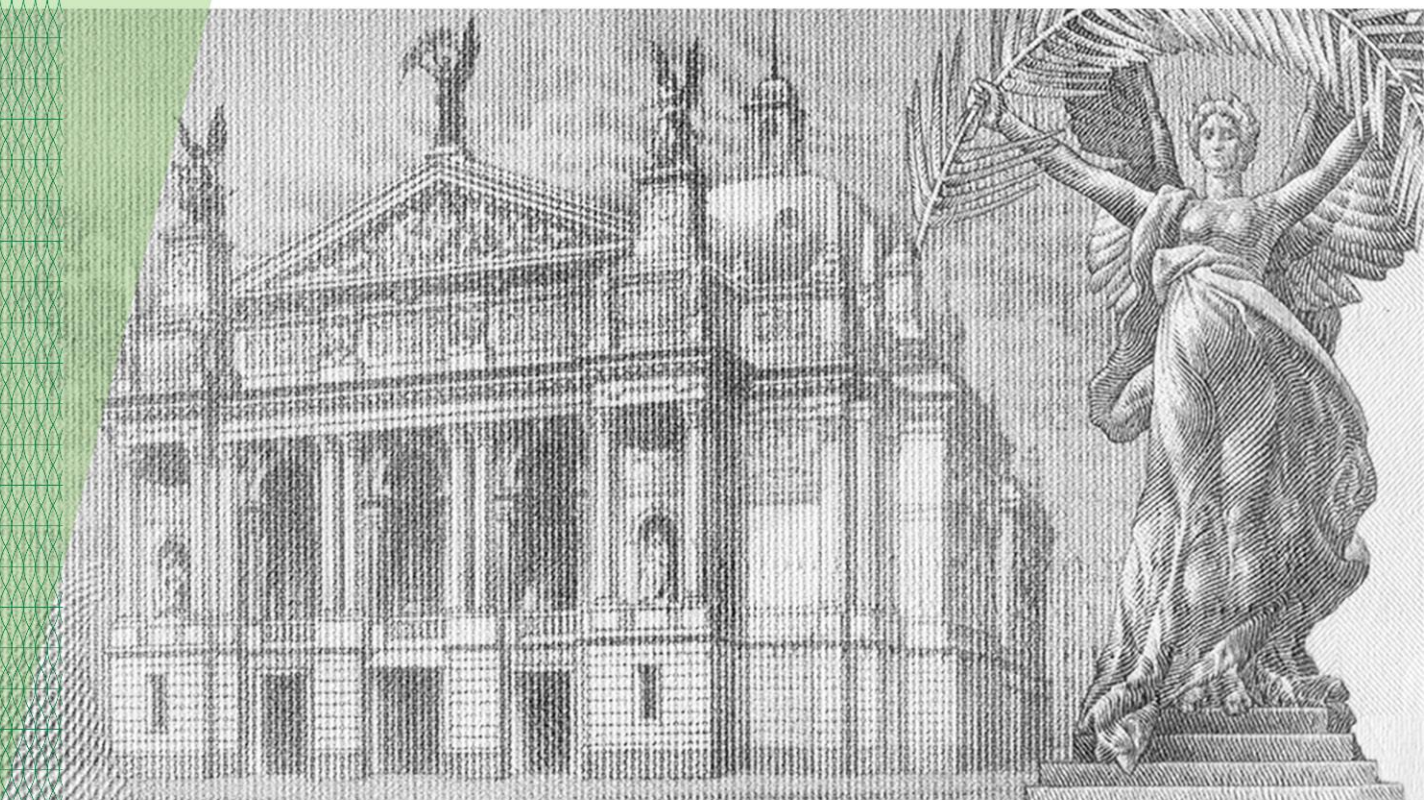




National Bank
of Ukraine

Inflation Report

October 2023



Despite the full-scale war, the NBU remains committed to its mandate to ensure price and financial stability, which are the keys to achieving sustainable economic growth. At the same time, the lower effectiveness of market instruments and high uncertainty have rendered it temporarily impossible to conduct monetary policy in its conventional inflation targeting format. The approaches to fulfilling the NBU's priority functions, as well as the objectives and principles of the central bank's monetary policy, have had to be changed, and these changes were set out in the *Monetary Policy Guidelines for the Duration of Martial Law*. The changes were elaborated further in the *Strategy for Easing FX Restrictions, Transitioning to Greater Exchange Rate Flexibility, and Returning to Inflation Targeting* ("the Strategy").

Pursuant to the Strategy, maintaining exchange rate sustainability will remain the key stabilization measure for ensuring steady disinflation, and will support the adaptation of the economy to the conditions of full-scale war. Not only does it have a direct restraining effect on the growth in the cost of goods and services, it also eases underlying price pressures through having a positive influence on expectations.

The steady progress in reducing inflation, the accumulation of a significant level of international reserves, and the increase in the attractiveness of hryvnia deposits and domestic government debt securities have made it possible to move to managed exchange rate flexibility. The new regime is designed to strengthen the resilience of the Ukrainian economy and FX market, promote their better adaptation to domestic and external shocks, and reduce the risk of the accumulation of FX imbalances. At the same time, the NBU is keeping FX market conditions under control by covering the structural deficit of foreign currency in order to ensure the exchange rate can adjust moderately in either direction. FX market sustainability is also supported by maintaining and calibrating a number of administrative restrictions (in particular, restrictions on FX transactions and capital movement), ceasing monetary financing, and ensuring proper monetary conditions to prop up the attractiveness of hryvnia assets. The NBU is directing its interest rate policy, *modernizing its operational design*, and applying other monetary policy instruments (in particular, the differentiation and adjustment of reserve requirement ratios) primarily in order to ensure the sufficient attractiveness of hryvnia term deposits. This restrains demand for foreign currency, helping to protect international reserves and maintain exchange rate sustainability. The NBU's measures thus support further disinflation amid persistently high risks, high uncertainty, and a significantly large state budget deficit. The NBU's policy corresponds to the principles of the Strategy, and contributes to the formation of the preconditions needed for its further implementation.

The analysis in the current Inflation Report (October 2023) is based on the data available at the date of its preparation. Thus, for some indicators, the time horizon of the analysis may vary. For the majority of indicators, the cut-off date for the data in this report is 25 October 2023. The Inflation Report contains a forecast for the economic development of the country in 2023–2025 that was prepared by the Monetary Policy and Economic Analysis Department. The NBU Board approved the report at its monetary policy meeting on 26 October 2023¹.

The NBU Board will continue to decide on the level of the key policy rate and the use of other monetary tools in line with *the schedule that it publishes in advance*. The decisions the NBU Board makes in January, April, July, and October are based on new macroeconomic forecasts. At the remaining four meetings (taking place in March, June, September, and December), the NBU Board makes its interest rate decisions on the basis of the results of assessments of risks and uncertainty that take into account the economic developments in Ukraine and beyond that have occurred since the latest forecast.

The NBU Board announces its decisions on setting the level of the key policy rate and the use of other monetary instruments at a press briefing held after an NBU Board monetary policy meeting, on the same day, at 2 p.m. A press release that reflects the NBU Board's consensus position on its monetary policy decisions is published at the same time. The Summary of the Discussion on the Key Policy Rate at the Monetary Policy Committee is published on the 11th day after the decision is made. In contrast to press releases on monetary policy decisions, the summary shows the depersonalized opinions of all MPC members on the optimal monetary policy decisions to be made. It includes dissenting views and the reasoning behind them.

Previous issues of the Inflation Report, presentations of the Inflation Report, the forecast of the main macroeconomic indicators, and data for tables and figures are available *here*.

¹ NBU Board decision No. 381 *On Approval of the Inflation Report* dated 26 October 2023.

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Summary

The baseline scenario of the NBU's macroeconomic forecast assumes that Ukraine will continue to pursue coordinated monetary and fiscal policies with a focus on ensuring macrofinancial stability and consistently fulfill its commitments under programs with international partners, which will continue to provide significant financial support. In addition, the baseline scenario assumes a significant decline in security risks starting from 2025, which would contribute to the complete unblocking of seaports, help expand opportunities for investment and business activity, and a more active return of forced migrants to Ukraine.

Inflation has been decreasing rapidly over the last few months, primarily on the back of strong harvests

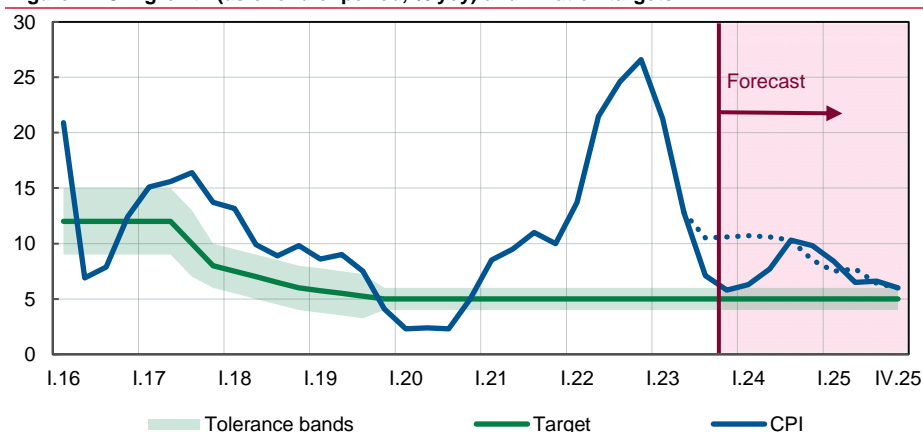
In September, inflation declined to 7.1% yoy. These price dynamics were primarily driven by the large supply of agricultural produce from the new harvest, in particular fruits and vegetables, sugar beet, grains, and oilseeds. The moratorium on raising certain utility tariffs has continued to restrain the growth in administered prices. Stable FX market conditions limited the rise in prices for goods with a significant import component (household appliances, electronics, etc.). As a result, core inflation also slowed considerably in September, to 8.4% yoy.

According to NBU estimates, inflation continued to decelerate in October. This was, among other things, facilitated by continued exchange rate sustainability amid successful transition to managed exchange rate flexibility. At the same time, other underlying factors continued to put pressure on inflation. The gradual economic recovery is being accompanied by a revival of demand for consumer goods and services, while the shortage of skilled workers, particularly due to migration, is prompting companies to raise wages relatively quickly. Moreover, the pressure on business costs remains high, which is related to the consequences of the war – damaged facilities, disrupted logistics, higher electricity prices for non-household consumers, and so on.

Inflation will remain moderate, although it will temporarily accelerate next year

The NBU has improved its end-2023 inflation forecast, from 10.6% to 5.8%. This was mainly driven by the impact of the large harvest on food price developments. At the same time, the NBU has revised its 2024 inflation forecast upward, from 8.5% to 9.8%. The faster growth in prices next year will be caused by this year's low comparison base for food prices, persisting pressures on business costs due to the revised security risks assumption, higher wages, and faster increases in administered prices.

Figure 1². CPI growth (as of end of period, % yoy) and inflation targets



Source: SSSU, NBU staff estimates.

Going forward, inflation will decelerate to 6% in 2025. This will be primarily driven by the expected decline in security risks. The recovery in optimal logistics and production in the post-war period will enable an increase in the supply of goods and limit price pressures. The expected decline in global energy prices will also have a major impact on price movements.

² Unless specified otherwise, a dashed line in the figures indicates the previous forecast (July 2023).

Economic growth will resume in 2023, and will continue further on

The NBU has improved its real GDP growth forecast for 2023, raising it from 2.9% to 4.9%. A number of factors are driving the faster pace of economic recovery. They include the higher adaptability of businesses and households to wartime conditions, better-than-expected harvests, an expansion of alternative routes for exporting goods, and larger budget spending.

In 2024, the economy will grow by 3.6%, despite persistently high security risks. The economic recovery will be supported by the continued development of alternative exporting routes and a sustained loose fiscal policy, which will support consumer demand. On the other hand, persisting logistics problems and limits on investment due to the war will rein in economic growth.

The NBU forecasts that real GDP growth will accelerate to 6% in 2025. This will be primarily driven by the expected decline in security risks. As these risks subside, migrants will gradually return from abroad, consumer and investment confidence will improve, logistics and production chains will be set up, and damaged infrastructure will be reconstructed.

Thanks to official financing, the NBU will be able to maintain a sufficient level of international reserves and therefore support the sustainability of the FX market

It is assumed that the financial assistance to be provided to Ukraine this year will total USD 45 billion in loans and grants. These disbursements remain the main source for covering the high budget deficit, which stands to widen to almost 29% of GDP this year. Thanks to international financial assistance, Ukraine has also been able to finance its considerable current account deficit, and the NBU has been able to maintain a high level of international reserves and keep balancing the FX market.

Ukraine's needs for external financing in the years ahead will remain significant, despite the gradual mobilization of domestic financial resources and fiscal consolidation. An important assumption underlying the forecast remains the sufficiency and regularity of such assistance. This requires that Ukraine meet its commitments to its international partners. That will make it possible to finance the budget's critical expenditures and avoid having to rely on monetary financing in future. For its part, the NBU will be able to maintain international reserves at above USD 40 billion, despite making significant interventions to preserve the stability of the FX market amid further currency liberalization measures, among other things.

In order to ensure that hryvnia-denominated assets are highly attractive, in particular as FX market participants adjust to the managed flexibility of the exchange rate, the NBU has made no change in the interest rates for the NBU's transactions with banks

The previous steps to loosen the interest rate policy led to anticipated decreases in rates on hryvnia instruments. Current rates on domestic government debt securities and deposits in the national currency adequately protect the hryvnia from the inflation-driven erosion of purchasing power. However, there is currently a limited space for further loosening of the interest rate policy given the need to keep real interest rates on hryvnia instruments positive in order to ensure exchange rate sustainability and create preconditions for a further easing of FX restrictions.

Taking this into account, in October the NBU kept the interest rates on all of its transactions with the banks unchanged, including keeping the rate at 16% for overnight certificates of deposit (CDs), 20% for three-month CDs, and 22% for refinancing loans. At the same time, the NBU set its key policy rate at 16%, making it equal to the rate on overnight CDs. In such a way, the NBU modernized the operational design of its monetary policy in line with the floor system. The decisions taken will reinforce the signaling role of the key policy rate amid the structural liquidity surplus on the one hand, and help support the attractiveness of hryvnia assets on the other.

The NBU's forecast envisages a cautious cut in the key policy rate in December, but there is little room for a further easing of its interest rate policy

Provided there are no signs that the balance of risks is deteriorating, and that market participants have successfully adapted to the new FX regime, the NBU will be able to cut the key policy rate in December. At the same time, the expected trajectory of inflation and the next steps planned to liberalize the FX market limit the room for easing the interest rate policy next year. Key policy rate

cuts will only be possible in 2024 if risks to exchange rate sustainability and inflation developments decline substantially.

The key risk to inflation dynamics and economic development is the longer duration, the unpredictable nature, and intensity of the full-scale war

The NBU has revised its main assumption regarding the longevity of high risks to security. The updated forecast envisages that these risks will persist until at least the end of 2024. This assumption is consistent with the vast majority of expert forecasts and survey results. It also matches the assumptions underlying the 2024 draft budget, which allocates considerable expenditures to maintain defense capabilities throughout the year.

Uncertainty over the length of the full-scale war remains high. An expedited victory for Ukraine would promote faster economic growth and eliminate a large part of the inflationary risks posed by the war. By contrast, if security risks were to persist for longer than currently expected, they could lead to additional losses of Ukraine's economic potential and heavier inflationary pressures throughout the forecast horizon.

The following risks remain relevant:

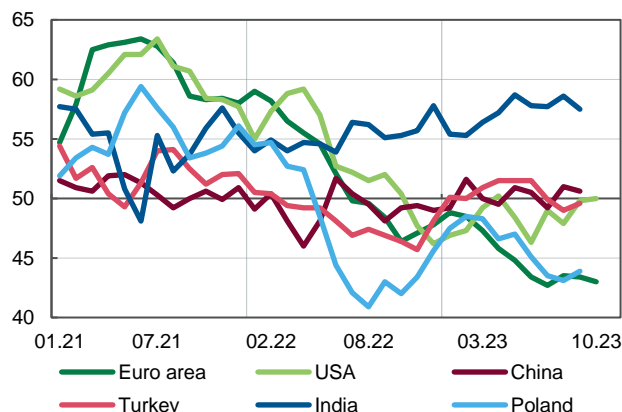
- decreased or less regular disbursements of international assistance
- the emergence of additional budget needs (to maintain defense capabilities, eliminate the consequences of terrorist attacks, and more) and substantial quasi-fiscal deficits, in the energy sector in particular
- significant damage to port and energy infrastructure, such that it restrains exports
- adverse trends in migration.

In contrast, the implementation of large-scale reconstruction projects could significantly accelerate the economic recovery of Ukraine. What is more, economic growth in the short run may be quicker than expected if there is a more pronounced increase in the capacity of sea export routes.

Part 1. External Environment

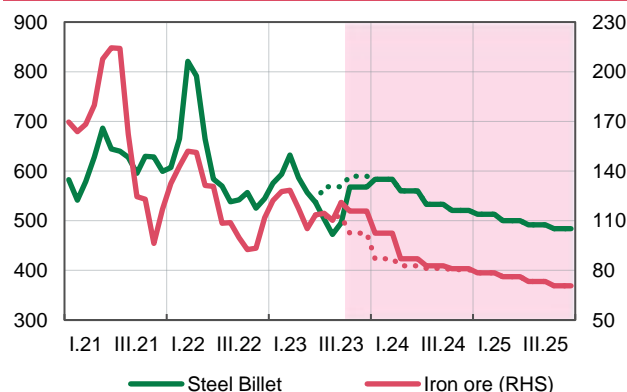
- After a period of sluggish growth in 2023, economic activity in Ukraine's main trading partners (MTPs) will pick up, despite financial conditions remaining tight. This will be driven by a gradual decline in inflation, and resilient labor markets.
- External inflationary pressures will slowly ease thanks to a downward trend in energy and food prices as supply increases more rapidly than demand.
- Global financial conditions will remain tight for a long time, and government bond yields will stay high as inflation gradually moves toward target levels.

