial instruments.

Source: NBU.

Figure 3.7.9. Cost of risk (CoR)



* Ratio of provisions for loans in respective period to net loan portfolio.

Source: NBU.

charges for sending money to Ukraine. The aggregation of these factors drove a large decrease in the sector's fee and commission income. In annual terms, the net fee and commission income of banks halved in March–April. The drop in fee and commission income made the banks give up offering cashback as incentive for clients.

The banks are now returning to the tariffs they had in place in February. Some of the financial institutions started to raise commissions for transfers from retail clients' card accounts, while keeping acquiring tariffs low. Such a policy was aimed at further supporting businesses and payment infrastructure. The return of February tariffs was accompanied by a recovery in business and online trading. All of this had a positive impact on the banks' fee and commission income, which grew notably in May compared to March and April. However, demand for bank services will remain subdued for a long time, limiting the banks' fee and commission income.

Operational efficiency was almost unaffected

The banks' administrative expenses increased markedly in March. The institutions provided financial assistance to their employees at the start of the active phase of the war (some even raised salaries) and they incurred large losses on organizing their operations under new conditions. But since April, operating expenses have even declined slightly in annual terms. The banks reduced their labor costs by dismissing employees or putting them idle, and spent less on fixed assets maintenance. From March to May, the number of operationally efficient banks decreased from 22 to 5, but operational efficiency remained at last year's levels. The Cost-to-Income Ratio (CIR)[9] was 48% for the first five months of 2022. Further on, administrative costs will grow, fueled by inflation. Moreover, the recognition of losses caused by damage inflicted to fixed assets in the course of military actions will affect financial results (see Box 4).

Credit risk will determine losses

Banks gradually started to reflect expected losses from the deterioration in the quality of their loan portfolios amid the war. Over the first five months of the year, the ratio of provisions to the net loan portfolio (CoR) almost quadrupled, hitting 4.6%. However, historically, during previous crises, the deterioration of loan portfolio quality has caused the banks to lose a much larger share of asset value. The recognition of credit risk will thus continue, driving even banks with operating profits into loss. Credit risk will also damped the banks' interest income. A weaker ability to generate income threatens to worsen the institutions' financial resilience.

[9] Excluding the revaluation of foreign currency and securities, including derivatives.

Box 7. The Impact of a Higher Key Policy Rate on the Banks' Finances

In June, the NBU hiked its key policy rate, which should increase competition among banks for hryvnia funding and push up interest rates on bank deposits. However, the impact of this decision on loan rates, lending, and the banks' net interest margins will be weaker than under normal conditions.

In June 2022, the NBU raised its key policy rate from 10% to 25%. Typically, managing the key policy rate helps ensure price stability. Under current conditions, the sharp rise in the key policy rate will also help maintain financial stability. A higher key policy rate should drive up the yields of hryvnia instruments, make them more attractive compared to FX instruments, and, consequently, lower the risks of hryvnia funding outflows.

The higher key policy rate will increase interest rates on certificates of deposit and NBU refinancing loans. More expensive refinancing loans encourage banks to start replacing them with deposits or to reduce their balance sheets. The repayment of refinancing loans will not pose any systemic liquidity risks, as liquidity buffers are currently very high.

Overall, the key policy rate hike will have the following consequences:

- **Interest rates on deposits will grow.** The banks that seek to replace significant amounts of refinancing loans have already started to raise their deposit rates. Competition will encourage other financial institutions to offer higher interest rates on deposits. Interest rates on long-term deposits will grow to a lesser extent, as the banks expect that monetary policy will be eased over time
- **Funding will stabilize or even increase**, thanks to the greater attractiveness of hryvnia time deposits. The banks will be able to improve their term structure of funding through taking longer deposits
- **The cost of funding will grow** more slowly than the change in deposit rates, as current deposit accounts currently account for a greater portion of funding.

Interest rates on loans, mainly those on corporate loans, **will rise slowly.** The speed of their change will be determined by the change in the cost of funding. At present, it is close to 4%, which is much lower than interest rates on time deposits. However, under current conditions, the revaluation of interest rates on loans is held back by the following factors:

- Restrictions on interest rates on government support programs, which depend on deposit rates
- The banks' efforts to support reliable and loyal corporate clients to reap long-term benefits and
- Low household demand for loans.

The change in interest rates will have almost no effect on loan portfolios:

- **Lending will not change**, as credit demand is depressed and most loans are being provided under government support programs. Under such programs, interest rates for clients are fixed at a low level. For banks, these programs preserve the spread. However, an important prerequisite for this is the preservation and even expansion of state support programs
- **The quality of the loan portfolio depends little on the change in interest rates** due to the limited passing of the higher cost of funding onto borrowers.

Interest rates on other assets should increase. The banks are already earning higher interest rates on their investments in certificates of deposit. The expected increase in interest rates on domestic government debt securities (T-bonds) will allow for fixing high yields for a longer period of time. This will encourage the banks to take more expensive deposits more actively in order to increase their purchases of domestic government debt securities.

Table 6. Schematic illustration of the impact of the key policy rate on the performance of banks in wartime

Indicator		Exposure to NBU policy rate	Change
Interest rates on NBU refinancing loans		Direct	↑
Deposit rates		Significant	↑
Volume and maturity of funding		Significant	↑
Cost of funding		Significant	↑
Interest rates on NBU certificates of deposit		Direct	↑
Yields on T-bonds (expected)		Significant	↑
Loan rates:	retail	Moderate	↑
	corporate	Low	–
Volume of lending		Low	–
Quality of loan portfolio		Low	–

Source: NBU.

The extent to which higher interest rates will affect the banks will depend on the banks' business models.

- **Retail banks** will somewhat narrow their overall wide spread between loan and deposit rates. The cost of their funding will increase moderately, as a significant part of it is free due to their customers' loyalty to card products. Therefore, their profitability risks are negligible
- **Corporate and universal banks** will be able to boost the return on their assets through lending under government programs at floating rates. Higher returns will also be generated by rising interest rates on Ukrainian T-bonds. The spread at these banks will narrow more noticeably than at retail banks
- **The banks that raise funding through refinancing loans** are at risk, as their interest expenses have risen sharply. In May, the assets of the banks for which refinancing loans exceeded one-third of their liabilities accounted for about 3% of the sector's total assets. These banks actively invested in fixed-income T-bonds. Those banks that had not hedged against interest rate risk saw it materialize. As most of these banks have substantial capital and liquidity cushions, the short-term loss of profitability will have no irreversible consequences for them. These banks have already started repaying their refinancing loans to reduce their losses. To recover after the crisis, these banks will need to thoroughly revise their business models.

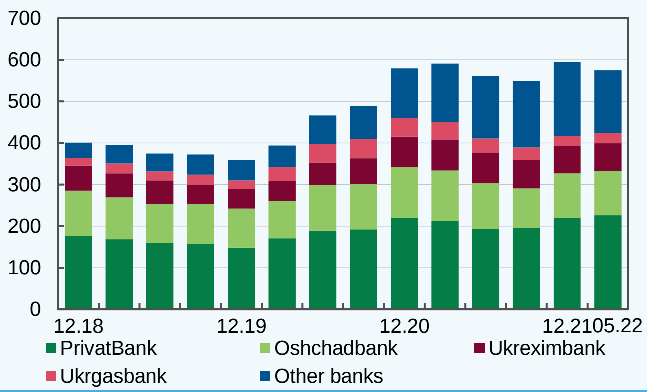
Box 8. Banks' Demand for Domestic Government Securities Will Be Driven by Yields

The record-high budget deficit requires the government to actively raise funds in the domestic market, where the banks have traditionally been the largest creditors. However, low yields on domestic government debt securities (hereinafter T-bonds) are not attracting sustained demand from financial institutions. The banks will be able to invest more in government securities if the yields meet market conditions.

As anticipated, the economic crisis triggered by russian aggression has caused a significant budget deficit. Whether it is financed in full depends on the receipt of international aid and the government's ability to raise funds in the domestic market, where the banks have up until now remained the main creditors. Since the full-scale war broke out, they have not sought to increase their portfolios of T-bonds. In February–May, the banks' investments actually declined by UAH 21 billion, and the share of T-bonds in assets remained almost unchanged. The banks are showing limited interest in T-bonds, as the return on them has remained flat even as risk has increased significantly.

In the years leading up to the war, strong demand from the banks for these securities was fueled by the attractive terms attached to these instruments. For instance, the surge in investments by private banks in 2020 was attributable to the increasing yields of T-bonds. With active lending in 2021, the share of T-bonds in the banks' net assets shrank to 29%, down from 32%.

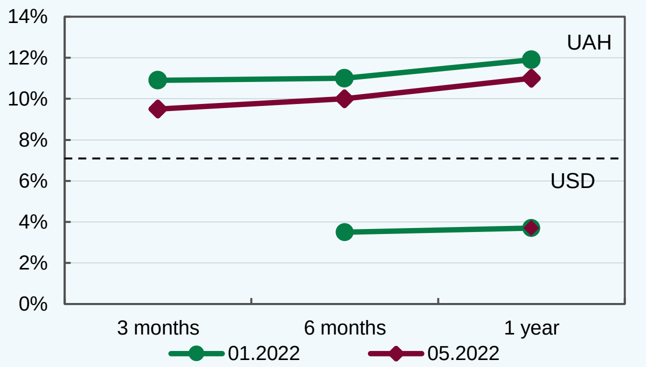
Figure B.8.1. Bank holdings of government debt securities, UAH billions



Source: NBU.

In early 2022, trades in the secondary market signaled an increase in the yields on T-bonds, primarily due to the looming risk of a russian invasion. However, no reliable indicators of market yields on T-bonds have emerged since russia launched its invasion. From late February, the NSSMC suspended the operation of the secondary market for securities. Only war bonds are allowed to be traded, but they are also resold at the nominal primary market yield. Yields in the primary market fell and came close to the key policy rate, 10% at that point. In May, the average daily volume of transactions in the secondary market dropped to almost one-seventh of the January level. The yield curve (spot rate curve) for hryvnia zero-coupon bonds, a benchmark calculated by the NBU, is fixed at the prewar level. In addition, the banks have a limited ability to actively manage their portfolios of T-bonds due to the virtual absence of a secondary market. The appeal of T-bonds as an investment instrument has therefore declined.

Figure B.8.2. Yields of government debt securities on primary market



Source: NBU.

In the earliest months of the full-scale war, the banks and other investors viewed investing in war bonds primarily as a way to support the defense needs of the state. Going forward, the government needs to ensure there is sustained and predictable demand for T-bonds, which can only be maintained on a market-driven basis. Stable and regular purchases of T-bonds by the banks and other investors will improve the planning of state budget cash flows. Market yields on T-bonds may stimulate the banks to actually ramp up their holdings of government securities.

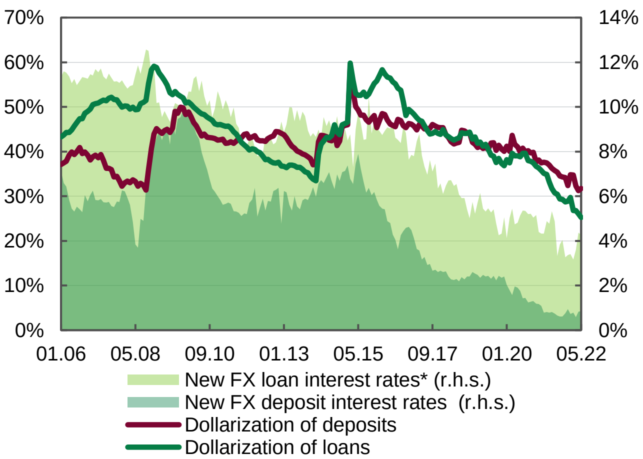
For short terms, the benchmark for yields on these securities is the key policy rate, which the NBU in June raised to 25% from 10%. According to the NBU, this level will ensure that the real return on hryvnia securities is positive. The cost of longer-term borrowing depends on market expectations of future changes in the NBU's short rates and the current demand for longer-term instruments. In June, the government changed the terms of the NBU's purchases of T-bonds to a floating rate linked to the key policy rate. The market is already expecting that a similar rate rise at primary auctions. If it occurs, market demand will increase, and the direct monetary financing of the budget deficit by the NBU will decline. This will help reduce pressure on international reserves and thus avoid a disorderly depreciation of the hryvnia and ease financial stability risks.