Figure 1.1. Manufacturing PMI of selected countries



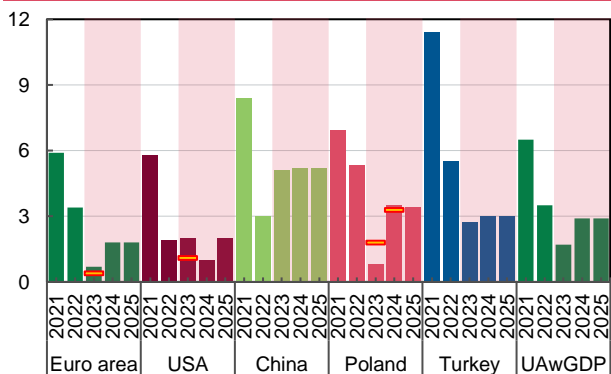
Source: S&P Global.

Figure 1.2. World steel and iron ore prices*, USD/MT



* Steel Billet Exp FOB Ukraine and China import Iron Ore Fines 62% FE spot (CFR Tianjin port). Source: Refinitiv, Delphica, NBU staff estimates.

Figure 1.3. Real GDP of selected countries and weighted average of annual GDP growth of Ukraine's MTP countries (UAWGDP), % yoy



— previous forecast.

Source: National statistical offices, NBU staff estimates.

Following a significant slowdown in 2023, economic activity in Ukraine's MTPs will continue to revive, driven by lower inflation and resilient labor markets

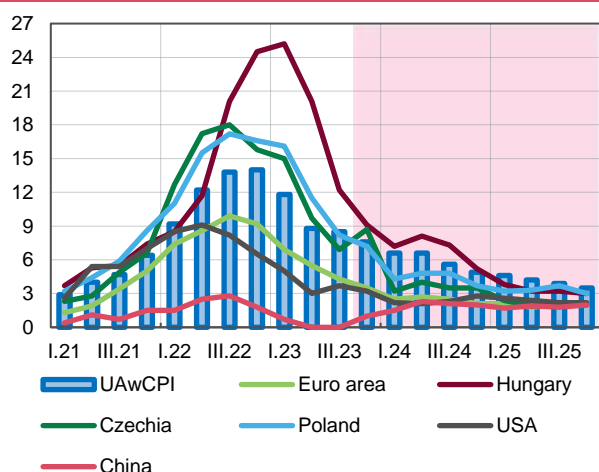
External demand, as measured by the weighted average annual economic growth rate in Ukraine's MTPs (UAWGDP), remained sluggish. Rising borrowing costs, a narrowing of global trade flows, depleting inventories, and still high inflation restrained economic growth in both advanced economies and emerging markets. Although the production of consumer goods picked up somewhat at the end of Q3, leading indicators showed manufacturing continuing to fall due to a decline in the production of investment goods. Growth in the services sector also continued to slow. New export orders declined at one of the fastest rates since the global financial crisis, and rising geopolitical tensions led to the de-globalization of trade flows as the world became more fragmented. The latter may negatively affect the representation of Ukrainian exports in their traditional markets. Under these conditions, global goods trade is expected to grow by only 0.8% yoy in 2023. In 2024, due to higher business confidence, fewer logistical problems, and a gradual recovery in consumer demand for durable goods, the global goods trade will grow by 3.3% yoy.

A decline in new orders had a negative impact on global metals and mining output, which led to a decline in steel and iron ore prices. It is expected that the revival of certain industries in China in H2 2023 due to government support, as well as seasonally weaker business activity in the country at the start of the year, will support higher steel and ore prices in the short term. Going forward, steel and iron ore will slowly become cheaper: the revival of economic activity across all regions of the world amid stronger competition will fuel a faster increase in supply (primarily the supply of ores from Africa and China), which will fully meet the demand (which will grow at a rate close to that of 2023).

Despite the overall weakening of the economies of Ukraine's MTPs, their labor markets were strong: unemployment rates were close to all-time lows, and wages were growing (albeit at a slower pace).

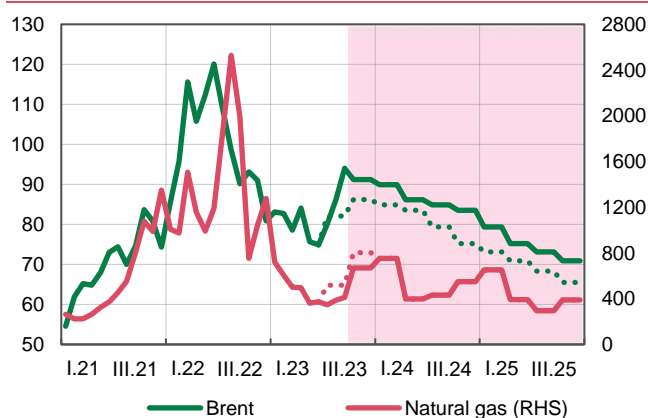
The economies of Central Asia and Turkey are expected to continue growing rapidly in 2023, driven by active trade and significant remittances from Russia, which offset weaker performance in Europe. At the same time, the effects of high inflation, tightening financial conditions, and geopolitical tensions will restrain economic growth in Ukraine's MTPs until at least the middle of 2024. Afterwards, their growth will revive. This will be driven primarily by rising consumer demand, on the back of strong labor markets, and by an easing of inflationary pressures. Additional factors will include

Figure 1.4. UA wCPI and consumer inflation of selected countries (eop), % yoy



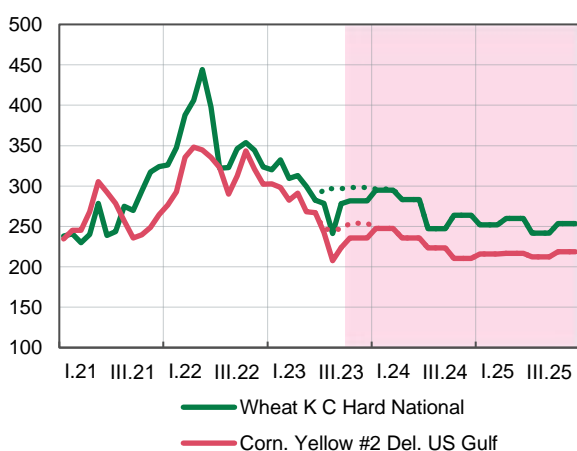
Source: National statistical agencies, NBU staff estimates.

Figure 1.5. World crude oil prices (USD/bbl) and Netherlands TTF natural gas prices (USD/kcm)



Source: Refinitiv, World bank, NBU staff estimates..

Figure 1.6. World grain prices, USD/MT, quarterly average



Source: Refinitiv, World bank, NBU staff estimates..

a revival in global trade and a gradual adaptation to the high interest rate environment. As security risks in Ukraine are expected to subside, the simultaneous strengthening of external demand will be an important factor in boosting Ukraine's economic recovery.

External inflationary pressures will gradually ease thanks to the prevailing downward trend in food and energy prices

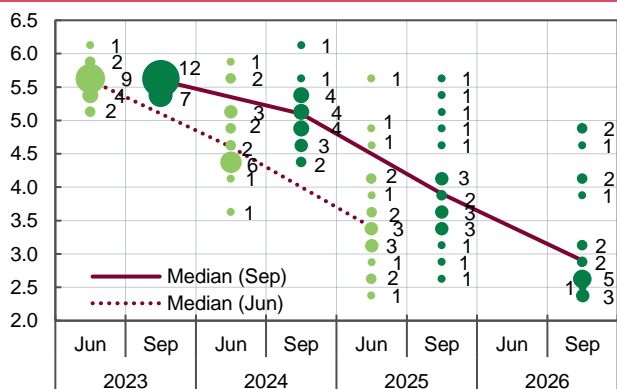
Inflationary pressures from Ukraine's MTPs eased on the back of declining food and energy prices. However, core inflation remained high due to the resilient labor market, and current inflation rates were still above targets in many countries. Inflation in Ukraine's partner countries will decline over the forecast horizon as the effects of past energy price shocks fade and food prices fall due to bumper harvests. Leading central banks' keeping their interest rates higher for longer, despite rate cuts in some EMs, will push down core inflation further. Price pressures will be driven primarily by labor costs. However, medium-term inflation expectations will remain anchored.

Global commodity prices, primarily energy and grain, will continue to decline as growth in supply outstrips the rise in demand. Thus, according to Citigroup, due to weak demand, the oversupply of crude oil at the end of 2023 will amount to around 200,000 barrels per day, despite measures to reduce supply. In 2024, supply will exceed demand by 1.1 million barrels per day due to increased oil supplies from non-OPEC+ countries. Global crude oil prices have been revised upward due to OPEC's restrictive policy, which will be in effect until the end of 2024 (longer than previously expected), stricter production cuts in Saudi Arabia, Russian export restrictions, and stronger demand from the United States. However, increased production by the United States and some Latin American and African countries will put a downward pressure on prices. An additional factor will be uncontrolled sales of crude oil from five countries: Iran, Iraq, Libya, Nigeria, and Venezuela.

Natural gas prices on the European market will slowly decline after seeing a seasonal rise during the heating season. This will be facilitated by an increase in LNG production in the United States and African countries, further orientation of cheaper Russian gas supplies to China and India, which will reduce demand for it from these countries in other markets, and a more balanced accumulation of stocks due to LNG supplies. At the same time, gas price volatility will remain high due to the growing share of LNG in the European market, which will increase competition for it with the Asian market.

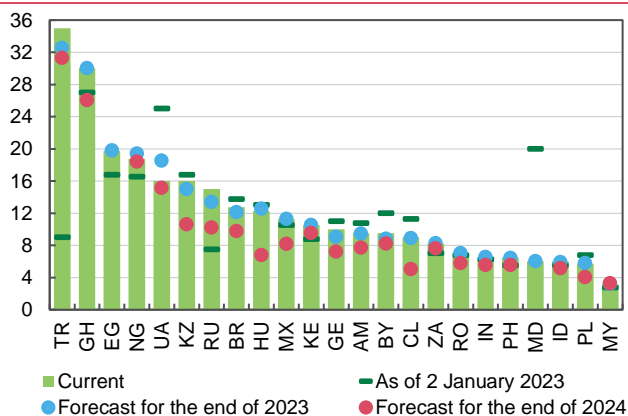
Global wheat and corn prices will correct upward by the end of 2023 after a sharp drop due to a flooding of the market with cheap Russian wheat and a bumper crop of corn in Brazil. Thus, wheat will rise in price due to a decline in global production, primarily due to lower harvests in Australia and Canada, which will outweigh the increase in exports from Russia. Additionally, amid a rise in consumption, inventories will decline to the lowest level since the 2015/16 marketing year (MY), according to the USDA. Corn will also temporarily grow in price despite increasing global production and accumulating inventories. The rise in prices will be driven by the exhaustion of excess supply due to Brazil's large sales of

Figure 1.7. The number of FOMC members that expect the respective policy rate



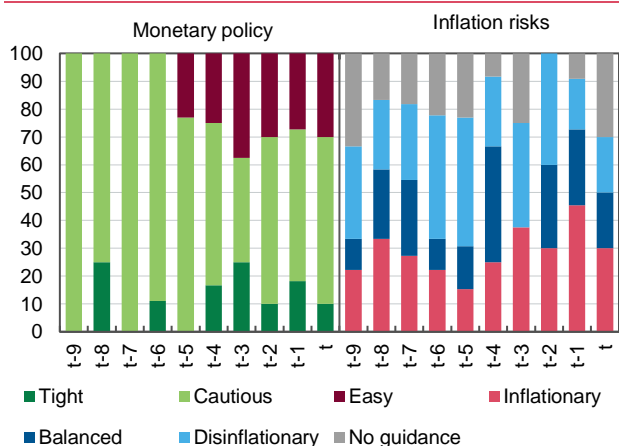
Source: Fed.

Figure 1.8. Key policy rates in selected EM countries, %



Source: official web pages of central banks, Focus Economics, Oxford Economics, as of 31.10.23.

Figure 1.9. Balance of EM CBs' sentiments according to press releases on monetary policy decisions in 2023*, % of CBs



* t – meeting in Oct, t-1 – Sep, t-2 – Aug, t-3 – Jul, t-4 – Jun, t-5 – May, t-6 – Apr, t-7 – Mar, t-8 – Feb, t-9 – Jan.
Source: official web pages of central banks.

its current crop (caused by a lack of sufficient storage capacity), as well as deteriorating expectations for the next MY harvest (which will affect exports as soon as in early 2024). In the coming years, grain prices will decline due to a steady increase in supply and slower growth in demand amid large inventories.

Due to the global price environment and tight monetary policies, inflation in most of Ukraine's MTPs is expected to approach the target in 2025. This will lead to a decrease in external inflationary pressures from around 10% at the end of 2023 to 3.5% at the end of 2025 (in U.S. dollar terms).

Global financial conditions will remain tight, and government bond yields will stay high as inflation slowly moves toward target levels

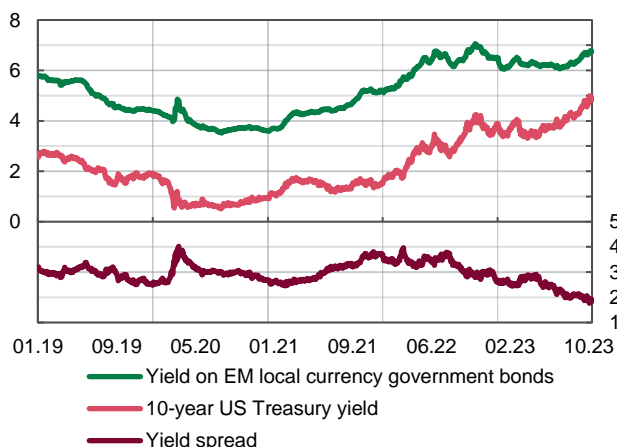
According to the CFR's Global Monetary Policy Tracker, monetary policy easing continued globally. However, this was rather slow and exclusively driven by the EMs, while leading central banks continued to raise rates and will keep them high for an extended period. The need to achieve a sustained slowdown in core inflation, reduce short-term inflation expectations, and ease excessive resource pressures in the labor and commodity markets will limit the ability of central banks of most advanced economies, especially those of the EU and the United States, to start cutting their key rates at least until mid-2024.

For example, the median of FOMC members' rate forecasts (based on the September meeting) was 5.6% at the end of 2023, and 5.1% and 3.9% at the end of 2024 and 2025, respectively. The median rate forecast of FOMC members for the following years was higher than in the previous forecast, reflecting their position of keeping rates higher for longer. Amid better-than-expected macroeconomic data, this stance of the Fed resulted in a rapid rise in Treasury bond yields and a strengthening of the U.S. dollar against a basket of currencies.

The rise in yields in the United States was reflected in other markets, including risky bonds. In EM countries, the yield on bonds in the sovereign bond index exceeded the earnings yield on equities in the MSCI EM (usually, on the contrary, the latter is 2–6 pp higher), which is a sign of stagnation. Previously, such dynamics were seen in the crisis years of 2008 and 2020, and only a decline in yields on U.S. securities led to normalization. Currently, most factors point to a potentially higher level of long-term yields in the advanced economies. This will keep global financial conditions tight for longer (read more in the box *Low Long-Term Yields: Sic Transit Gloria Mundi* on page 11).

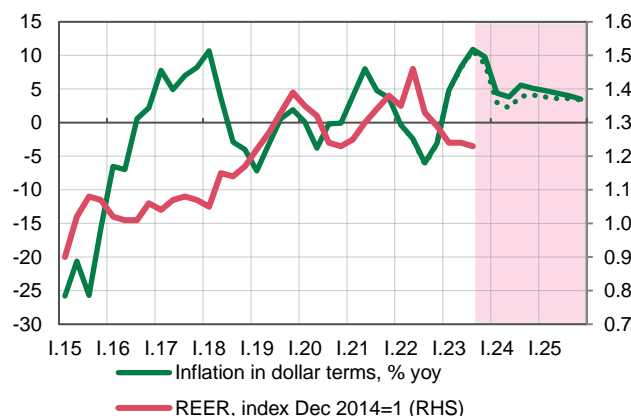
The appreciation of the U.S. dollar on global markets exerted additional pressure on bonds denominated in national currencies. According to Goldman Sachs, the margin of safety created by faster rate hikes by EMs in previous periods has almost been exhausted. Investors are losing interest in local-currency EM debt amid expectations that U.S. interest rates will remain high for longer. Since the start of this year, the premium between EM domestic bonds and U.S. Treasury bonds has narrowed by almost one-and-a-half times, to less than 2 pp (the lowest level since 2010). As a result, the room for further rate cuts in EMs may be narrower than expected.

Figure 1.10. Yields on 10-year U.S. bonds and EM* government bonds in local currencies, %



* EM – 18 countries (including CEE).
Source: Bloomberg.

Figure 1.11. External inflationary pressure (weighted average of inflation rates in Ukraine's MTPs in dollar terms), % yoy, and Hryvnia REER, index, Dec 2014 = 1



Source: IMF, national statistical offices, NBU staff estimates.

Turkey remains an exception, as it needs to tighten its policy further to combat high inflation.

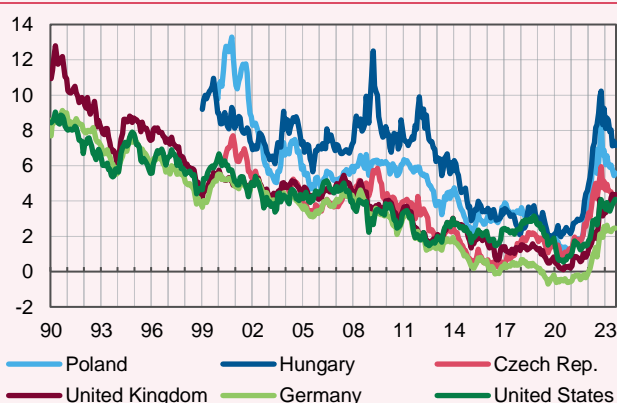
Rising yields on government securities and the strengthening of the U.S. dollar led to capital outflows from relatively riskier assets and the depreciation of most of the currencies of Ukraine's MTPs. Against the backdrop of the UAH/USD exchange rate being fixed until early October this year, this led to a strengthening of the hryvnia's nominal effective exchange rate (NEER) at the end of Q3, which almost completely offset its rapid depreciation a year ago. Nevertheless, the hryvnia's real effective exchange rate (REER) weakened as disinflation in Ukraine occurred earlier, in contrast to more persistent inflation in its trading partners. This trend is expected to continue until the end of 2023. In the coming years, a persistent current-account deficit in the United States and increased interest in risky assets due to a gradual widening of the yield spreads will put depreciation pressure on the U.S. dollar and, accordingly, strengthen most of the currencies of Ukraine's MTPs. In view of this, and given the still high risk premium, the hryvnia's REER will weaken. This will contribute to a gradual improvement in Ukraine's foreign trade balance. However, despite the weakening, the hryvnia's REER will remain stronger than its equilibrium level, which will contribute to disinflation.