The banking system still has a large amount of available liquidity. In May, the banks held UAH 180 billion in certificates of deposit. Meanwhile, loan demand from households and businesses has weakened markedly. If the government returns to market-driven pricing, the banks can increase their investments in T-bonds and step up their share in these assets by several percentage points without compromising their business models. This approach seems justified in wartime.

3.8. FX risks

To maintain price and financial stability, the NBU has fixed the UAH/USD exchange rate and introduced a number of FX restrictions since the end of February. These measures are a temporary solution, and the NBU will return to a floating exchange rate over time. The banks should maintain balanced FX positions to avoid losses when the floating exchange rate is reintroduced. FX risk is also manifested in losses from the worsening quality of the FX loan portfolio. The timely recognition of expected losses will significantly reduce risks.

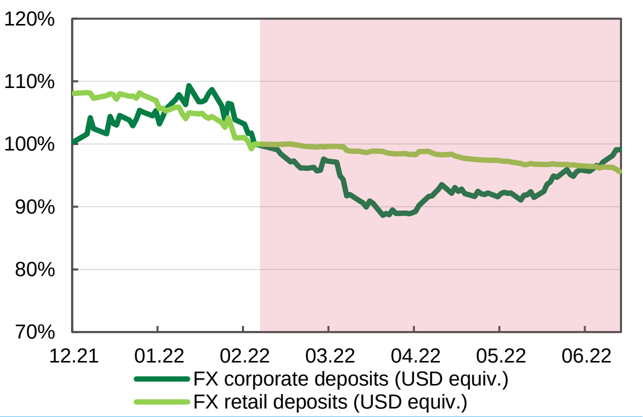
Figure 3.8.1. Share of FX loans and deposits



* Excluding overdrafts.

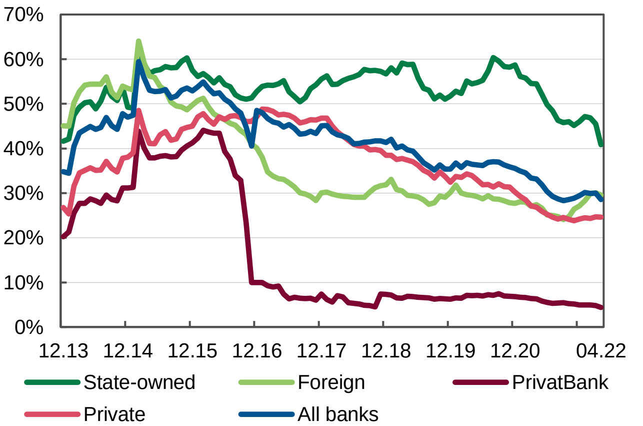
Source: NBU.

Figure 3.8.2. Clients' FX deposits, the USD equivalent, 24 February 2022 = 100%



Source: NBU.

Figure 3.8.3. The dollarization rate of net loan portfolio by groups of banks



Source: NBU.

The banks entered the current crisis with a record-low dollarization rate of their balance sheets

Over the last six years, the dollarization rate of the banks' balance sheets has been gradually but steadily declining on the back of predictable moderate inflation and the low volatility of the hryvnia exchange rate. These conditions facilitated lower hryvnia lending rates and narrower spreads on FX lending rates. As a result, the demand for hryvnia loans increased, while that on FX ones declined. Borrowers also had no great appetite for FX loans, as they had learned the lessons of previous crises. FX loans were mostly issued to companies that had commensurate foreign exchange earnings. FX lending to households is prohibited by law. Therefore, by the beginning of February, the share of FX loans in the net portfolio had dropped to 30% – the lowest figure for more than a decade.

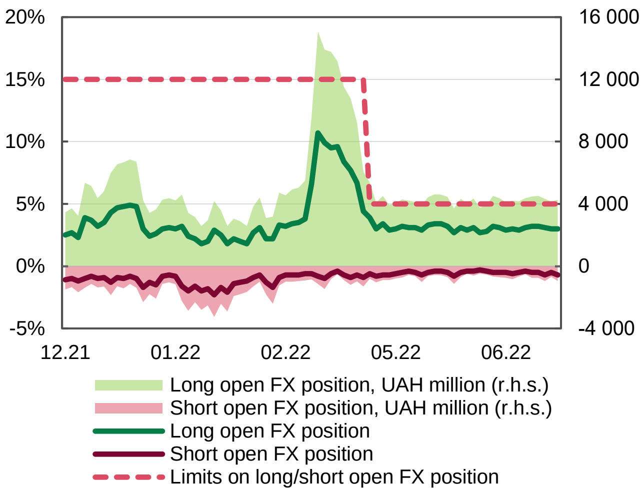
Subdued demand for FX loans and low returns on other FX assets reduced the banks' demand for FX deposits. Financial institutions discouraged FX deposits by setting almost zero interest rates on them. At the beginning of February, the share of FX deposits was 36%.

The fixed exchange rate is temporarily limiting FX risks

After the beginning of the full-scale invasion, the NBU fixed the official UAH/USD exchange rate, while also introducing some FX restrictions. These measures prevented the disorderly depreciation of the hryvnia and protected the banks from FX deposit outflows. At the same time, the banks were allowed to enter FX transactions to meet their own needs: they were able to adjust their FX positions by buying FX at a fixed exchange rate, and even settled their own external debts. These favorable conditions enable the banks to manage their FX risks, which the banks expect to increase in future, according to the Q2 2022 Bank Lending Survey.

FX risk could materialize when the NBU reintroduces a floating exchange rate under an adverse macroeconomic scenario. The fixed exchange rate and tight FX restrictions are temporary measures. Under the base-line macroeconomic scenario, which provides for an increase in the supply of foreign currency, a rational restriction of demand for it, in particular due to the resumption of import taxation, and market balancing, the NBU will return to a floating exchange rate policy while smoothing FX rate fluctuations. At the same time, continued significant monetization of the budget deficit, insufficient external financing, and low returns on hryvnia assets may lead to a rapid decline in international reserves and the need for a significant exchange rate correction to equalize macroeconomic imbalances.

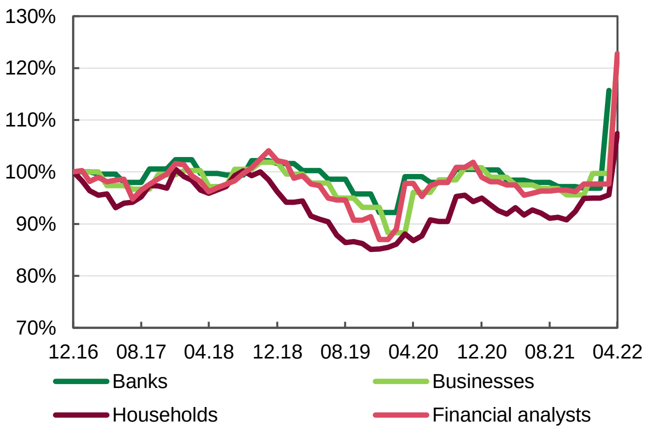
Figure 3.8.4. **FX positions of banks*, % of regulatory capital**



* Solvent banks, excluding Oschadbank and Privatbank.

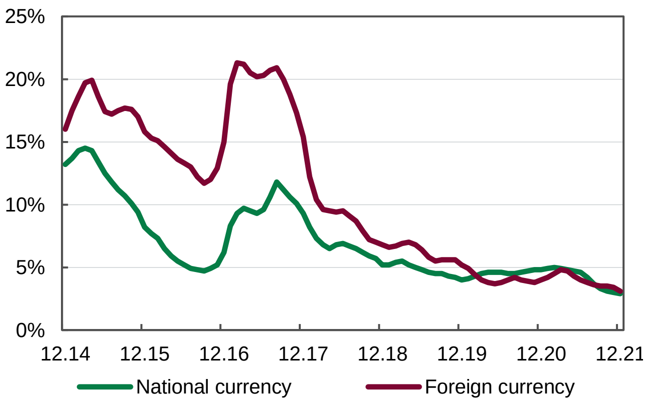
Source: NBU.

Figure 3.8.5. **Change of exchange rate expectations, December 2016 = 100%**



Source: NBU surveys.

Figure 3.8.6. **The default rate of large borrowers* over the 12-month horizon, smoothed data**



* According to microdata on loans exceeding UAH 2 million. No microdata on loans has been collected since martial law was imposed.

Source: NBU.

FX assets continue to decrease

In spring, when the crisis struck, the dollarization rate of assets decreased further. Companies' depreciation expectations deteriorated. That is why they are trying to limit their risks through reducing their FX debt whenever possible. The provisions made by the banks for expected losses also decreased their net FX loan portfolios. From the end of February through the beginning of June, net FX corporate loans decreased by 11%. FX deposits of clients also dropped, albeit more slowly. The banks are able to correct the imbalances in their FX positions, which were caused by the difference in the rates at which their assets and liabilities decreased. Therefore, the current FX positions of most banks are in line with the limits of 5% of regulatory capital. Many banks are maintaining long positions that are closed to the upper band of the limit, expecting a possible weakening of the hryvnia when the floating exchange rate is reintroduced.

FX risk is indirectly materializing through credit risk

The currently balanced FX positions do not fully insure the banks against the materialization of FX risk in future. After all, one of its manifestations is an increase in credit risk. During crises, credit risk losses from FX loans have historically been higher than those from hryvnia loans. The main reasons for this were depreciation and borrowers' insufficient FX earnings. Before the onset of the full-scale invasion, most FX borrowers had FX income, including export earnings. However, with limited opportunities for exports, even exporters cannot now be sure that they will generate steady flows of FX earnings. The income of most corporate borrowers has declined significantly. As a result, the quality of the FX loan portfolio will deteriorate further. Taking into account the impact of FX risk on the solvency of borrowers, losses from the FX portfolio will be greater than from the hryvnia one.

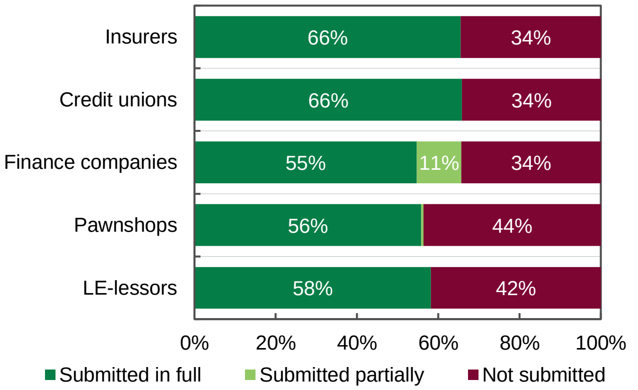
In March–April, the banks increased provisions for FX loans by 1.5 times, to 7.1%. Provisioning will increase, as the share of loans that will migrate to NPLs during the current crisis will exceed 20%. The worsened quality of the loan portfolio and provisioning will decrease the banks' FX positions. Therefore, any delays in recognizing expected losses from FX loans will only increase the banks' FX risks. Those banks in which FX liabilities are balanced with low-quality assets are unlikely to have correct assessments of their FX positions. Therefore, financial institutions should timely recognize their expected credit losses and manage their FX positions within set limits, taking into account current market conditions.