Box 1. Low Long-Term Yields: Sic Transit Gloria Mundi³

The simultaneous rise in long-term sovereign bond yields in 2022, after more than 30 years of their concurrent decrease in both developed countries and EMs, was both unexpected and rapid. Back in 2019, the prevailing narrative among economists was that yields would remain low for a long time, and that the main components – the expected real rate, expected inflation, and the term premium – were only keeping yields low. Now, however, all factors are pointing to upward pressure. As a result, financial conditions for EMs have become increasingly tight and will remain so in the medium term. For many of them, especially countries with significant debt burdens, risks to macrofinancial stability will increase. This will require prudent monetary and fiscal policies.

With major central banks poised to keep their policy rates high for a long time, the surge in long-term yields has revived discussions about their future dynamics. Over the past several decades, structural (and in the 2010s, cyclical) factors have put primarily downward pressure on the components of yields⁴. However, last year's record inflation and the rollback of massive and long-lasting monetary stimulus by major central banks amid geoeconomic changes are shifting the center of gravity of long-term yields upwards. This is happening for several reasons.

Figure 1. Yields on 10-year local currency bonds in selected Ukraine's MTP countries, % at the end of the period



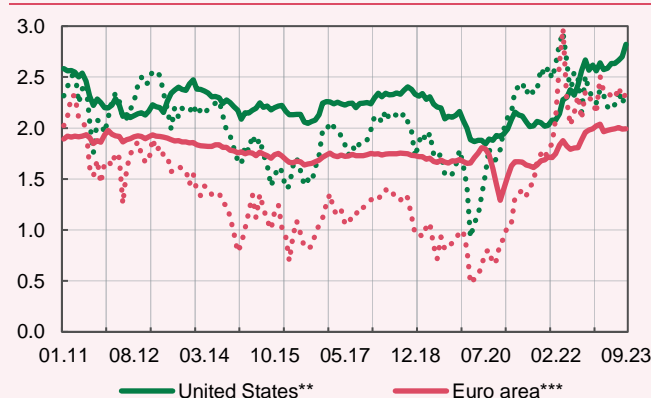
Source: Refinitiv.

Higher expected inflation. Over the previous 30–50 years, most countries have made significant progress in curbing inflation and stabilizing it at low levels. The world's average inflation slowed to 2.6% in 2017, down from 16.6% in 1974, the World Bank estimates. That includes EMs, where it fell to 3.5%, from 17.3%. Many central banks reinforced this tendency by gaining independence and introducing, since the 1990s, inflation targeting, which also helped anchor inflation expectations (Kose et al., 2019). As a result, although prices grew rapidly in 2022, both market indicators and surveys showed inflation to have had only a moderate impact on long-term expectations (for more, see Box 1 in the July 2022 Inflation Report). The latest surge in inflation in developed countries, however, has quickly reversed the previous downtrend in the market's inflation expectations. At that time, it was driven by below-target inflation that lasted long after the global financial crisis.

It is anticipated that after the disinflation period ends, the market's inflation expectations will remain within central bank

targets, but above the levels of 2017–2019. In developed countries, this will also be influenced by a revision of central bank strategies that aims to limit the downward bias in inflation.

Figure 2. 10-year market-based inflation expectations*, %



* The dotted line indicates the difference between yields on benchmark and inflation-indexed bonds (breakeven inflation), which includes premia for inflation risk and lower liquidity.

** The Fed's target is PCE (Personal Consumption Expenditures Price Index) inflation, while bonds are indexed to the CPI. Historically, the latter exceeded PCE inflation by 0.5 pp.

*** The dotted line shows the difference for German bonds.

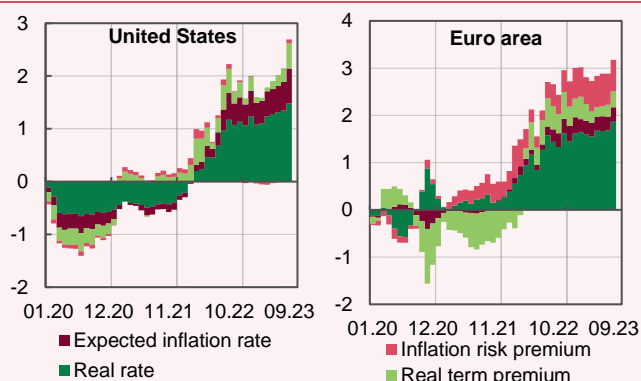
Source: Bloomberg, Kim et al. (2019), EUTERPE, NBU staff estimates.

Potentially higher real interest rates. Although the experience of issuing inflation-linked bonds is shorter compared to classic bonds in most countries, their yields have also gradually declined throughout their existence. The main reason for such dynamics has been the fall of the neutral rate amid structural shifts in the global economy, primarily the aging of the population, the integration of EMs, deepening inequality, and slow productivity growth. According to experts, however, it was the real rates expected over the next 10 years (which rose by 1–1.6 pp, up from an average of 0%–0.5% in the 2010s) that contributed the most to the growth in nominal yields in 2022. In the absence of breaks in structural trends, the current increase in real rates may turn out to be temporary due to the surprising resilience of economies to the tightening of monetary policy. On the other hand, bringing potentially higher and more volatile inflation to its target amid new sources of uncertainty – geoeconomic fragmentation and climate change – may require a tighter policy and therefore higher real rates. Additional pressure will be exerted by the fiscal impulse from the financing of government investment.

³ Thus passes earthly glory (Latin)

⁴ The literature conventionally dissects yields into two major unobservable components: the expected short-term rate (nominal and real) while the bond is in circulation, and the term premium. If both types of bonds (ordinary and inflation-linked) are available, expected inflation and inflation risk can be estimated separately as the difference in rates and premiums, respectively.

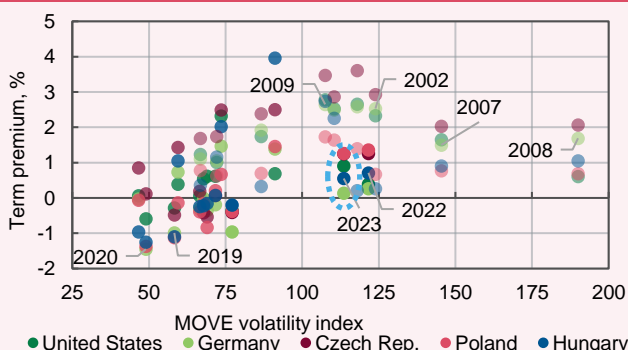
Figure 3. Contributions of components to the change in 10-year U.S. and euro area yields compared to December 2019, pp



Source: Kim et al. (2019), EUTERPE, NBU staff estimates.

Increased term premium. An important factor that pushed yields down in previous periods was the decline in the premium for purchasing a long-term bond instead of continuously rolling over short-term bonds. This was facilitated by the stabilization of the global economic environment and the emergence of price-insensitive buyers of bonds, including central banks, in the market. Specifically, the World Bank highlighted decreases in both inflation and its volatility, especially in developed countries, which reduced the term premium (Wright, 2011). An important role was played by the introduction of a transparent monetary policy based on clear rules. This improved the predictability of the dynamics of short-term rates (Blinder et al., 2008), in particular in the 2010s, due to the widespread use of forward guidance (Filardo and Hofmann, 2014). The MOVE Index during this period was mostly lower than the historical average. In contrast, the unexpected persistence of inflation in 2022 and the delayed response from major central banks elevated uncertainty considerably, which the growth in the term premium reflected. Despite the expected further improvement of central bank approaches to monetary policy and communications, an increase in the frequency of supply shocks may keep the volatility of inflation and interest rates high going forward.

Figure 4. MOVE index and term premia⁵ in selected Ukraine's MTP countries in 2002 – 2023, at the end of the year



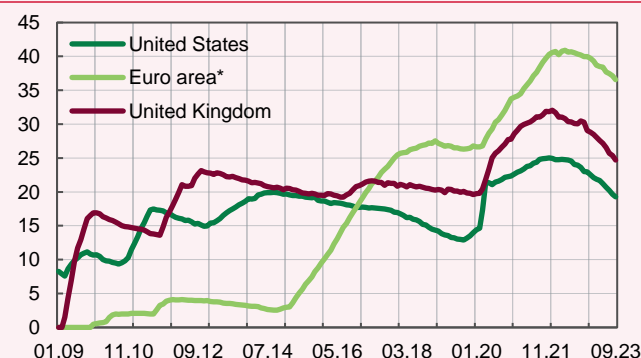
The most transparent color indicates the 2000s, the less transparent – the 2010s, opaque – since 2021.

Source: Bloomberg, NBU staff estimates (2023 is September data).

In the 2010s, central bank dominance over the market for government securities affected the term premium

significantly. By mid-2017, QE programs had absorbed nearly 20% of the supply of long-term government securities. This led to a cumulative reduction of the term premium in the United States and in the euro area by about 100 bp (Bonis et al., 2017; Eser et al., 2019). Moreover, asset purchases in developed countries spilled over into small open economies, in particular EMs (Kolasa and Wesolowski, 2018). The build-up of purchases in 2020 could also keep term premiums low despite soaring volatility in financial markets. Central bank efforts to reduce their bond holdings may therefore have an opposite effect and increase the term premium. For example, in contrast to the United States, where foreign investors absorbed about 60% of the net supply of government bonds in 2022, the market's revision of expectations for a change in the ECB's balance sheet towards a faster pace of reduction added 40 bp to the premium in January 2023 compared to September 2021.

Figure 5. Bonds owned by the central banks, % of government bond market capitalization



* Excluding supranational bonds.

Source: FRB of St. Louis, ECB, ONS, Bloomberg, NBU staff estimates.

Additional demand in the long-term bonds segment, after the global financial crisis, was also generated by investors whose goal was to hedge obligations of similar maturities. These included insurance companies and pension funds (Domanski et al., 2017). In a high-rate environment, this demand may either persist or cease to exist as hedging needs decline. The latter will create additional upward pressure on the term premium.

Fairly prolonged tightening of financial conditions for EMs will require balanced policy measures. Currently, most factors point to a potentially higher level of long-term yields in developed countries. Analysts polled by Consensus Economics also agree with this, as the forecast of the level of 10-year interest rates in the United States in 3 years was revised to 3.6% in October 2023, up from 2.7% in October 2019, and in Germany, to 2.5%, up from 0.3%. Given that the link (including through term premiums) between yields in developed countries and EMs endured regardless of their exchange rate regimes (Obstfeld, 2015), financial conditions will tighten for EMs in the coming years. For many of them, especially countries with a significant debt burden, this will lead to an increase in the risks to macrofinancial stability. Therefore, to reduce vulnerabilities, balanced monetary and fiscal policy measures are needed, as are structural reforms

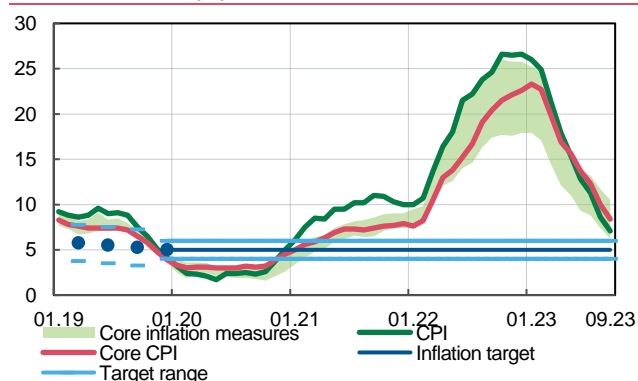
⁵ Given that both components are unobservable, they were estimated using the methodology by Adrian, Crump, and Moench (ACM, 2013), with improvements as described in Halberstadt (2021) and Speck (2023). The estimates were produced using zero-coupon yield curves for government local-currency bonds at the end of the month – figures calculated by Bloomberg were extrapolated using the Svensson (1994) model

Part 2. Economy of Ukraine

2.1. Inflationary Developments

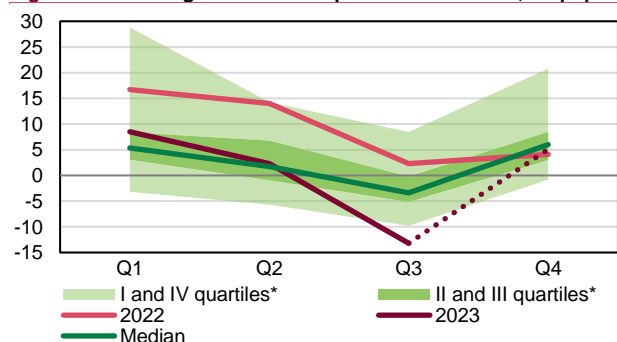
- Consumer inflation declined rapidly due to a larger supply of food resulting from extremely favorable weather conditions. The impact of larger harvests on prices will continue in the short term, and will affect not only raw food prices, but also some core inflation components.
- In late 2023, inflation will slow to 5.8%, but will accelerate moderately in 2024, due to a low comparison base, ongoing pressures from businesses' expenses, growing consumer demand, and a higher rate of administered price adjustments.
- Subsiding security risks, easing global inflationary pressures, and the NBU's consistent monetary policy measures will help decelerate inflation, to around 6% in 2025.

Figure 2.1.1. Consumer inflation and estimates of underlying inflation trends*, % yoy



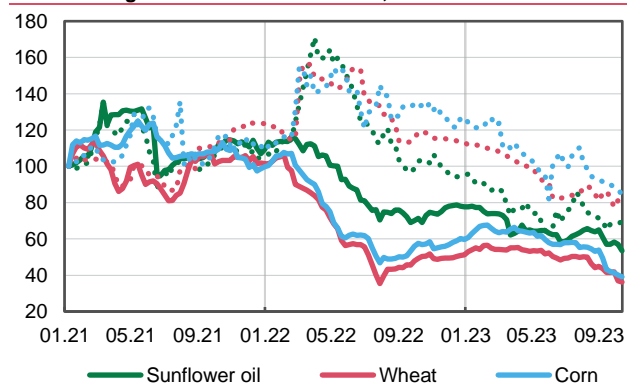
* Read more in the [January 2017 Inflation Report](#) (pages 20–21).
Source: SSSU, NBU staff estimates.

Figure 2.1.2. Changes in raw food prices in 1997–2023, % qoq



* The dataset for 1997–2022 for each quarter is divided into four ranges (their boundaries are quartiles), each containing 25% of the data from the smallest to the largest. Data for October through December 2023 reflect NBU staff estimates.
Source: SSSU, NBU staff estimates.

Figure 2.1.3. Prices for major agricultural commodities in Ukraine and on foreign markets* in dollar terms, 01.2021 = 100



* Solid lines refer to prices for agricultural products in Ukraine on EXW terms, and dashed lines are prices in foreign markets on FOB terms.
Source: APK-Inform, NBU staff estimates.

Inflation declined rapidly owing to unusually favorable weather conditions, the impact of which will persist over the short-term horizon

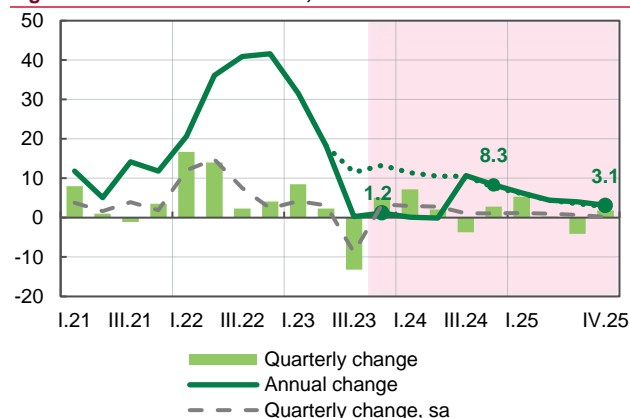
Consumer price inflation continued to decline rapidly in Q3 2023, to 7.1% yoy in September. The actual rates of price growth were significantly below those in the NBU's July forecast. The accelerated pullback in inflation was primarily driven by an expanded supply of new harvest raw foods, in particular fruits, vegetables, grain and oilseeds. Inflation was also restrained by effects arising from fixed tariffs for some utilities, and improved exchange rate and inflation expectations amid stable FX market conditions, in part thanks to the measures taken by the NBU. At the same time, despite reduced pressures from raw food prices, businesses' war-related expenses remain substantial. Energy prices and wage costs are continuing to rise for companies.

The supply of vegetables and some fruits surged in Q3 2023, propelled by extremely favorable weather conditions and stepped-up production in some regions. This not only fully compensated for the blow dealt to the vegetable industry by the destruction of the Kakhovka HPP, but also led to a record decline in vegetable prices, even taking into account seasonal factors. The prices of some fruits, in particular watermelons, also declined year-on-year.

The supply of other agricultural products, such as grain and oilseeds, also exceeded expectations. This did not only result from higher harvests than last year, but also from ongoing logistical and trade hurdles faced by agricultural exporters (for more details, see the *Balance of Payments Section* on page 26). The latter, together with a decline in global food prices, decreased domestic prices for agricultural products in Ukraine, and consequently, those for raw foods and fodders that are used in other production chains. This is also evidenced by Q3 2023 [Business Outlook Survey](#). In particular, respondents reported a weakening in the impact of raw material and supplies prices on their selling price expectations.

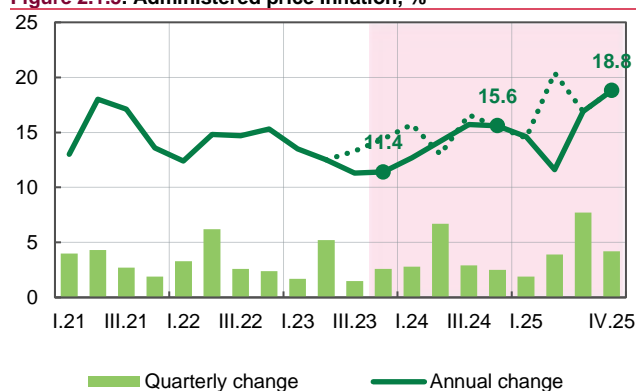
Cereal and flour prices have also declined. The fall in sunflower oil prices has deepened. This, in turn, decelerated the growth in the prices of products for which sunflower oil is a substantial component. Prices grew more slowly for dairy products, bread, and flour products. Although decelerating, the growth in egg prices remained significant because of increased egg exports. Growth in meat prices also slowed, but prices remained high due to a tight supply. As a result,

Figure 2.1.4. Raw food inflation, %



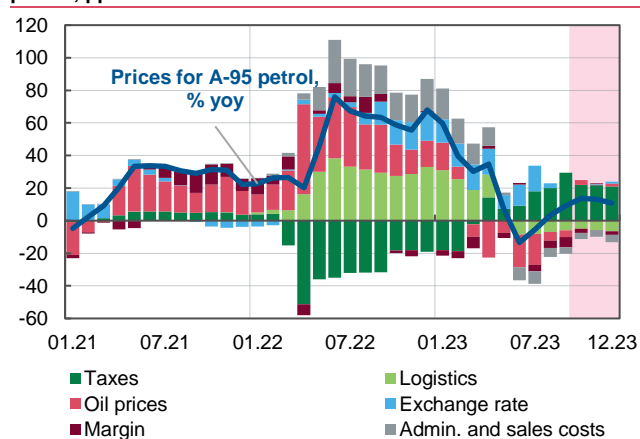
Source: SSSU, NBU staff estimates.