Part 4. Non-Banking Sector Conditions and Risks

4.1. Non-bank Financial Sector Review

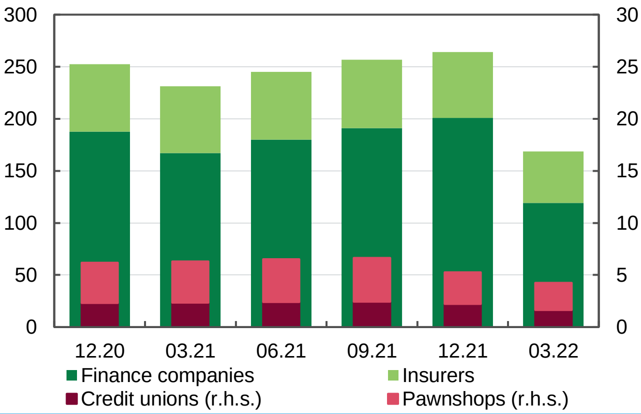
The operating activities of non-bank financial services providers have been seriously affected by the war. The sector turned out to be vulnerable to operational risk, and a large number of companies had to close. Further on, non-bank financial institutions (NBFIs) might face the materialization of liquidity and credit risks and an eventual deterioration of their financial performance. The NBU has taken the required measures to support the sector, and market participants must make efforts to resume operations.

Figure 4.1.1. Status of reporting for Q1 2022, percentage of total number of institutions in the Register



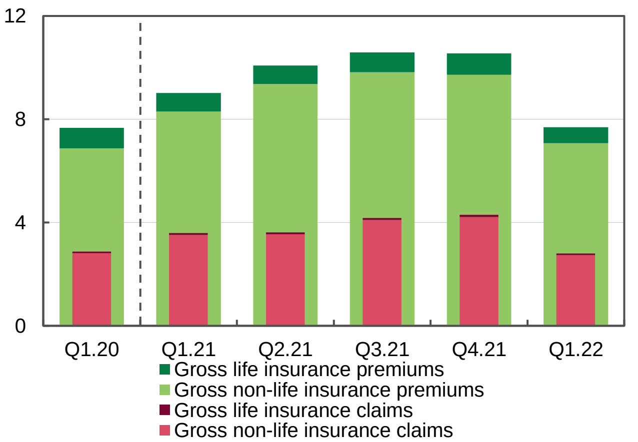
Reports submitted by NBFIs as of 6 June 2022. LE – legal entities
Source: NBU.

Figure 4.1.2. Assets of reporting providers of non-bank financial services, UAH billions



Reports submitted by NBFIs as of 6 June 2022.
Source: NBU.

Figure 4.1.3. Premiums and claims paid by type of insurance, UAH billions



Reports submitted by insurers as of 6 June 2022.
Source: NBU.

The war caused new problems for the market

Operational risks materialized for non-bank financial services providers after the start of the large-scale russian invasion of Ukraine in late February. As they saw security threats in many regions, they had to leave their usual locations and close branches. Not all of the financial institutions were able to move their offices to safer places. Some of them also faced staff shortages as their employees were displaced. Financial institutions frequently lost access to information and documents after being forced to relocate quickly. Despite the experience of the coronavirus crisis, many companies were not ready for remote working: they were not able to perform the majority of processes remotely. This complicates their further operations and hinders their full recovery. Some of the institutions suspended their activities or even closed. Nevertheless, all sectors still have participants that continue to provide high-quality services. Recovering operating activities can support companies' financial standing under the current conditions.

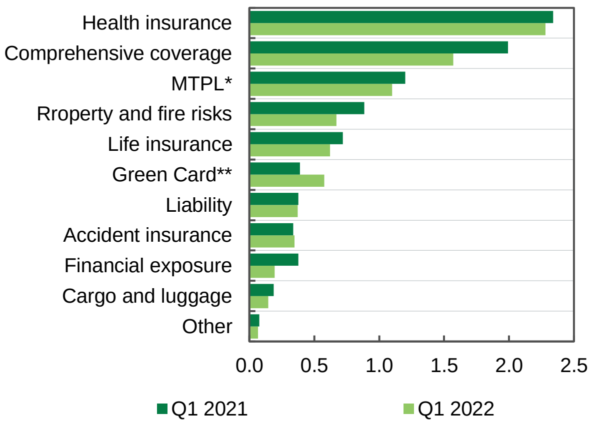
A large number of the financial institutions are not able to submit reports in time and in full due to loss of access to information and process disruptions. Only two thirds of insurers and even fewer credit unions, finance companies, pawnshops, and lessors managed to report about their performance in Q1 2022. Some of the institutions that failed to provide reports have closed their business. The condition of the sector can be assessed accurately only after reporting resumes.

Considering the threats to the operations of NBFIs, the NBU has eased a number of regulatory requirements for the market for the duration of martial law. The regulator will not impose corrective measures for some violations caused by military activities, in particular for noncompliance with required ratios and nonsubmission of reports.

Demand for insurance services has dropped, and uncertainty complicates risk assessment

Demand for insurance dropped significantly because of the war, as economic activity decreased, and policyholders – households and businesses – lost their income. Many clients in the temporarily occupied territories decided against the regular renewal of insurance, as it is difficult to prove the occurrence of an insurance incident during the war. As a result, life insurance premiums of companies that submitted their reports in Q1 fell by 14% year-on-year. The fall in premiums on non-life insurance was even more dramatic: the premiums of insurers that kept submitting reports shrank by almost a quarter. Some types of insurance, such as aviation insurance, paused due to limited activity in the respective

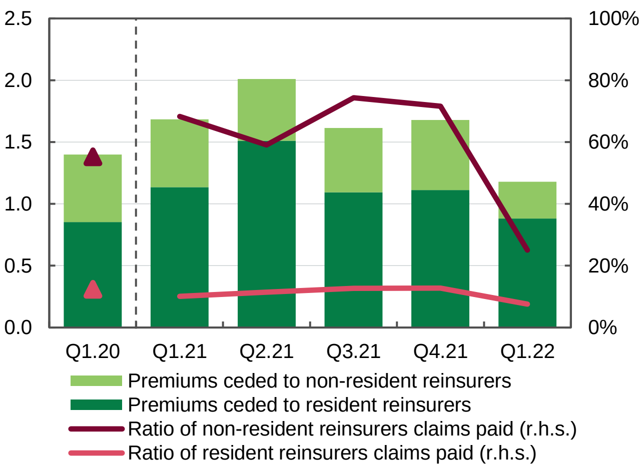
Figure 4.1.4. Insurance premiums by most popular types of insurance, UAH billions



Reports submitted by insurers as of 6 June 2022. * Compulsory motor third party liability insurance ** International Motor Insurance Card System.

Source: NBU.

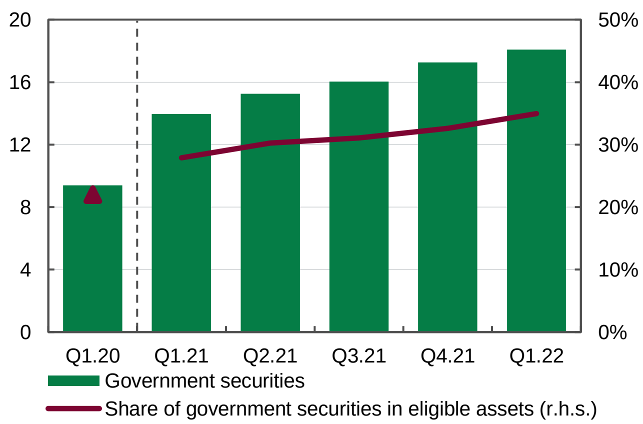
Figure 4.1.5. Premiums ceded to reinsurers and ratio of claims paid, UAH billions



Reports submitted by insurers as of 6 June 2022.

Source: NBU.

Figure 4.1.6. Government securities held by insurers, UAH billions



Reports submitted by insurers as of 6 June 2022.

Source: NBU.

industries. As a result, companies with portfolios dominated by these risks suffered the most. Insurers that had diversified portfolios were the least affected. Insurance volumes even grew for some types of insurance, such as the Green Card.

Insurance premiums decreased in companies that were selling their products mainly through their own offices, as well as through car dealers and travel agencies, which have been closed for a long time. Another factor in the decline in sales was a decrease in retail lending, which dampened demand for accompanying collateral insurance. At the same time, insurers that provided their services remotely via online sales channels had an advantage.

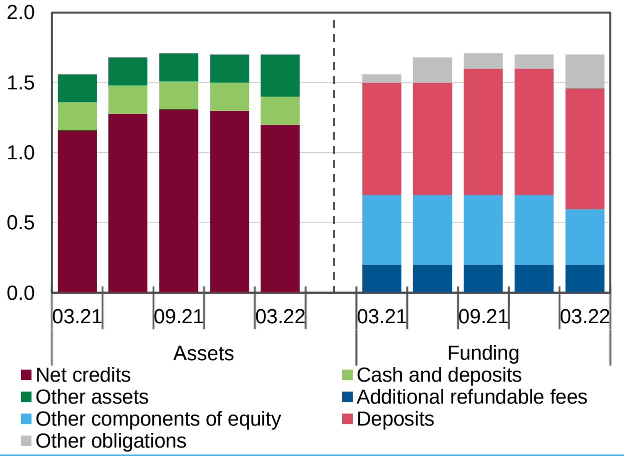
A sharp decline in premiums increases liquidity risks for insurers – primarily those insurers that had not had sufficient buffers of high-quality liquid assets before the war. Changes in market conditions reduce liquidity or even make it impossible to convert some of its components into cash. With the market almost completely frozen, it is impossible to evaluate real estate and land, as well as to sell property. Credit risks increased for reinsurance claims and accounts receivable due from clients under insurance policies. The liquidity of domestic government debt securities declined as the National Securities and Stock Market Commission (NSSMC) imposed restrictions on transactions with such securities at the start of the full-scale invasion. However, bonds still can be pledged as a temporary solution to liquidity problems. As of the start of the year, the share of domestic government debt securities in the eligible assets of non-life insurers accounted for 35%.

In late April, settlements with nonresidents were unblocked for the reinsurance of nuclear risks, the Green Card, civil aviation risks, and property risks of telecommunication networks and infrastructure. Previously, FX restrictions were an obstacle to these transactions. These risks accounted for around a quarter of reinsurance premiums. However, reinsurance was still complicated for the remainder of the risks. The effective suspension of reinsurance services raises risks for Ukrainian insurers. In the meantime, some international companies refuse to enter into reinsurance agreements with Ukrainian insurers due to high risks.

The war makes it much more difficult to assess insurance risks. Current tariffs and estimated provisions may be irrelevant because of increased uncertainty. Three out of thirteen life insurers have stopped selling their products. Furthermore, insurance premiums might grow in the future, fueled by large property losses. In Q1 2022, claims paid by reporting insurers decreased even more than premiums. However, the total losses incurred by insurers will only be known after losses are assessed for insured property. Under current conditions, this will take a significant amount of time.

Operational risks rose, with cyber risk being significant. For example, a hacker attack on the resources of the Motor (Transport) Insurance Bureau of Ukraine (MTIBU) interrupted the conclusion of insurance agreements and settling losses from road traffic accidents.

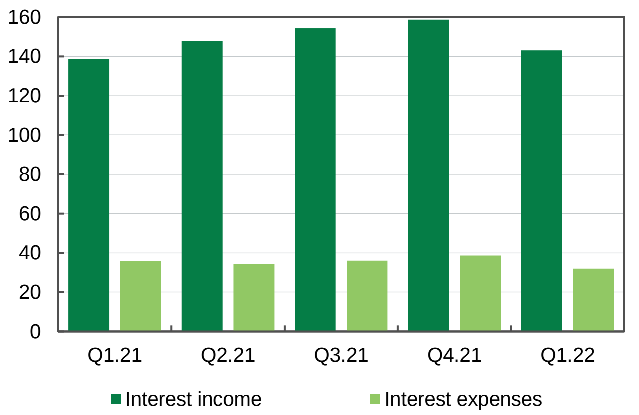
Figure 4.1.7. Assets and funding of credit unions



Based on data from the companies that submitted their reports for Q1 2022.