Figure 2.1.5. Administered price Inflation, %



Source: SSSU, NBU staff estimates.

Figure 2.1.6. Contributions of factors to the change in price of A-95 petrol*, pp

* Data for October – December 2023 reflects NBU staff estimates.
Source: minfin.com.ua, Refinitiv Datastream, NBU staff estimates.

the raw food price index returned practically to its level of last year (the index grew by only 0.3% yoy in September). Prices for processed foods and food and beverage serving services also grew at a slower pace of 10.6% yoy and 16.9% yoy, respectively.

Food inflation will remain low for the next few months, dragged down by supply-side factors. This inflation will accelerate year-on-year from H2 2024, due to a low comparison base and slightly poorer harvests, given the low probability that extremely favorable weather conditions will occur again. However, if there are no significant supply shocks, in 2025 food price inflation will slow to 3%. The lower inflation will result, among other things, from stepped-up production, including in de-occupied territories and demined frontline areas, as well as from stable global food prices. A slight rise in food prices will be driven mainly by an increase in demand amid rising household income and the return of forced migrants.

The moratorium imposed on raising tariffs for some utilities will continue to rein in inflation, while stronger pressures from businesses' energy and fuel costs will be a significant inflationary factor

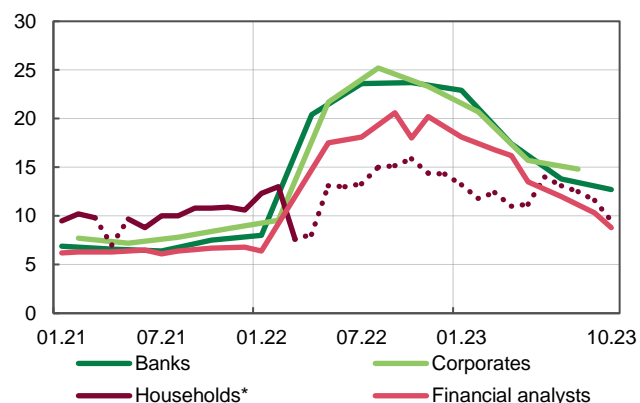
The annual growth rates of administered prices dropped to 11.3% in September. The moratorium on raising tariffs for certain utilities, such as gas, hot water and heating, remains an important factor in restraining both headline inflation and its administrative price component. The growth in prices for medicine and bread decelerated on the back of eased pressures from production costs, subdued demand, and sustained exchange rate stability. Prices for alcoholic beverages grew at a slower pace, which, in addition to the above factors, was likely brought about by increased pressure from the shadow market supply.

Administered price inflation will gradually rise over the forecast horizon. This inflation will be primarily fueled by a further rise in the prices of tobacco products due to higher excise taxes, and by that in tariffs for certain utilities. At the same time, it will be curbed by the moratorium on raising tariffs for gas, hot water and heating, which, according to the current forecast, will be lifted only in 2025. The lifting of the moratorium will speed up administered price inflation, to 19% at the end of the forecast period. Despite the urgent need to address imbalances in the energy sector, it is expected that further government decisions to bring utility tariffs to market levels will take into account the high social significance of tariffs. Therefore, it is expected that these tariffs will be raised step-by-step, and that the rise will be accompanied by expanding subsidy support for households.

Despite the resilience of the energy sector, the situation in this sector remains difficult. A limited supply of domestically produced electricity amid repairs to energy facilities and an increase in maximum spot prices pushed up the cost of electricity for nonhousehold consumers.⁶ Although this has

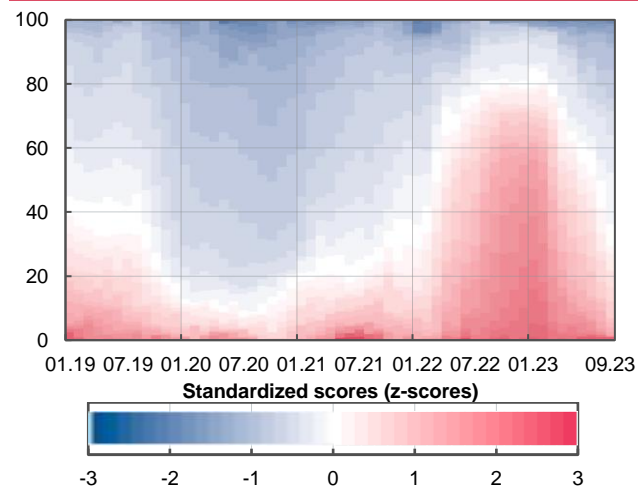
⁶ In Q3 2023, the growth in electricity prices on the [Ukrainian Energy Exchange](#) sped up to 59.4% yoy (up from 53.0% yoy in Q2), that on the day-ahead [spot markets](#) accelerated to 28.1% yoy (up from 26.8% yoy in Q2), and that on the intraday market increased to 40.6% yoy (up from 18.7% yoy

Figure 2.1.7. 12-month-ahead inflation expectations*, %



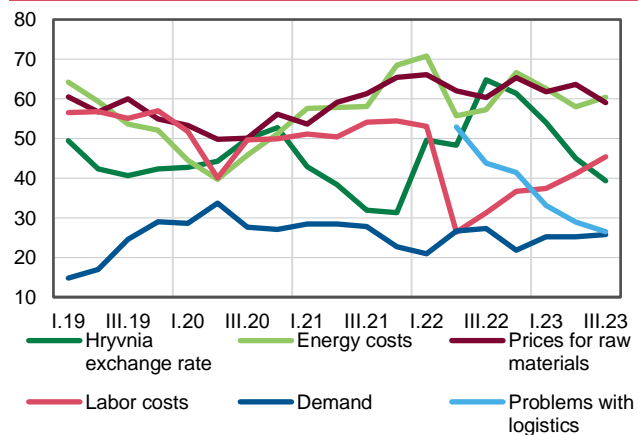
* The dotted line indicates a change in the method of survey for a telephone interview.
Source: NBU, Info Sapiens.

Figure 2.1.8. CPI heatmap*, %



* Heatmap shows the weight distribution of individual CPI components by growth rate. The colors on the heatmap provide information on whether the inflation of a particular component is above the average for 2019-2023 (red) or below it (blue); the saturation of the colors indicates the degree of such an event measured in standard deviations, and the size of the cells indicates the distribution of values between the indicators.
Source: SSSU, NBU staff estimates.

Figure 2.1.9. Major factors affecting businesses' expectations of price changes for their goods and services, % of respondents



Source: NBU.

no direct impact on consumer price inflation, higher electricity prices will be reflected in the CPI through second-round effects, such as an increase in production costs. In particular, according to the latest business outlook survey, companies reported that the impact of energy prices and wage costs had increased.

Fuel prices returned to growth (by 6.2% yoy in September), primarily due to the reimposition of full taxation (the NBU estimates that this had a direct contribution of about 0.7 pp to CPI growth in 2023), and due to rising global oil prices. In spite of that, the low fuel prices seen in previous months continued to have an impact on transportation services in Q3 – the growth in the cost of these services continued to slow. In the short term, fuel price growth will accelerate, which will also have an indirect inflationary effect on the cost of other goods and services. Starting next year, fuel prices will stabilize due to a gradual decline in global oil prices.

High security risks and structural changes in the economy will fuel underlying inflationary pressures in 2024. That said, core inflation will start declining again in 2025

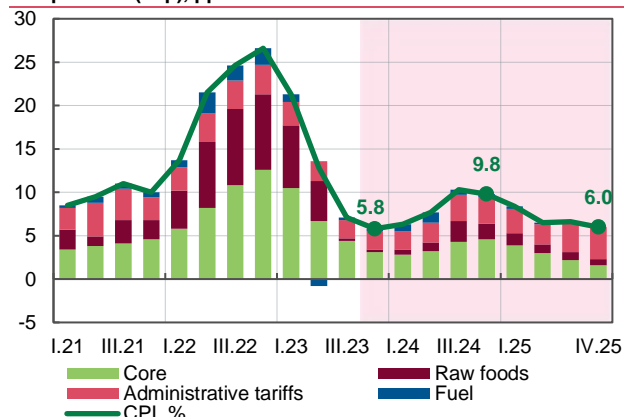
Core CPI growth slowed, to 8.4% yoy in September 2023. The range of estimates of underlying inflationary pressures continued to narrow gradually (Figure 2.1.1). This was primarily the result of improved inflation and exchange rate expectations. The improved expectations reflected a drop in actual inflation, eased production cost pressures, as well as a stable FX market, in part thanks to the measures taken by the NBU. In addition, the unchanged or even declining prices for certain goods that are inflation benchmarks for households (some food products, clothing and footwear, and gas and heating tariffs) were significant factors.

Thanks to a sustainable FX market and improved expectations, the prices of personal care products, toys, furniture, household appliances, household goods, cars, and imported food grew more slowly than in the previous quarter, while prices for clothing, footwear and electronics even declined year-on-year. The same factors, along with high base effects, slowed the rise in prices for medical, veterinary and telecommunications services, and in rent, repairs, and car maintenance.

At the same time, service price inflation proved to be persistent. On the one hand, it was fueled by temporary factors. Record-warm weather in September supported demand for travel and entertainment, which accelerated the rise in the prices of these services. However, there were more systemic causes of service price inflation. Elevated demand also accelerated the growth of tuition fees. What is more, there were growing pressures from businesses' labor costs, which was, among other things, evidenced by the growing importance of the labor cost factor in the pricing of goods and services (for more details, see the *Labor Market Section* on page 21). Headline inflation was also significantly affected by factors related to high security risks. More specifically, prices

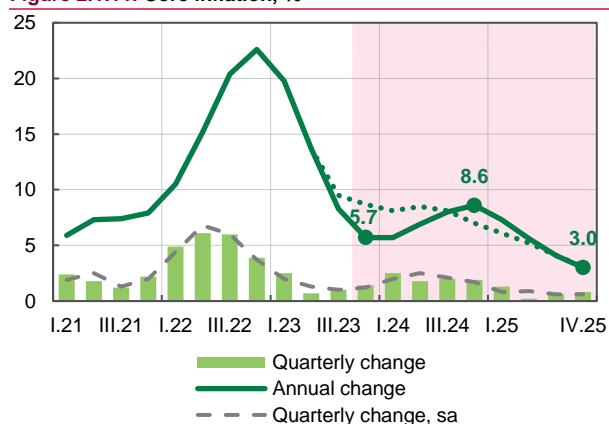
in Q2). The increase in electricity prices reflected, among other things, the use of more expensive imported electricity during the peak consumption hours in August.

Figure 2.1.10. Contributions to annual CPI growth by main components (eop), pp



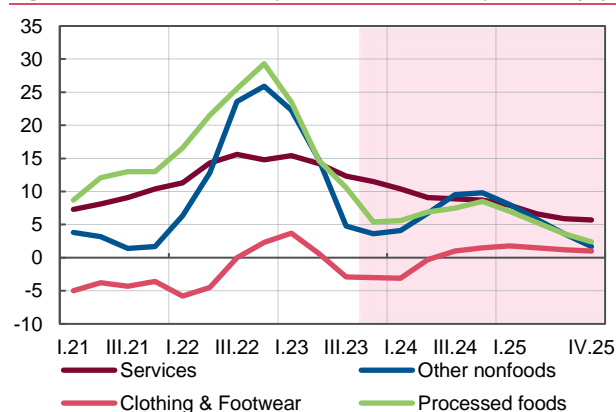
Source: SSSU, NBU staff estimates.

Figure 2.1.11. Core inflation, %



Source: SSSU, NBU staff estimates.

Figure 2.1.12. Core CPI components at the end of period, % yoy



Source: SSSU, NBU staff estimates.

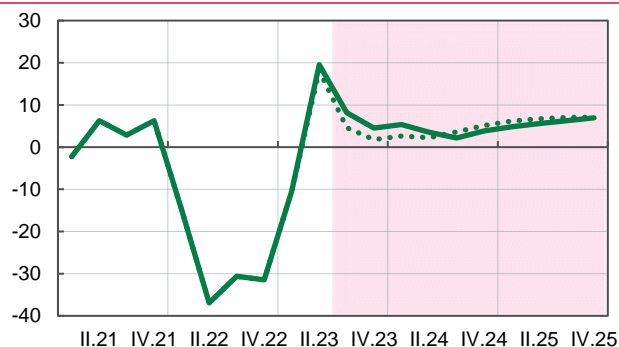
still grew faster in the frontline areas compared to other regions.

In 2023, inflation will drop to 5.8% yoy, while core inflation will decline to 5.7% yoy mainly because of effects from higher harvests. The gradual waning of these effects, coupled with higher pressures from businesses' labor and energy costs, will accelerate inflation to 9.8% in 2024. These same factors will intensify underlying inflationary pressures. Inflation will return to its downward trajectory in 2025. This return will be facilitated by subsiding security risks, establishing optimum logistical chains and production, and the NBU's monetary policy measures. An additional factor will be the easing of external inflationary pressures, which will restrain imported inflation. Conversely, structural mismatches on the labor market and stronger demand will produce moderate inflationary pressures in the postwar period. More specifically, accelerating economic recovery, higher household income, the return of people to their places of residence, and the need to rebuild housing will push up demand for durable goods, while easing restrictions on movement will fuel demand for recreation, tourism, food and beverage serving and other services. Rising administered prices will also have an inflationary effect.

2.2. Demand and Output

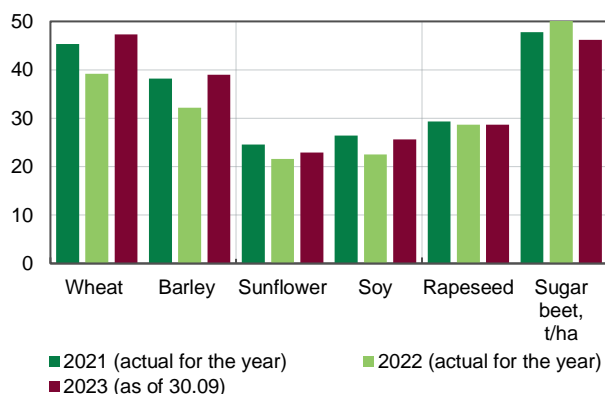
- The NBU has revised upward its 2023 real GDP growth forecast, to 4.9%. The main reasons behind the upward revision were the higher adaptability of businesses and households to wartime conditions, record-high crop yields, the faster expansion of alternative export routes, and more substantial budget support.
- The high adaptability of businesses and consumers to wartime conditions, coupled with the continuation of a loose fiscal policy, will support economic growth next year. However, longer-lasting high security risks will curb economic recovery.
- In 2025, economic growth will accelerate, propelled by lower security risks, improved business and consumer sentiment, and the implementation of European integration reforms. However, the negative GDP gap will persist due to weakened competitiveness and the structural changes that occurred during the war.

Figure 2.2.1. Real GDP, % yoy



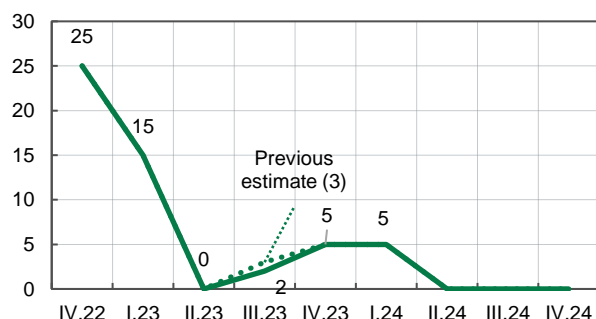
Source: SSSU, NBU staff estimates.

Figure 2.2.2. Productivity of the main agricultural crops, centner/ha



Source: SSSU, MinAgro.

Figure 2.2.3. Assumptions on electricity capacity deficit, %



Source: NBU staff estimates.

⁷ The forecast for the 2023 grain and legumes harvest has been revised upward, to 56.9 million tons (up from 46.8 million tons in the July 2023 Inflation Report). The harvest of these crops is expected to hit 48.5 million tons in 2024 and 49.2 million tons in 2025 (compared to 48.9 million tons and 51.8 million tons respectively in the July 2023 Inflation Report).

⁸ By late September, grains and legumes had been harvested on 7 million hectares (64% of the planted area), while oilseeds had been harvested on 4.5 million hectares (54% of the planted area), compared to 61% and 30% respectively last year.

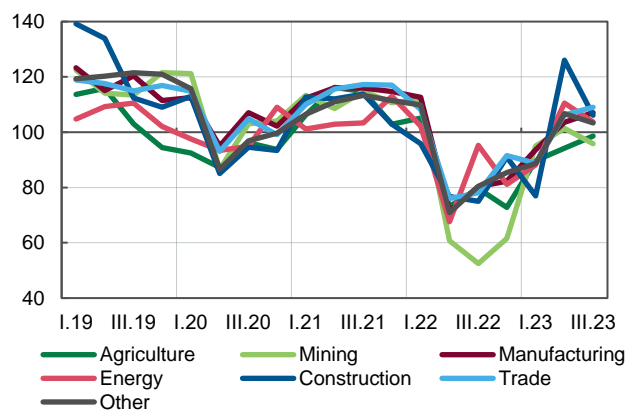
⁹ A BOI above 100% means that the share of companies expecting the situation to improve over the next 12 months exceeds the share of those that expect it to deteriorate. Historically, such an excess has mostly been a sign of increased economic activity.

The economy is recovering faster than expected, thanks to the high adaptability of businesses and households to wartime conditions, and thanks to higher harvests

The NBU revised upward its real GDP growth estimate for Q3 2023, to 8.2% yoy. Higher harvests of major crops than last year due to extremely favorable weather conditions were an important contributor to the improved dynamics. More specifically, the yields of early grains not only exceeded those of the previous year but also those of the record-breaking year of 2021. This was even though the areas sown to most crops remained almost at the level of the previous year. As a result, crop estimates have been improved both for 2023 and subsequent years.⁷ The direct positive contribution of higher harvests to this year's GDP is estimated at 1.3 pp. Favorable weather enabled faster harvesting than last year⁸, which resulted in robust growth in agriculture in Q3. With limited export opportunities, the surplus of agricultural raw materials increased the workload of food processing companies. An increase in vegetable production in several southern and central regions had an additional effect. This, together with the favorable weather, offset the negative impact that the destruction of the Kakhovka HPP had on agricultural companies.

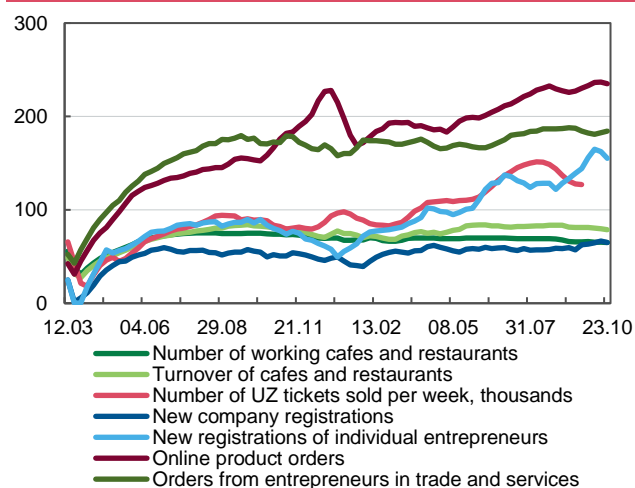
More rapid economic growth continued to be driven by the high adaptability of businesses to the war, as evidenced by businesses' positive expectations for the next 12 months – the business outlook index (BOI) has been above 100%⁹ for two quarters running. The number of registered individual entrepreneurs continued to grow, occupancy rates in shopping malls increased, and the retail space leasing market and domestic tourism grew, contributing to the subsequent recovery in the services and passenger transportation sectors. The stable situation in the energy sector was an important factor supporting the economic activity of businesses and households. Although the summer saw renewed shortages in the country's electricity generation capacity amid scheduled repairs and hot weather, the shortages were less substantial than the NBU had envisaged in its previous forecasts. What is more, despite the shortages

Figure 2.2.4. BOI by type of activity, %



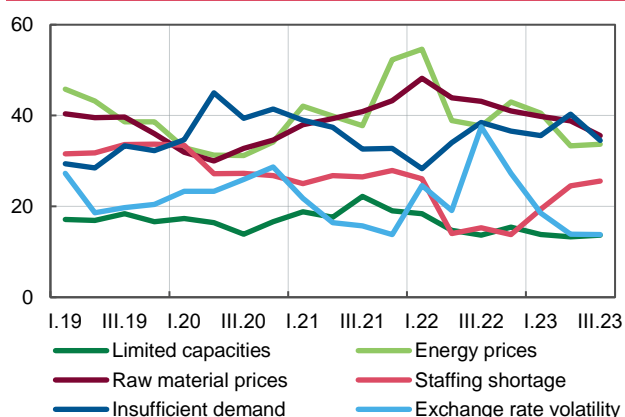
Source: NBU.

Figure 2.2.5. High-frequency indicators of economic activities in the services sector, % to the level preceding the full-scale invasion (4-week moving average)



Source: Opendatabot, Poster, NBU staff estimates.

Figure 2.2.6. Assessment of the factors that will restrain production growth over the next 12 months, % of answers



Source: NBU.

there were no power outages due to the country's electricity imports.

At the same time, economic activity continued to be constrained by high security risks and limited export logistics. Thus, on the back of the regular missile and drone attacks on the Danube ports, the halt in the operation of the grain corridor, and ongoing restrictions on imports of Ukrainian agricultural products by some EU countries, export volumes continued to decline at a significant pace year-on-year. In addition, with domestic production facilities reduced as a result of being destroyed or damaged and given significant defense and security needs, the recovery in consumer and investment demand is largely being met by imports. As a result, the contribution of net exports to real GDP growth in Q3 2023 is estimated to have become negative and will remain so until the end of the year.

An ultra-loose fiscal policy will make a significant contribution to real GDP growth in 2023

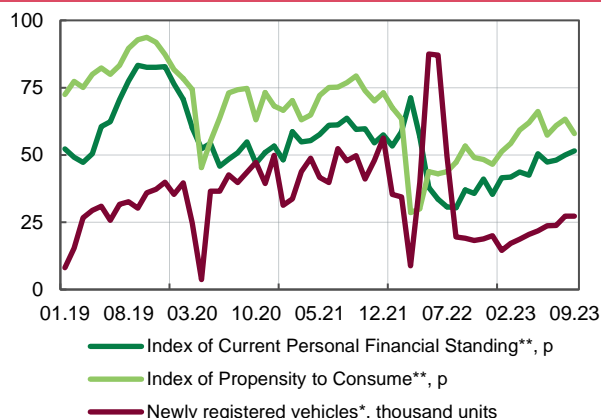
Significant budgetary spending on wages, military pay, and social protection fueled consumer demand. Coupled with an improvement in the labor market (read more in the *Labor Market and Household Income Section* on page 21) and in households' expectations, this boosted private consumption. In 2023, private consumption will grow by 3.8% and will be the main contributor to real GDP growth, despite there being fewer consumers compared to the period before the full-scale invasion and the still moderate growth in labor income in the private sector.

High budgetary spending on security and defense and other budget orders propped up the recovery in mechanical engineering and metallurgy. Capital expenditures from the budget, the implementation of recovery projects, and private investment in the development of logistics infrastructure increased construction work, while also stimulating the production of construction materials. The transportation of construction materials and agricultural products shored up the transportation sector. Private investment, supported by the improvement of companies' financial performance¹⁰ and expectations on those of last year, is mainly being made to expand Western supply routes and to establish alternative routes, as well as in food processing and infrastructure for storing agricultural products. In addition, investment is being made in the mining industry, in particular in gas production. This year, investment is expected to grow by 9%.

Given the widening budget deficit in late 2023 (for more details, read the *Fiscal Sector Section* on page 24), the impact of large budgetary spending on economic activity will increase somewhat by the end of the year. However, the main effect of the higher-than-expected fiscal impulse is very likely to be felt in early 2024. As before, Q4 2023 and Q1 2024 are expected to see small electricity shortages. However, thanks to the arrangements to import electricity, their effect on economic activity will be negligible. Taking into account these factors and the slightly better economic performance in Q2

¹⁰ According to SSSU data, in H1 2023, companies' profits rose by 59.5% yoy, while losses dropped by 54.1% yoy. In particular, there was an increase in the profitability of industrial, trading, transport, and financial and insurance companies.

Figure 2.2.7. Selected consumer demand indicators

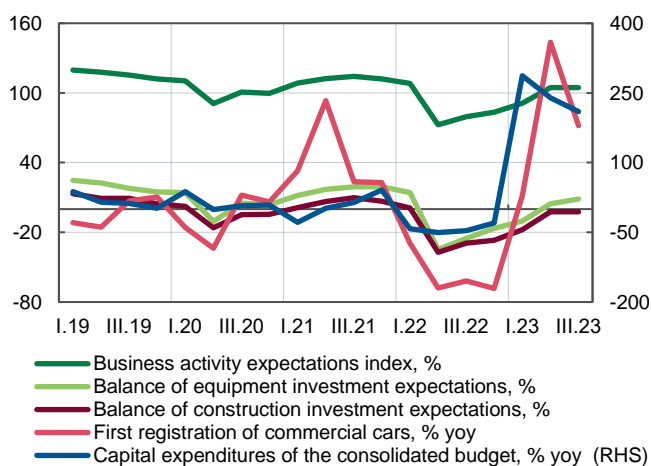


* New and used ones, excluding cars imported with violation of customs regulations.

** Change of the survey method from face-to-face to the phone interview from March 2022.

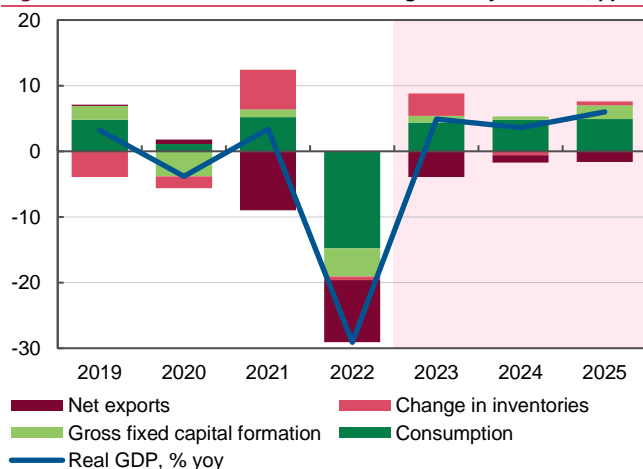
Source: Info Sapiens, Ukravtoprom.

Figure 2.2.8. Selected indicators of investment demand



Source: SSSU, STSU, NBU, Ukravtoprom.

Figure 2.2.9. Contributions to annual GDP growth by final use, pp



Source: SSSU, NBU staff estimates.

(real GDP grew by 19.5% yoy), the 2023 real GDP forecast has been revised upward to 4.9%, from 2.9%.

The economic growth forecast for 2024 and 2025 has been little changed, despite the assumption that security risks will be longer-lasting

Any persistence of high security risks throughout 2024 will weaken investment and consumer sentiment, and will discourage migrants from returning. Restricted access to maritime logistics and the resulting additional costs for businesses will dampen the competitiveness of export-oriented sectors. In view of the above, and in the expectation of lower harvests (due to the assumption that weather conditions will return to their average climatic norms), exports will recover slowly. At the same time, due to large volumes of imports, primarily those to meet defense and security needs, the contribution of net exports to GDP will remain negative.

Despite the negative repercussions of the war, economic recovery will continue next year. Real GDP will grow by 3.6%. This growth will continue to be propelled, among other things, by the high adaptability of businesses and a persisting loose fiscal policy. The gradual establishment of alternative supply routes will make it possible to expand exports of food and metallurgical products in the medium term.

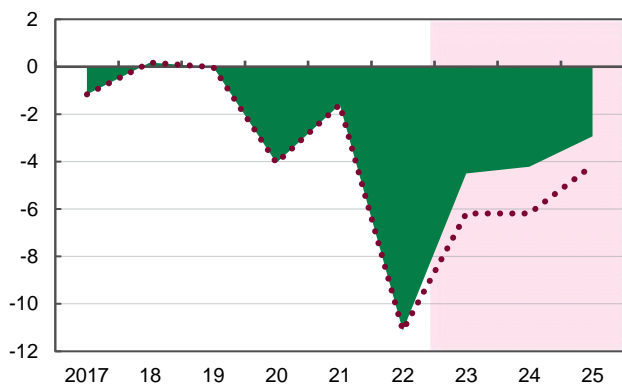
Economic growth will accelerate, to 6% in 2025, driven primarily by subsidizing security risks. This will benefit consumer and business sentiment, thus reviving consumer and investment demand amid a still loose fiscal policy. The complete opening of Black Sea ports will make a significant contribution to ongoing economic growth. This will provide incentives for metallurgical companies to rebuild their production facilities more quickly, while also encouraging agricultural companies to step up output. That said, harvests are not currently expected to return to their pre-war levels, mainly because of large areas of arable land being contaminated with mines and ammunition.

The post-war reconstruction of ruined infrastructure and production facilities will require a great deal of investment from both private companies and the government sector. The implementation of European integration reforms will improve the investment and business environment. Continued government investment in bolstering and maintaining the country's existing defense capabilities will also play an important role, even after security risks decline. As a result, investment will rise by almost 19% in 2025, which will also lay the groundwork for accelerated growth in the future.

The negative GDP gap will persist for a long time because of weakened competitiveness and the structural changes that occurred during the war

Since the start of the full-scale invasion, potential GDP has declined noticeably due to significant losses of capital, and because of the loss of markets and labor. However, thanks to the economy's rapid adaptation to the new realities, potential GDP returned to growth and will continue to rise over the forecast period. This growth will speed up in the post-war period, fueled by the reconstruction of production facilities

Figure 2.2.10. Output gap, % of potential GDP

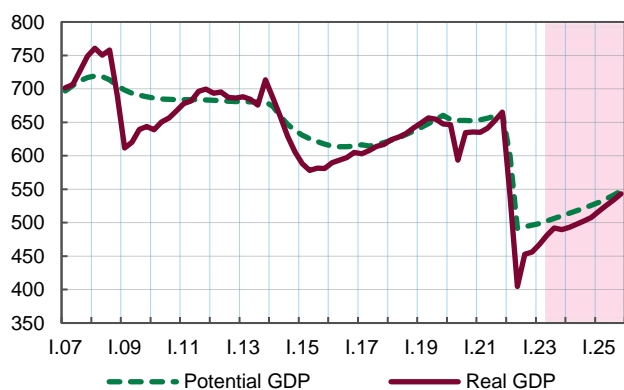


Source: NBU staff estimates, SSSU.

and the return of migrants. The intensification of European integration processes will also be an important factor. That said, potential GDP will not reach its pre-war level by the end of 2025 because of the great scale of the losses. However, if a large-scale recovery plan involving international investors is implemented, which is not currently envisaged in the baseline scenario, potential GDP growth will accelerate significantly.

The GDP gap will remain negative for a long time due to logistical hurdles, particularly in export-oriented industries, a weak labor market, and investment activity and consumer demand being depressed by high risks. Some existing production facilities will remain underutilized for a long time even after security risks subside, owing to the slow return of Ukrainian exporters to the markets they have lost.

Figure 2.2.11. Real and potential GDP, sa, at 2016 constant prices



Source: SSSU, NBU staff estimates.

2.3. Labor Market and Household Income

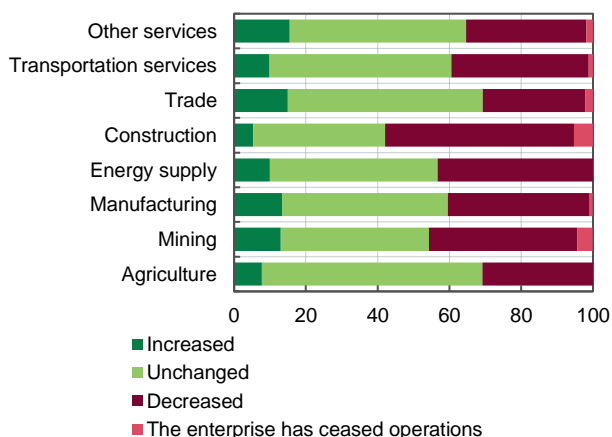
- Demand for labor has been driving a gradual increase in employment. But the labor market situation remains difficult: unemployment is shrinking slowly, with employers still having trouble finding qualified workers.
- Long-lasting and high security risks will deter the return of forced migrants, restraining the recovery of supply in the labor market. The mismatches that characterized the labor market before will only deepen due to the consequences of the war, keeping the unemployment rate at a high level.
- Households' real incomes will continue to grow, driven by the revival of economic activity and the maintenance of a loose fiscal policy.

Figure 2.3.1. New job openings and resumes on work.ua, thousands



Source: work.ua, NBU staff estimates.

Figure 2.3.2. Change in the number of employees from January to August 2023 by economic activity, % of responses



Source: NBU.

The economic recovery is driving growth in employment, but labor market conditions will remain difficult for a long time due to the fallout from the war

The labor market is reviving as economic activity recovers, but the situation remains difficult due to the consequences of the war. On the one hand, the growth in demand for workers, which was already accelerating in spring, has continued, although later on it was primarily fueled by seasonal factors. On the other hand, the labor market's recovery is uneven across industries¹¹ and regions, reflecting changes in the structure of the economy.

The growth in demand for labor helped to gradually increase the employment rate of Ukrainians, as evidenced by household surveys and estimates based on their results¹². On the other hand, NBU surveys show that during 2023, companies either held the number of employees steady (51% of respondents) or actually reduced them (35% of respondents) by an average of 6%. Increasingly more businesses are experiencing a shortage of qualified workers¹³, although such estimates vary by type of activity: construction and manufacturing companies are currently citing this problem more often than others. These trends indicate that there are significant structural mismatches in the labor market.

At the same time, the number of resumes on job search sites has decreased, which may be the result of both a limited supply, due to migration and mobilization, and a gradual increase in employment. As a result, the unemployment rate is declining, by NBU estimates. However, unemployment remains significantly higher than before the full-scale invasion, although there are signs that the share of the economically inactive population increased to around 45% in June and September, compared to less than 40% in March and late 2022 (according to InfoSapiens surveys)¹⁴. According to [Rating surveys](#), the situation is particularly difficult in the east of Ukraine, where the share of those

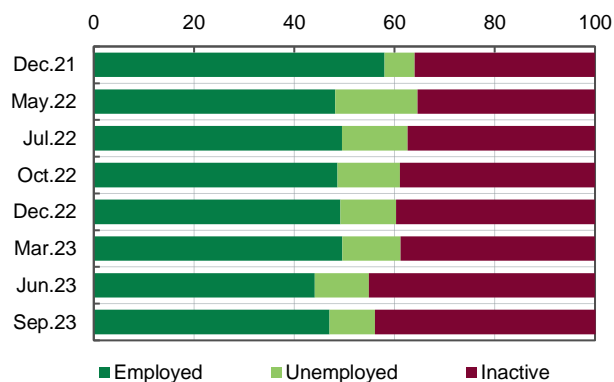
¹¹ Specifically, more new vacancies were recorded in absolute terms at the beginning of October 2023 than on the same date in 2021 in the following areas: healthcare and pharmaceuticals (up 14%), retail trade (up 10%), and education (up 9%), according to work.ua. At the same time, the number of vacancies for IT workers (down 48%), arts and culture specialists (down 44%), and administrative assistants (down 38%) decreased significantly.

¹² According to an InfoSapiens survey of households, the share of employed respondents increased to 47% of all respondents in September 2023, up from 44% in June 2023. According to data from a Rating survey, 73% of those who had a job before the full-scale invasion were working in September 2023 (compared to 61% in September 2022 and 67% in May 2023). In particular, 15% of those who had a job before 24 February 2022 were working at a new job.

¹³ According to the NBU's business outlook survey, the share of companies that had experienced an adverse impact on their operations due to the "lack of qualified workers" factor increased to 25.6% in Q3 2023. An IER survey yielded a similar outcome: in September, 37% of respondents named the shortage of workers due to the conscription and/or departure of employees as one of the main impediments to doing business. Twenty-five percent of respondents said it had become more difficult to find qualified employees.