Source: NBU.

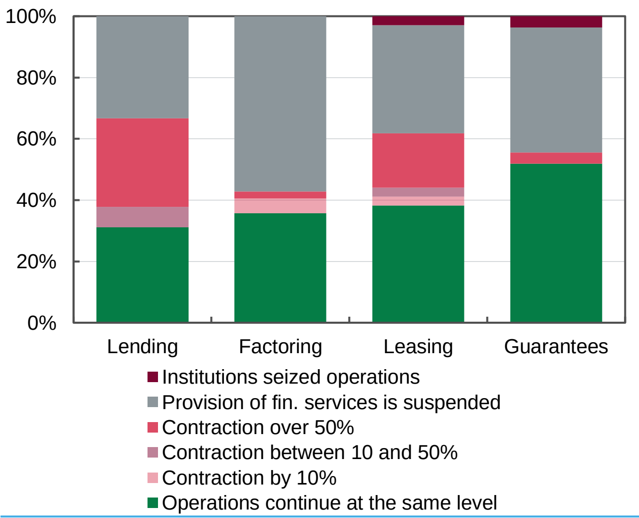
Figure 4.1.8. Interest income and expenses of credit unions, UAH billions



Based on data from the companies that submitted their reports for Q1 2022.

Source: NBU.

Figure 4.1.9. Status of institutions' activities as of 1 June 2022, compared to pre-war period



Source: NBU, survey findings[10].

Credit unions' loan portfolio quality is deteriorating, with consumer loans dominating the portfolio

The war raised the credit risks of credit unions. The declared share of loans past due for more than 90 days in Q1 grew by 3 pp, to 17%. However, this indicator does not fully reflect potential credit losses yet. Credit unions offered restructuring to their clients, in particular postponing principal and interest payments. New lending also slowed: consumer loans that are the core of the portfolio decreased by a third at credit unions that submitted their reports for Q1.

Underreceiving interest income and untimely loan repayments threaten a loss of liquidity at credit unions. Credit unions do not have sufficient reserves of liquid assets: cash and deposits account for around a tenth of their assets. At the same time, credit union members are trying to withdraw their deposits ahead of term, and deposits are declining. The ban on early deposit repayment and the redemption of additional share contributions is limiting the outflow of funds to a certain extent.

The materialization of credit risk is also expected to cause losses for credit unions. Taking into account lower household income and the lack of other sources for increasing capital, this will threaten the solvency of a number of market participants.

Activity of finance companies, pawnshops, and legal-entity lessors slowed from the start of the war

Having increased their activities very rapidly in late 2021, finance companies sharply reduced their lending. According to surveys of finance companies[10], the lack of stable funding and lower borrower solvency were the main factors behind the decrease in lending. Finance companies practically halted the issue of guarantees and provision of financial leasing services in Q1. Accounting for almost all provided leasing transactions, legal entity lessors reduced the volumes of their services by more than a third compared to Q1 2021. Lending by pawnshops declined by a quarter in Q1 year-on-year.

Paused activities were instantly reflected in the institutions' financial performance. Finance companies that had been profitable before the war became loss-making in Q1. Pawnshops also generated net losses as of the end of Q1, although they reported net profits a year ago.

[10] Survey on supervised entities' activities. Respondents are the top 20 companies from each segment of financial services: lending, factoring, guarantees, leasing, pawnshops, and raising financial assets under the commitment to return them. A total of 134 respondents were polled.

Recommendations

Coordinated efforts and close coordination of all financial market players – banks, NBFIs, the NBU, and other market regulators, and the effective support of public authorities – are needed to ensure financial stability in dire wartime conditions. The NBU makes recommendations to the state authorities and financial institutions, and communicates its near-term goals and plans.

Recommendations to State Authorities

Expand government programs to support businesses

The government support program Affordable Loans 5-7-9%, and the provision of government guarantees on a portfolio basis are the main drivers of lending in wartime. Given the programs' success so far, the government should increase their volume and expand the range of eligible borrowers. The Ministry of Finance should revise up the program's planned expenditures for 2022, taking into account the prospects for loan portfolio growth and market interest rate increases. It is also important to make a timely transfer of funds from the Fund for Entrepreneurship Development to the banks as partial compensation for loan interest rates.

Bring the terms of government bond issues closer to market conditions

The Ministry of Finance needs to expand its market sources of funding to finance the budget deficit, and to minimize direct monetary financing from the NBU. The banks that have traditionally been the government's main creditors have sufficient liquidity to invest in government bonds. They have been deterred from doing so by the current low yield on war bonds. Higher yields on government bonds will boost demand for them. At the same time, this will reduce the NBU's monetary financing of the state budget, thus mitigating risks to price and financial stability.

Diversify import taxes

The cuts made to import taxes in the earliest months of the full-scale war enabled Ukraine to meet its need for scarce goods, primarily those required to effectively repel the aggressor. Currently, import taxes are coming back. The government should introduce additional import duties on noncritical categories of goods and services. This will increase budget revenues and reduce imbalances in the FX market.

Address the issue of lost housing and potentially impaired mortgages

The procedure for the banks' further work with loans secured by collateral that has been damaged or lost, or that is located in areas occupied by russia, should be enshrined into law. Draft Law No. 7441–1, registered in the Verkhovna Rada on 14 June 2022, is intended to do this. Under this draft law, the servicing of a loan is suspended until the borrower receives compensation for damaged or lost property. The procedure for the further settlement of such loans will depend on the degree of damage caused to borrowers and their property. At the same time, the principle of loss sharing should apply: the state must share with the banks the losses arising from the debt restructuring. For this mechanism to work effectively, it is necessary to identify a procedure for providing compensation to borrowers and to start making such payouts.