¹⁴ [At the same time, the increase is mainly driven by those who are not looking for work. According to a Razumkov Center survey for ZN.UA](#), the main difficulties when looking for a job in Ukraine are the shortage of vacancies that meet people's qualifications (55% of respondents), the low level of wages for available vacancies (almost 45%), and the lack of qualifications to meet the employer's requirements (about 15%).

Figure 2.3.3. Surveyed households by economic activity*, %



* The category "employed" includes households that selected the following options: "Employed"; "Self-employed"; "Registered private entrepreneur", while the "unemployed" category includes those who chose "Temporarily unemployed, but looking for a job".

Source: InfoSapiens, NBU staff estimates.

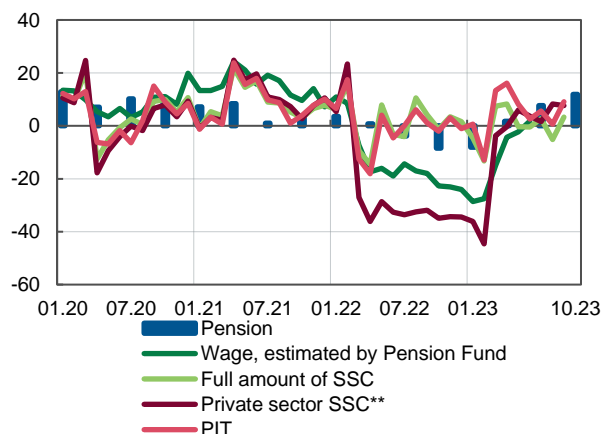
Figure 2.3.4. Unemployment rate*, sa, %



* Including migrants since 2022.

Source: SSSU, NBU staff estimates.

Figure 2.3.5. Indirect indicators for estimating real* household incomes, % yoy



* Deflated by CPI.

** The private sector SSC is calculated as the difference between total SSC and SSC on wages from the consolidated budget.

Source: Pension Fund of Ukraine, STSU, NBU staff calculations.

without work is much higher (43% of those who worked prior to 24 February 2022), primarily due to proximity to the zone of hostilities and the destruction of infrastructure and production capacities (for Ukraine, this ratio stands at 25%). The proportion of those not working was also higher among young people, women, and people of pre-retirement age¹⁵. However, this was consistent with the trends present before the full-scale invasion.

Significant domestic and external migration remains an important factor in the labor market. Specifically, IDPs have much more trouble finding a job than those who did not leave their place of permanent residence: 40% of IDPs who had a job prior to 24 February 2022 were unemployed in September 2023, while for non-IDPs, this ratio was 21%. However, the number of IDPs has edged lower in recent months¹⁶.

Migrants began to return to Ukraine in Q3 2023, but in smaller numbers than expected. According to UNHCR data, the number of migrants outside of Ukraine decreased to 6.2 million in late September 2023 (compared to 6.3 million in June 2023). The SBSU also reported that about 100,000 migrants returned in August. The number of migrants may inch higher by the end of the current year: some people are likely to spend the heating season abroad as risks of attacks on the energy infrastructure intensify. As a result, it is estimated that the number of migrants at the end of 2023 will be higher (by about 200,000) than at the end of 2022.

At the same time, some countries, including those with the largest number of forced migrants from Ukraine (Germany, Poland, and the Czech Republic), have either started to roll back support programs for Ukrainian migrants or are planning to do so. Against this backdrop, some migrants may consider returning to their homeland as early as 2024 or moving to another host country. A significant percentage of external migrants have plans to return to Ukraine, but the share of those who wish to stay in their host countries, especially among the people who have adapted better than others, continues to grow. The main reason for staying remains high security risks. Based on the assumptions that these risks will persist and that migrants will continue to adjust to living abroad, their return during the forecast period will be slower than previously anticipated. In particular, about 100,000 migrants will return during 2024, and approximately 700,000, in 2025.

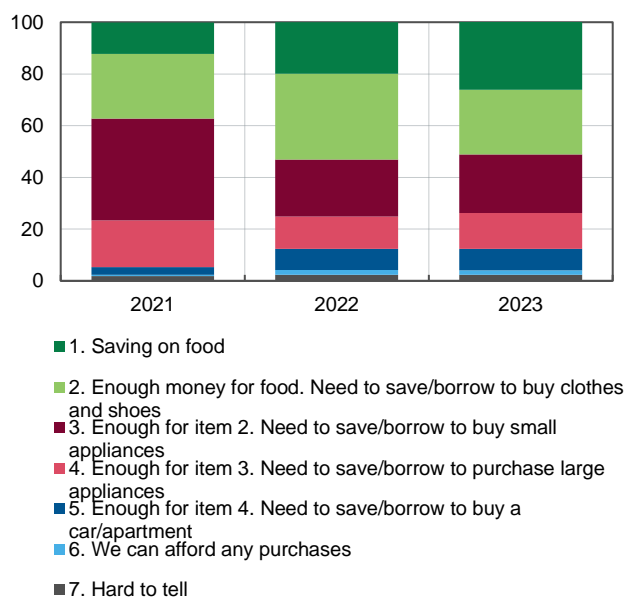
The restrained supply of labor due to migration will impede the labor market's recovery, as will businesses' deteriorating expectations about the growth in the number of employed workers¹⁷. In addition, mismatches in the labor market will remain significant in the medium term, in part because the recovery has been uneven by sector and region. Despite a further decrease in unemployment with the revival of

¹⁵ [The share of those who had a job before February 2022](#) and who are still not working is significantly higher for women, individuals with low incomes, young people (ages 18–35), and persons of pre-retirement age (51+). At the same time, young people lead the way among those who have found new jobs, while the share of those who are working in the same job as before the full-scale invasion is about the same for both genders.

¹⁶ [According to IOM data](#), the number of IDPs was estimated at 3.7 million in September 2023, down from 5.1 million in May.

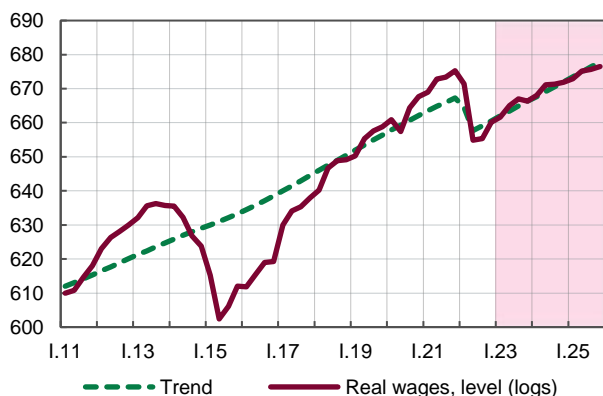
¹⁷ According to the NBU's [business outlook survey](#), in Q3 2023, 19% of respondents expected the number of their employees to decline in the next 12 months, while 12% expected an increase. Representatives of large companies make up the largest share of the pessimists (23%).

Figure 2.3.6. Self-assessment of household's financial situation in Q3 of 2021-2023, % of responses



Source: InfoSapiens.

Figure 2.3.7. Real wages*, level (logs)



* Until 2022 - the average wages of full-time employees, since 2023 - wages in the compensation of employees according to the system of national accounts.

Source: SSSU, NBU staff estimates.

economic activity, unemployment will not attain its natural rate by the end of 2025.

Household incomes are growing thanks to budgetary support and the revival of the economy

According to estimates based on indirect data, the financial standing of households has gradually improved in 2023. For the second year running, budget payments have remained a key source of household income: pensions, social benefits, and military allowances. At the same time, faced with a shortage of qualified workers, private businesses are also gradually raising wages¹⁸. Households' real incomes have also returned to moderate growth, the NBU estimates. However, households are still assessing their financial condition as difficult.

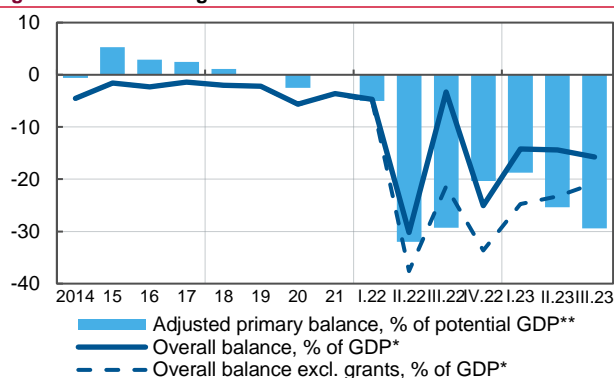
In 2024, the real incomes of households will gradually increase due to the recovery of economic activity and the maintenance of a loose fiscal policy, even as high risks to security persist. In the post-war period, the revival of labor demand will accelerate wage growth, primarily in the sectors that most urgently need skilled labor. To meet the need to restore significant volumes of destroyed or damaged production facilities, infrastructure, and housing, demand for skilled workers will increase in construction more than elsewhere. Demand for specialists in industries with significantly damaged production facilities that require long-term rebuilding efforts will be subdued for some time. Accordingly, labor market mismatches will continue to be an issue, restraining economic growth. Amid a declining pace of inflation, real wages will grow by more than 6% a year in 2024–2025.

¹⁸ According to an NBU survey in August 2023 that included questions about the labor relations situation, most businesses (52%) in 2023 are planning to increase wages, and 22% of the companies have already increased them, most often by 5%–10%. On average, however, nominal wages increased by only 4.6%. The situation is better in agriculture, manufacturing, and trade. In construction, 11% of companies cut wages. In 2024, the majority of businesses (69%, primarily in manufacturing and trade) plan to raise wages. An [IER survey](#) shows that the majority of companies (59%) kept wages unchanged in H1 2023. The ones that increased wages (34% of respondents) raised them by an average of 12% year to date in nominal terms. Only 14% of surveyed businesses plan to ramp up wages by the end of 2023, 40% have no plans to raise them, and 46% are undecided.

2.4. Fiscal Sector

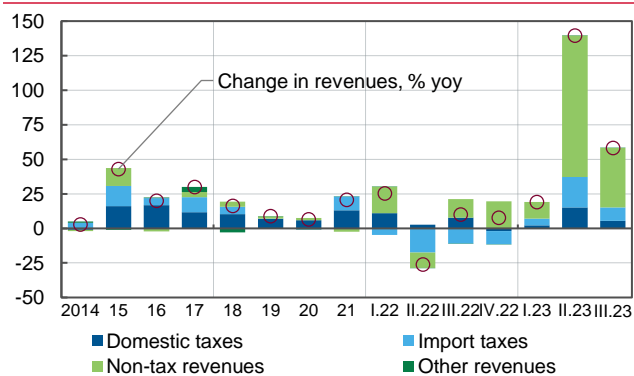
- The fiscal deficit continues to widen, despite growing revenues. Due to higher spending, in particular on defense and security, the deficit will reach 29% of GDP this year. It is expected to be financed by international aid and domestic borrowing.
- The consolidated budget deficit will continue to be significant: in 2024, it will primarily be driven by high spending on defense and security, and in 2025, by expenditures on reconstruction and recovery. There will thus be a need for significant international assistance and further active borrowing on the domestic market.
- The debt-to-GDP ratio will increase, primarily due to large budget deficits.

Figure 2.4.1. General government fiscal balance



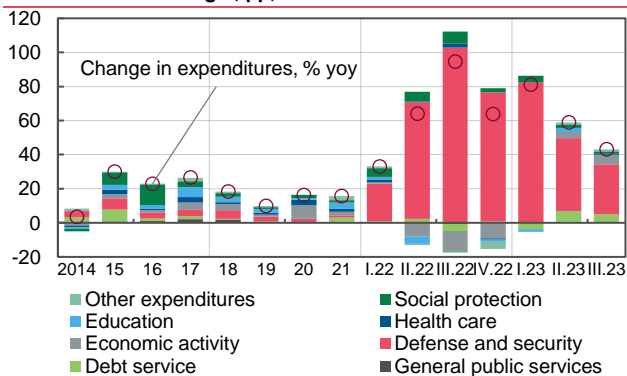
* Overall balance is the consolidated budget balance, taking into account loans to the PFU from the STA. ** Cyclically adjusted primary fiscal balance (CAPB) of the general government (% of potential GDP). CAPB is the difference between seasonally adjusted revenues, in the structure of which tax revenues are adjusted for cyclical changes in GDP, and seasonally adjusted primary expenditures. Additionally, one-off proceeds are subtracted from revenues. A positive value indicates tight fiscal policy; a negative value indicates expansionary fiscal policy. Source: STSU, NBU staff estimates.

Figure 2.4.2. Contributions to annual change in revenues of the consolidated budget, excluding grants, pp



Source: STSU, NBU staff estimates.

Figure 2.4.3. Contributions to annual changes in expenditures of the consolidated budget, pp, functional classification



Source: STSU, NBU staff calculations.

The budget deficit will remain significant due to the persistence of security risks

Fiscal policy remains very loose in 2023. The primary negative balance, adjusted for the economy's cyclical position, continued to widen in Q3. Despite the expected improvement in revenues, the large deficit is driven by substantial expenditures.

Thus, this year's revenues are growing at a relatively high pace, thanks to the economic revival and measures to strengthen tax administration, as well as the return to the taxation that was in effect until February 2022¹⁹. At the same time, non-tax revenues made the main contribution to the increase in revenues. These largely came from the military assistance that was provided. However, these funds are mostly earmarked for specific purposes and are not a systemic source of revenue. Even taking them into account, the state budget's own revenues for the first nine months of 2023 were enough to cover only 52% of the total budget needs for this period. The main reason for this was the high level of expenditure. Although the growth in expenditures slowed, given the leveling of the comparison base, they exceeded last year's amounts by about 60% in the first nine months of this year. Almost 60% of the expenditures were allocated to defense and security²⁰, and more than 12% to social protection. Capital expenditure also continued to increase, driven by the implementation of public infrastructure projects and repairs.

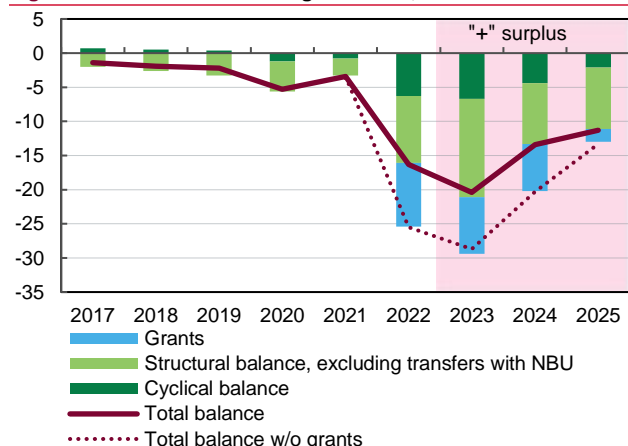
The NBU's forecast envisages moderate growth in revenues over the entire forecast horizon, thanks to a revival in economic activity and a widening of the tax base, along with the optimization of tax administration. However, expenditures will continue to be significant as the needs to maintain defense capabilities will remain high even in the post-war period, and also because expenses on reconstruction will grow.

The expected budget deficit, not including grants in revenues, will reach almost 29% of GDP in 2023. It will be wider than envisaged in the previous forecast, primarily due to higher defense and security needs. Given the longer duration of security risks, a significant deficit will persist in 2024 (exceeding 20% of GDP). A decline in security risks will allow for fiscal consolidation, which, together with further improvements in revenues, will make the deficit narrow to 13% of GDP in 2025.

¹⁹ On 1 July 2023, the excise tax and VAT (20%) on fuel was restored, and on 1 August 2023, the special tax rate of 2% was canceled for the unified flat tax.

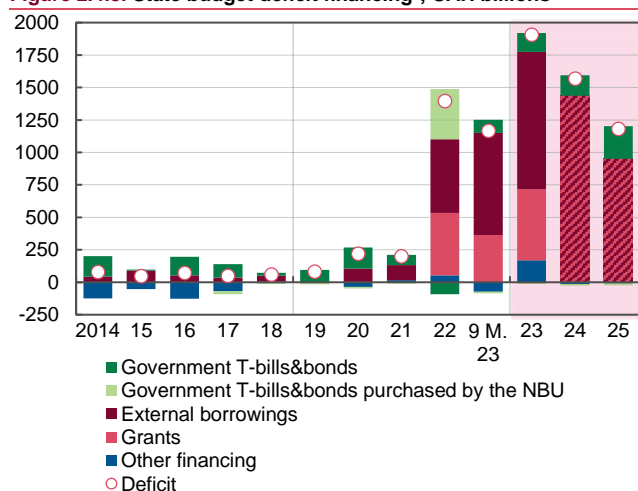
²⁰ Expenditures in this area are financed from the government's own sources (primarily non-grant revenues and domestic borrowing).

Figure 2.4.4. Consolidated budget balance, % of GDP



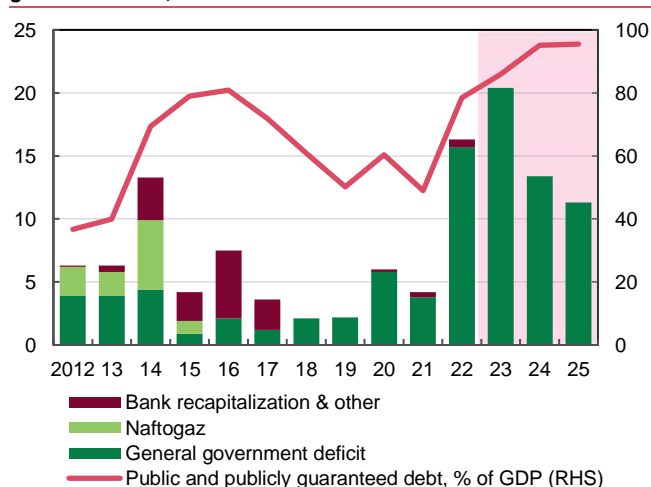
Source: STSU, MFU, SSSU, NBU staff estimates.

Figure 2.4.5. State budget deficit financing*, UAH billions



* Net borrowing. Domestic borrowing includes government T-bills & bonds issued to increase the authorized capital of banks, the Deposit Guarantee Fund (DGF), and other state-owned enterprises. Deficit from 2022 is presented excluding grants in revenues. Deficits in 2023–2025 reflect the NBU's forecast. Pattern fill shows external borrowing and grant funds. Source: STSU, MFU, NBU staff estimates.

Figure 2.4.6. Broad general government deficit, public and publicly guaranteed debt, % of GDP



Source: STSU, IMF, MFU, SSSU, NBU staff estimates.

The large deficits will mean there is a need for more international aid and a revival of the domestic market. Debt levels will be high, but will not put significant pressure on the budget in the coming years

Despite the increase in revenues, a large part of budget needs will continue to be financed from international assistance. This year, the amount of financial support will exceed USD 45 billion, of which more than USD 35 billion had already been received as of the end of October (including USD 24.3 billion in loans). In 2024 and 2025, official financing will remain significant, although it will gradually decrease to USD 38.5 billion and USD 25.0 billion, respectively. To receive such amounts of aid, it will be critical for Ukraine to fulfill its commitments and actively cooperate with the IMF and other international partners. As security risks decline and economic recovery accelerates, the focus of international assistance will shift from maintaining macroeconomic stability to rebuilding and reforming the country.

Large deficits will require further increases in domestic borrowing. At the start of this year, demand for government securities revived, in part due to the introduction of benchmark government debt securities to meet the required reserve ratios. That said, the demand also remained stable afterward thanks to attractive real interest rates. The NBU's policy of maintaining the attractiveness of hryvnia assets will keep investors interested in domestic government debt securities. This will allow the role of domestic funding to gradually increase. As a result, sufficient financing from foreign and domestic markets will make it possible to continue to refrain from the monetary financing of the budget deficit.

Given the significant share of loans in total international assistance²¹ and active domestic borrowing, public and publicly guaranteed debt is expected to grow. The NBU estimates that its ratio to GDP was around 80% at the end of September, and that it will rise to more than 95% of GDP in 2024–2025.

Despite the assumption that security risks will persist for longer, the debt-to-GDP ratio in this forecast remains almost unchanged. This is due to the faster pace of economic recovery and an upward revision of the amount of grant support for next year compared to the previous forecast.

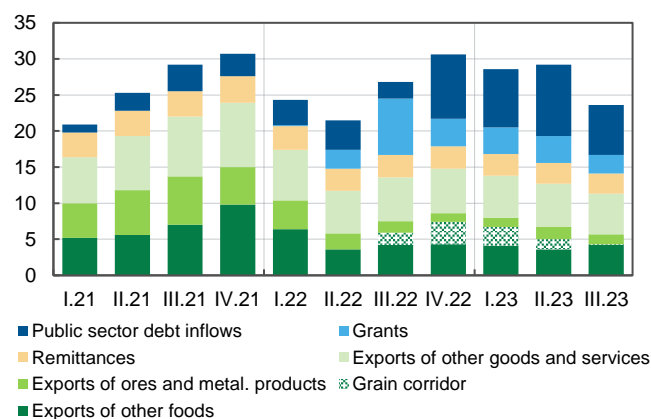
This level of debt will not put significant pressure on the budget in the coming years, given its lower cost and long average maturity, in part due to the preferential terms provided with international assistance. At the same time, measures to strengthen the sustainability of public finances will be needed after security risks subside.

²¹ Grant support will remain an important source of budget revenues, but starting in 2025, it will gradually decrease.

2.5. Balance of Payments

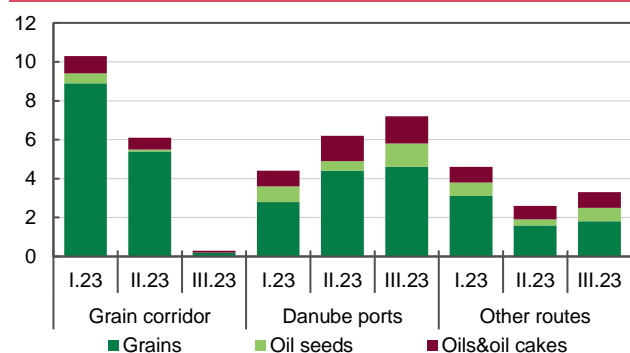
- Net FX outflows from the private sector accelerated in Q3. Export earnings declined because the "grain corridor" was not operating, while imports remained substantial, propelled by both domestic market needs and migrants' spending abroad. However, inflows of funds from Ukraine's international partners ensured there was a high level of international reserves as of late Q3 (almost USD 40 billion).
- Logistics capabilities for exports will gradually expand over the forecast horizon, but the potential for export growth will remain limited. Together with the strong need for imports, this will continue to create a significant trade deficit and demand for FX from the private sector.
- Thanks to international assistance and increased capital raising by the private sector, starting in 2025, international reserves will grow over the forecast period, reaching USD 45 billion in late 2025.

Figure 2.5.1. Key components of FX inflows, USD bn



Source: NBU.

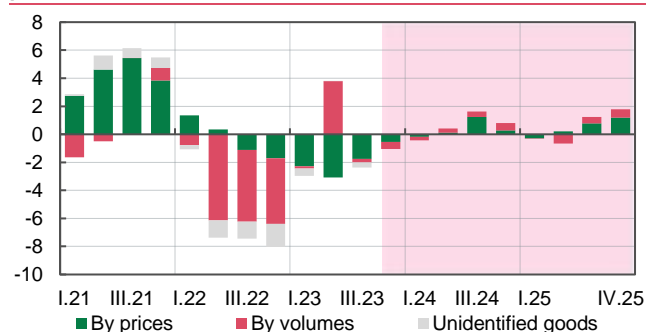
Figure 2.5.2. Exports of selected agricultural products*, m t



* Grains and oil seeds, sunflower and soybean oils, oil cakes.

Source: Ministry of Agrarian Policy and Food of Ukraine, Black Sea Grain Initiative JCC, NBU staff estimates.

Figure 2.5.3. Absolute annual change in merchandise exports by prices and volumes, USD bn



Source: SCSU, NBU staff estimates.

The expansion of logistics routes will support exports over the forecast horizon, despite the halt in the operation of the "grain corridor". However, the still limited transportation routes and weak production potential will hamper the recovery of exports

Q3 saw a drop in the FX inflows of the private sector compared to Q2, which mainly resulted from lower exports of agricultural products. The cancellation of the grain agreement, restrictions on imports of Ukrainian food imposed by some EU countries, and the depletion of the previous year's harvest stocks brought about a sharp decline in grain exports. A fall in the prices of new crop wheat due to its poorer quality and higher freight rates in Danube ports also played a role. At the same time, despite Russia's terrorist attacks on the Danube port infrastructure, agricultural exports via alternative routes have increased. With a seasonal increase in the supply of rapeseed and rapeseed oil, this mitigated the decline in total food exports.

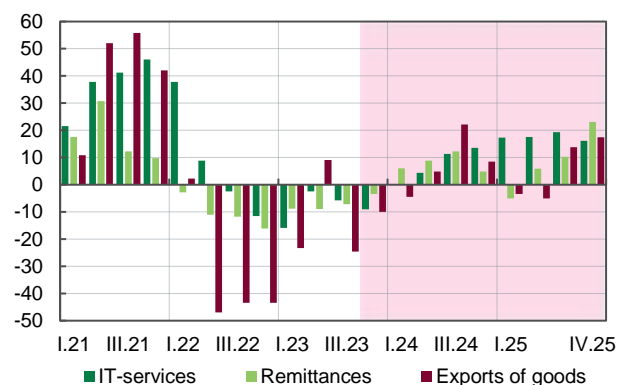
Stronger competition for logistics routes and [weak economic activity in EU countries](#) decreased Ukrainian exports of ores and metallurgical products, as well as those of processed wood. The reduced production of certain types of metallurgical products as a result of the explosion of the Kakhovka HPP was an additional factor.

Other FX inflows to the private sector were little changed. Migrants' remittances and exports of services were practically unchanged quarter-on-quarter.

A bigger harvest and a faster expansion of export logistics capabilities contributed to the upward revision of the food exports forecast. Looking ahead, export earnings are expected to recover somewhat thanks to the further expansion of throughput via alternative routes, in particular through the Danube ports, and a new sea corridor. By H1 2024, this will compensate for this year's export losses from the halt of the "grain corridor" and the trade restrictions on Ukrainian agricultural products imposed by some EU countries²², which the NBU expects will be in effect until the end of the current year. The complete unblocking of sea routes in 2025 will help boost exports, mainly exports of ores and metallurgical products, while also significantly reducing the cost of insurance and freight. That said, exports will recover moderately over the forecast horizon. In 2024–2025, exports of goods are expected to be lower than in the July forecast due to longer-lasting high security risks, which will

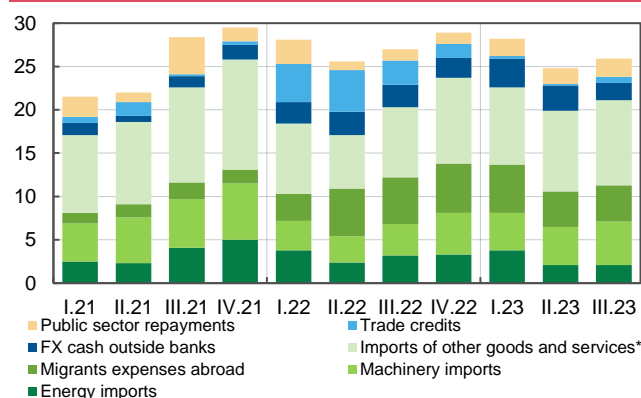
²² Losses from trade restrictions imposed by some EU countries on Ukrainian agricultural products in 2023 are estimated at USD 800 million, of which USD 300 million are expected to be incurred in Q4.

Figure 2.5.4. Selected components of FX inflows, % yoy



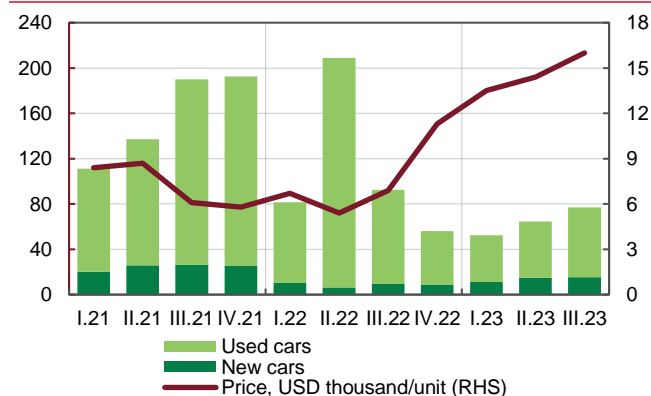
Source: NBU staff estimates.

Figure 2.5.5. Key components of FX outflows, USD bn



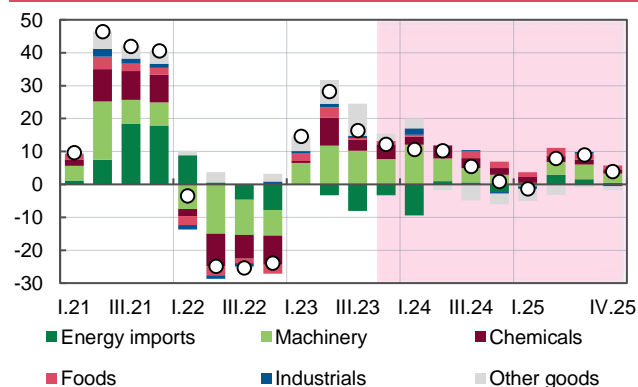
Source: NBU staff estimates.

Figure 2.5.6. Passenger car imports, thousand units



Source: Automotive Market Research Institute, SCSU, NBU staff calculations.

Figure 2.5.7. Contributions to annual change in imports of goods, pp



Source: NBU staff estimates.

primarily hamper exports of metallurgical products. Even after security risks subside, export potential will remain limited due to production facilities and transportation infrastructure being destroyed and damaged. A fall in global prices will be an additional factor.

The recovery of the global economy over the forecast horizon will push up demand for Ukrainian IT specialists' services, while also promoting an increase in remittances. In addition, seasonal labor migration is expected to resume in 2025, which will also contribute to the growth of remittances.

FX outflows will remain substantial due to significant import needs to ensure the country's defense capability and reconstruction

Imports of goods grew in Q3, fueled mainly by machinery imports. Almost half of this growth was generated by an increase in imports of passenger cars, primarily due to a rise in their average price amid [high demand for premium brands](#). The ongoing recovery in domestic demand, both consumer and investment, stimulated larger imports of other machinery, such as household appliances and industrial equipment. The significant needs of the defense sector further increased imports of dual-use products, clothing, and footwear. Metallurgical imports grew, propelled by rebounding construction. On the other hand, food imports declined, primarily due to a large domestic supply of vegetables and a seasonal drop in purchases of seeds. Energy imports were little changed. The increase in imports of petroleum products and electricity was offset by lower purchases of natural gas on the back of increased domestic production.

Imports of services also increased, primarily due to the seasonal revival of foreign vacations.

At the same time, FX outflows generated by private sector financial flows declined. In particular, the narrowing spread between the official and cash hryvnia exchange rates and an increased attractiveness of hryvnia assets in real terms slowed the growth of FX cash outside the banks. However, this reduction did not offset the growth in imports of goods, as a result of which the overall FX outflow from the private sector remained substantial.

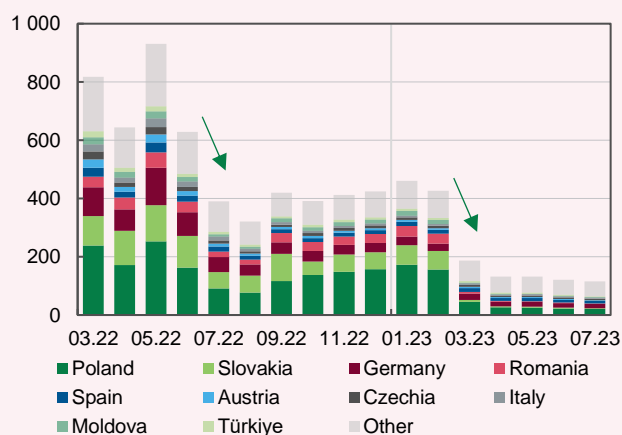
This outflow will persist throughout the entire forecast horizon. Consumer imports will grow, propelled by the continued rebounding of domestic demand. The reconstruction of production facilities will fuel investment imports, while the recovery in the agricultural sector will push up fertilizer imports. Conversely, the share of energy imports will decline in 2023–2025 thanks to both stepped-up domestic production and lower global energy prices. 2023 imports of goods have been revised upwards, given the currently expected wider budget deficit. At the same time, the forecast for 2024–2025 imports of goods has been lowered only marginally. On the one hand, the forecast envisages lower energy imports. On the other hand, imports of goods will be shored up by defense and recovery needs.

The gradual return of forced migrants to Ukraine will decrease FX outflows from imports of travel services. At the same time, the forecast for imports of services has been revised upward, given that Ukrainian migrants will return home more slowly than expected. FX cash outflows outside

the banks will also gradually slow as uncertainty and security risks subside.

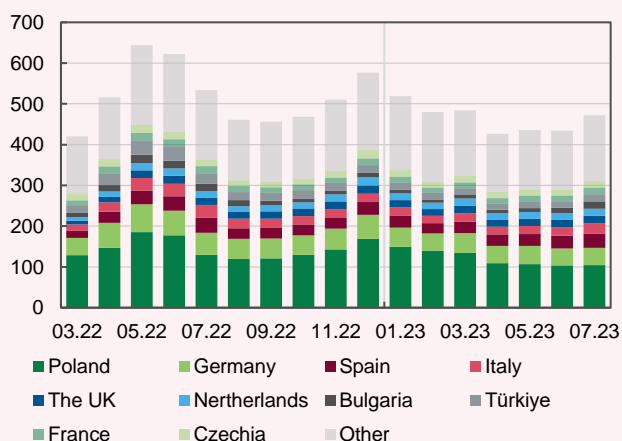
Transactions with Ukrainian cards abroad

Figure B.2.5.1. Cash withdrawals from the Ukrainian bank cards abroad, USD m



Source: NBU.

Figure B.2.5.2. Transactions in retail networks abroad, USD m



Source: NBU.

In November 2022, the NBU conducted a pilot survey of the five largest banks on the use of Ukrainian cards abroad in order to study the geographic and targeted structure of Ukrainians' spending abroad. In September 2023, a second survey was conducted, in which six banks participated. The coverage of transactions in retail networks remained practically unchanged (84% on average in May–October 2022 and 85% in November 2022–July 2023), while cash withdrawals increased (from 69% to 74% respectively).

The results of the second round of the survey showed that migrants had consistently high expenditures, and that there had been a sharp decline in cash withdrawals abroad since March 2023, including due to the slowdown in “card tourism”. The latter was the result of the NBU's measures aimed at boosting the attractiveness of hryvnia assets, calibrating FX restrictions, improving currency flows between the interbank and cash markets in Ukraine, and enhancing the effectiveness of financial monitoring and currency supervision.

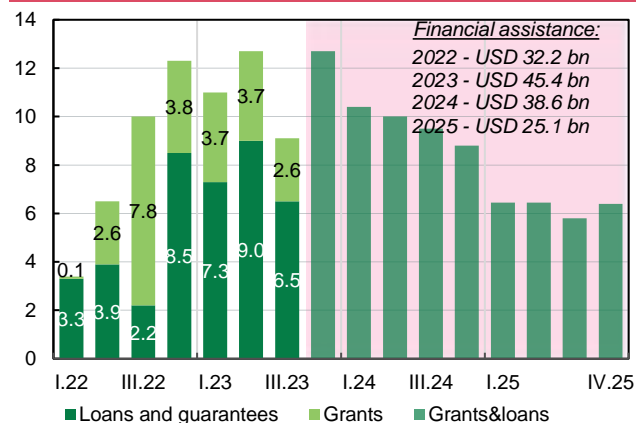
As expected, cash withdrawals declined the most in the countries bordering Ukraine, primarily Poland. This brought about significant relative changes in the geographic composition: since March 2023, the share of Poland has rapidly dropped (from 37% in February 2023 to 18% in July 2023), that of Slovakia (from 15% to 2%), and that of Romania (from 8% to 1% respectively). Meanwhile, the shares of Germany and Spain grew (from 6% to 13% and from 3% to 7% respectively).

The slowdown in “card tourism” is likely to have had an impact on a certain drop in spending by Ukrainian migrants in retail chains, starting in March 2023, in some countries – primarily Poland and Slovakia. That said, the total amount of transactions in retail chains remained high, while their geographical composition was stable: the largest volumes of spending were as usual observed in Poland and Germany, which took in the largest number of forced migrants from Ukraine. A slight increase in such expenditures in July, which is likely to have continued in the next few months, was caused by the revival of summer vacations (the largest increase was seen in countries that focus on maritime tourism: Italy, Bulgaria, Croatia, Spain, and Greece).