Pass legislation that will promote credit union stability

This primarily concerns amending the Law of Ukraine *On Credit Unions* to stipulate the option of temporarily suspending a credit union on its board's initiative for the duration of martial law. This will enable credit unions that have liquidity problems and are increasingly delinquent on their payments due to the war to suspend their activities to stabilize their financial standing. At the same time, the amendments propose to establish an obligation for such a credit union to resume its activities no later than the 91st calendar day after martial law ends.

Recommendations for banks and NBFIs

Recognize credit risk on time, restructure loans if necessary

The banks and other lenders need to improve their approaches to estimating expected credit losses under IFRS 9 so that these estimates are in line with the depth of the current crisis. The banks must also uphold the principles of prudential credit risk assessment. In February, the NBU suspended certain credit risk assessment requirements, which are now gradually being reimposed. Going forward, timely loan repayments will be the main quality benchmark for small loans. At the same time, it is necessary to carefully analyze the financial standing of borrowers that have large loans or difficulties with servicing them. Based on a relevant assessment, financial institutions may propose a type of restructuring that will allow the borrower to resume their loan repayments over time.

Adjust business models and business plans to crisis conditions

The financial institutions should update their business models in light of current conditions and adjust them to account for the materialization of a number of risks, primarily credit and operational ones. To minimize the fallout from the crisis, it is necessary to take measures in advance to maintain operating profitability and reduce credit losses. Business plans should be based on realistic assumptions about market developments in the near future. Going forward, these plans will serve as a guide for the NBU to decide when to put pre-war regulatory requirements back in place.

It is also important that financial institutions:

- Strictly comply with NBU requirements while under martial law, in particular with regard to sanctions legislation and FX controls
- Pay increased attention to AML/CFT
- Inform the NBU on time about violations of capital or liquidity requirements or risks of such violations
- Keep their business continuity plans and business recovery plans up to date (this applies to banks)
- Continue to improve their cybersecurity systems.

NBFIs should resume the timely submission of reports

Providers of non-bank financial services need to prepare and file reports with the NBU in a timely manner. The NBU has temporarily waived its enforcement measures for failure to submit or late submission of reports. However, this information will facilitate an unbiased assessment of the sector's condition and inform effective management decisions.

NBU's plans and intentions

Since russia launched its full-scale invasion, the NBU has been promptly responding to the challenges of the war and adjusting its regulatory approaches accordingly. The central bank will continue to respond flexibly to the changing market conditions to help ensure financial stability. In the near future, the NBU is planning to:

- Resume, from 30 June 2022, the calculation of the number of days past due on loan repayment, oblige the banks to analyze all information on the status of collateral located in war zones, and renew the requirement for quarterly/monthly debt repayments as a condition for the group-based and simplified assessment of assets
- Reduce, from 30 July 2022, the risk weights on unsecured consumer loans to 100% from 150%
- Expand the list of statistical information provided by the banks to the NBU.

The NBU will maintain its approaches to assessing capital adequacy and liquidity ratios and will not apply corrective actions for their violation

The NBU's current approaches to the assessment of capital adequacy and liquidity ratios are in line with EU acquis and will not be revised due to the crisis. Meanwhile, the NBU does not require compliance with the minimum capital adequacy and liquidity ratios – corrective actions are not being applied. After the active phase of hostilities ends, the NBU jointly with the banks will develop a plan for a gradual return to meeting the key performance indicators and a schedule for complying with the minimum required ratios. The banks will be given enough time to recover their financial standing. The key to this will be to maintain effective business models.

Abbreviations and terms

War, invasion	Full-scale russian invasion to Ukraine since 24 February 2022
War-affected	Communities in areas of hostilities, under temporary occupation or surrounded, in line with definition of Ministry for reintegration
AML/CFT	Anti-money laundering / Combating the Financing of Terrorism
ATM	Automated teller machine
CCAR	Core capital adequacy ratio
CIR	Cost-to-income ratio
CoR	Cost of risk
COVID-19, COVID	Coronavirus disease 2019
CPI	Consumer price index
CV	Curriculum Vitae
DGF	Deposit guarantee fund
EBA	European Business Association
EBIT	Earnings before interest and taxes
EBRD	European Bank for Reconstruction and Development
EIB	European Investment Bank
EM	Emerging markets
EU	European Union
FAO	Food and Agriculture Organization
FX	Foreign currency/exchange
GDP	Gross Domestic Product
ICAAP	Internal Capital Adequacy Assessment Process
IFI	International Financial Institutions
IFRS	International Financial Reporting Standards
IMF	International Monetary Fund
IT	Information technologies
LCR	Liquidity coverage ratio
LGD	Loss given default
LTV	Loan-to-value ratio
MoF	Ministry of Finance of Ukraine
SMEs	Small, and medium-sized enterprises
NBFI	Non-bank financial institution
NBU	National Bank of Ukraine
NFC	Non-financial corporations
NSFR	Net stable funding ratio
NPE/NPL	Non-performing exposure / loan
NSSMC	National Securities and Stock Market Commission
OECD	Organization for Economic Co-operation and Development
O/N	Overnight (rates)
Parliament	Verkhovna Rada of Ukraine (Supreme Council)
PD	Probability of default
PrivatBank	Public Joint-Stock Company Commercial Bank “PrivatBank”
Regulation No 351	Regulation of the NBU of 30 June 2016 No 351 approving Regulation on credit risk calculation by Ukrainian banks
ROE	Return on equity
SREP	Supervisory Review and Evaluation Process
SSSU	State Statistics Service of Ukraine
STSU	State Treasury Service of Ukraine
T-bonds	Domestic government debt securities
UIRD	Ukrainian Index of Retail Deposit Rates
UK	United Kingdom of Great Britain and Northern Ireland
US	United States of America
VAT	Value-added tax

mln	million
bn	billion
sq. m	square meters
EUR	euro
UAH	Ukrainian hryvnia
USD	US dollar
USD eq.	US dollar equivalent
pp	percentage points
yoy	year-on-year
qoq	quarter-on-quarter
mom	month-on-month
eop	end of period
bp	basis point
r.h.s.	right hand scale
l.s.	lower scale
Q	quarter
M	month