International assistance will remain the main source for covering the FX deficit over the forecast horizon, and the role of the private sector in raising capital will increase from 2025 onwards

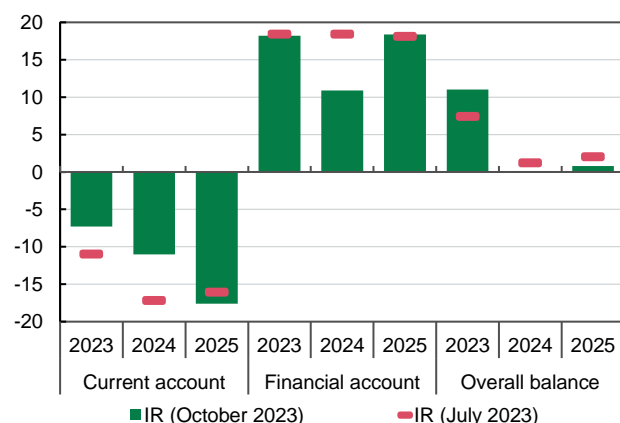
Q3 2023 saw a small decline in international financial assistance, due to the arrival of certain grants and loans being shifted to the next quarter. In spite of that, official financing remained substantial and exceeded USD 9 billion. Overall, since the beginning of the full-scale war, Ukraine's international partners have provided financial support worth

Figure 2.5.8. International financial assistance, USD bn



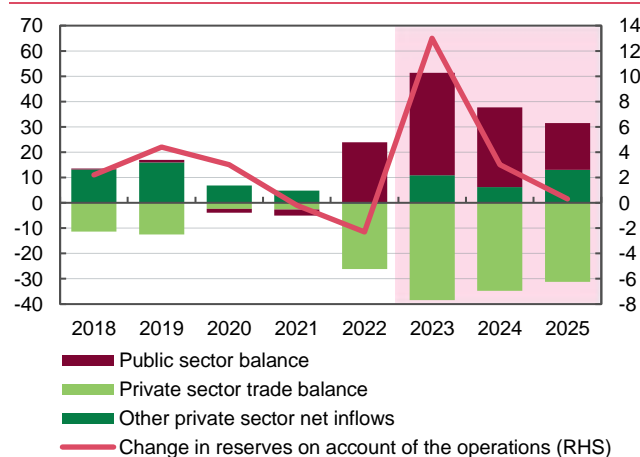
Source: NBU, MoF, data from the open sources, NBU assumptions.

Figure 2.5.9. Balance of payments forecast comparison, USD bn



Source: NBU staff estimates.

Figure 2.5.10. Gross international reserves, changes on account of selected operations, USD bn



Source: NBU staff estimates.

almost USD 65 billion. As a result, gross international reserves reached a historic high in Q3 (USD 41.7 billion in late July), and totaling USD 39.7 billion at the end of Q3 2023.

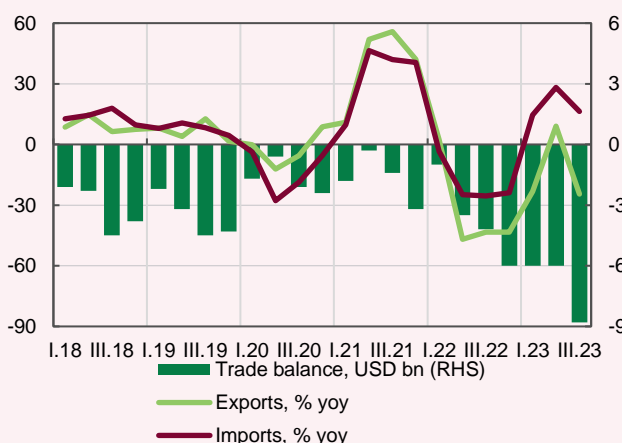
Significant amounts of external official financing will ensure there are net FX inflows over the forecast horizon. When security risks subside, debt and investment capital raised by the private sector will play a more important role. This will further increase international reserves, to USD 45 billion, by the end of 2025. This forecast scenario also takes into account potential capital outflows due to the easing of FX restrictions, as set forth in the roadmap. Overall, the forecast for the current account deficit for 2023–2024 has been improved, primarily thanks to an increase in grant aid, as well as the redistribution between loans and grants in favor of the latter. This same factor resulted in a downward revision of capital inflows to the financial account in 2024. The NBU has also revised upward its forecast for FX cash outflows outside the banks in 2023–2024 because of the longer-lasting period of high security risks and a widening budget deficit. That said, larger foreign aid inflows outweighed the widening trade deficit and higher FX cash outflows. Resultantly, the international reserve forecast has been revised upward.

Box 2. The Widening in the Trade Deficit due to War Shocks: Is there Any Room for Simple Decisions?

The full-scale invasion has dealt a serious blow to Ukraine’s external trade position. The deficit in trade in goods will remain significant for a long time, while the FX market will operate with a substantial FX deficit throughout the forecast horizon. A flexible exchange rate will have a limited potential to improve Ukraine’s external trade, as this potential is currently determined not by the relative price advantages of domestic and foreign goods, but by structural changes in the economy caused by the war. Export potential is limited by damaged or destroyed production facilities, and by logistical hurdles. Conversely, the strong need for imports to maintain the country’s defense capabilities and vital functions will not disappear with the relative rise in the prices of imported goods as a result of the exchange rate adjustment. These problems will persist even after security risks decline. It will take time to rebuild destroyed and restore damaged production facilities, set up optimal logistical chains, and to return to lost foreign markets. Imports will also remain elevated due to demand for the goods needed to support the country’s defense capabilities and reconstruction. Therefore, the NBU will continue to compensate for the FX structural deficit with its own interventions. In the medium term, any reductions in this deficit will largely depend on the effectiveness of economic policy measures aimed at using resources from international partners to expand export opportunities and for import substitution.

The full-scale war has significantly widened the deficit in the trade in goods, while changes in the structure of foreign trade have become fundamental. A deficit in trade in goods is typical of emerging markets that are not rich in energy resources. This is due to the increased need for investment goods and intermediate consumption goods, in the face of limits on the country’s own resources for accelerating growth. Prior to the full-scale invasion, Ukraine ran an average deficit in the trade in goods of 6.5% of GDP in 2014–2021. With the onset of the full-scale invasion, this deficit has widened significantly and exceeded 9% of GDP in 2022.

Figure 1. Trade in goods



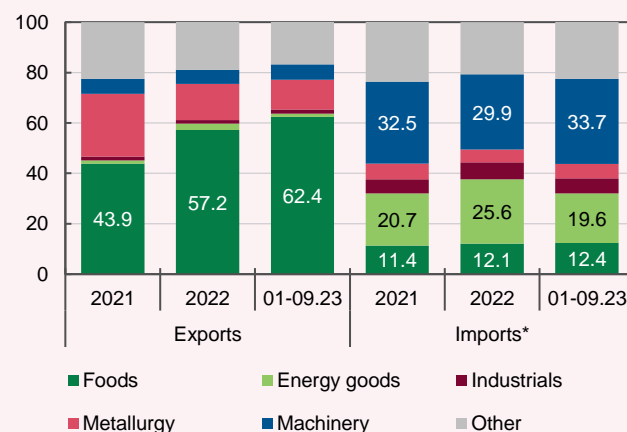
Source: NBU.

On the back of limited logistics, destroyed or damaged production facilities and infrastructure and occupied territories, exports of goods, primarily ores, metallurgical products and foods, have dropped significantly. At the same time, the fall in food exports was somewhat restrained by the establishment of alternative supply routes. The ratio of exports to GDP dropped from 31% in 2021 to 20% in in the first 9 months of 2023. In 2023, the negative factors were compounded by trade restrictions on Ukrainian agricultural products imposed by some EU countries and bigger obstacles posed by Russia to the operation of the "grain corridor", and then the complete halt of the corridor.

At the same time, despite narrowing domestic consumer demand, the share of imports of goods in GDP remains stable

and even increased slightly (from 35% in 2021 to 37% in the first 9 months of 2023). More specifically, the share of intermediate consumption goods decreased, dragged down by the decline in domestic production. Instead, the share of investment and dual-use goods rose, reflecting the country’s great need to support its defense capabilities. In particular, the value of imports of men’s clothing surged in 2022, exceeding imports of women’s clothing for the first time in history, and by more than double the amount. Imports of other goods for the armed forces saw similar changes, albeit on a smaller scale. The share of unmanned aerial vehicles in machinery imports moved up from 1.9% in 2021 to 2.8% in January–July 2023, while that of canned food in food imports rose from 4.7% in 2021 to 5.5% in January–August 2023.

Figure 2. External trade structure by product, %

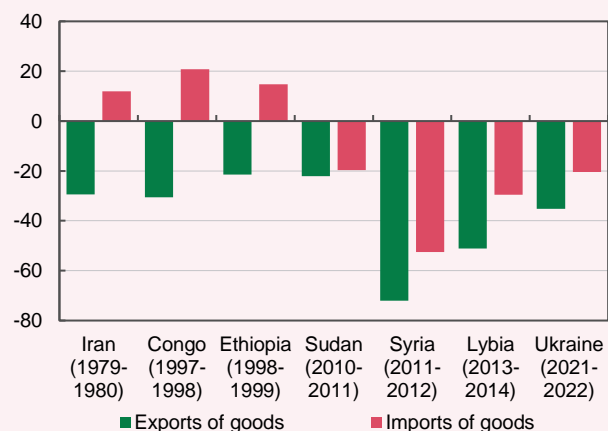


* w/o "Miscellaneous" product group, which, in particular, includes humanitarian aid. Source: NBU.

A significant deterioration in the external trade position is typical of countries that have experienced full-scale wars. Active hostilities result mainly in considerable migration, which affects the supply of labor. Together with the physical loss of production facilities, this limits production and, consequently, export potential. This also reduces government revenues and investment. Significant structural changes take place in the economy. State funding for the defense sector rises, while goods and services are used to meet the needs of the armed forces, which, with low domestic economic potential and substantial international support, are

mostly covered by imports. Therefore, a larger drop in exports of goods compared to imports is a typical consequence of war.

Figure 3. The change in the volume of external trade during the first year of the war or revolution, %



Source: Correlates of War Projects, ITC, NBU.

The impact of military conflicts on external trade is also determined by trade structure. The consequences of wars are especially acute for commodity exporting countries and importers of technological products (Krpec&Hodulyak, 2019), because of the loss of export markets and limits on the room for conducting external trade policy.

Glick&Taylor (2010), based on their analysis of the military conflicts that occurred between 1870 and 1997, proved their long-term negative impact on external trade. In other words, after the war ends, trade does not recover to its pre-war levels for a long period of time. The longer the conflict lasts, the longer the recovery takes, primarily due to the costs of post-war reconstruction and difficulties in regaining lost foreign markets.

Judging from the experience of other countries, the expected duration of security risks and the narrowing of production potential, **structural changes in Ukraine's external trade will be long-lasting**. A substantial external trade deficit is expected to persist even after security risks subside. Thus, until the seaports are completely unblocked, export opportunities will remain limited because of the insufficient capacity of alternative supply routes for certain goods, destroyed production infrastructure, and relatively low harvests. At the same time, the share of critical goods for defense and essentials in imports will continue to remain high. As the economy continues to recover, the need for intermediate consumption goods will also grow. Once security risks subside, the need for fixed assets and investment goods will become stronger.

Theory stipulates that a flexible exchange rate regime can address such external imbalances. However, a flexible exchange rate will have a limited potential to improve Ukraine's foreign trade, as this potential is currently driven not by the price competitiveness of domestic goods, but by war-related structural changes in the economy. As a result, the NBU will continue to offset the structural FX deficit by

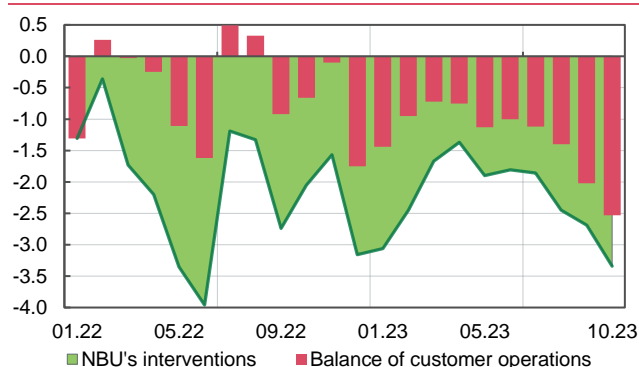
intervening in the FX market. On the other hand, transitioning to a flexible exchange rate will reduce the likelihood of the accumulation of FX risks and economic imbalances, which otherwise would have been generated by a prolonged fixed exchange rate. This will bolster the adaptability and, subsequently, the resilience of the export sector, the Ukrainian economy as a whole, and the FX market to internal and external shocks.

Current conditions also require a prudent economic policy. Russia's full-scale invasion has dealt a heavy blow to all sectors of the economy. The main task in the near term is to safeguard the economy's sustainability by supporting uninterrupted operations of businesses and by restoring the economy's potential. It is also extremely important to fully meet the needs of the defense sector. In the face of significant damage to, and the destruction of, production facilities, it is impossible not to use imported goods to partially meet such needs. At the same time, supporting domestic producers through stepping up production in areas where no hostilities are taking place, shifting the economy to supporting the country's defense capabilities, and rebuilding infrastructure remain important goals. Another important task is the gradual replacement of imported goods with domestic ones, where this is feasible. An important condition for supporting export-oriented producers is making it easier for them to access the international markets through bringing the specifications and quality standards of their products into line with European requirements. Scaling up the production of good-quality highly processed goods will ensure the competitiveness and sustainability of Ukrainian exports. Further developing and enhancing the throughput of alternative export routes is also important. In the medium term, a clear and consistent economic strategy is needed to create incentives to boost export potential and to produce goods to meet domestic needs.

2.6. Monetary Conditions and Financial Markets

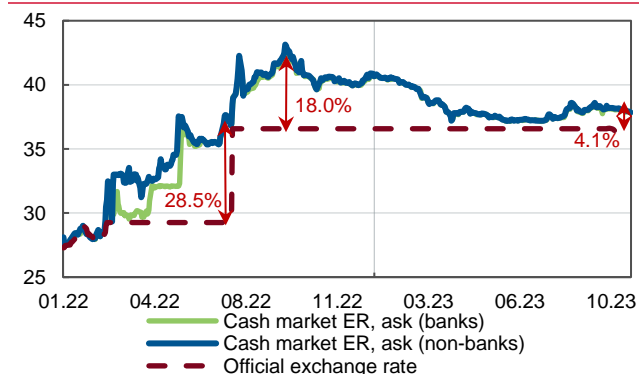
- In early October, the NBU switched to a managed exchange rate flexibility regime. This was preceded by the creation of the necessary preconditions: steady progress in lowering inflation, the accumulation of a significant level of international reserves, and a rise in the attractiveness of hryvnia assets.
- Following the change in the exchange rate regime, the situation in the foreign exchange market has remained under control. The NBU will continue to be a key player in the market, compensating for the structural deficit of foreign currency, and smoothing out exchange rate fluctuations.
- As part of the change in the operational design of its monetary policy, the NBU set its key policy rate at 16% in October, while keeping the interest rates on its transactions with the banks unchanged. The latter will help maintain the attractiveness of hryvnia assets, which is necessary to ensure exchange rate sustainability – especially at the stage of adaptation to managed exchange rate flexibility.

Figure 2.6.1. Bank clients' FX transactions and NBU interventions*, USD bn



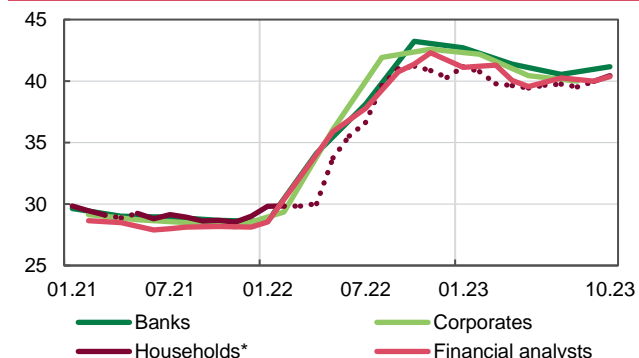
* Net sale and purchase of noncash and cash foreign currency by bank clients (Tod, Tom, Spot).
Source: NBU.

Figure 2.6.2. Hryvnia exchange rates, UAH/USD



Source: NBU, open data sources.

Figure 2.6.3. 12-month-ahead exchange rate expectations, %



* The dotted line indicates a change in the method of survey for a telephone interview. Source: NBU, Info Sapiens.

Under the new exchange rate regime, the NBU will continue to focus on maintaining the stability of the FX market, and exchange rate fluctuations will be significantly limited by interventions

Tensions in the FX market increased in Q3, driven mainly by situational factors. This was accompanied by an increase in demand for foreign currency in both the non-cash and cash segments, and a widening of the spread between the official and cash exchange rates.

Increased difficulties with export logistics resulted in a decline in the supply of foreign currency for client transactions. On the other hand, the license of one of the major FX market players being revoked for systematic violations had a short-term impact on the supply of FX cash. Uncertainty related to expectations about changes in the exchange rate regime led to an increase in anxiety on the market, which was accompanied by a rise in demand for foreign currency. This was exacerbated by a return to the seasonal growth in demand for foreign currency in autumn.

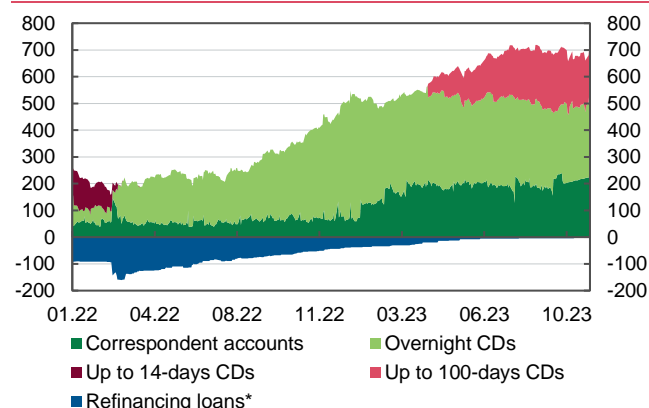
At the same time, the banks' demand for foreign currency for their own transactions (purchases for their own positions) was almost in line with the previous quarter and was substantially lower both at the start of this year and in the previous year. As before, the bulk of transactions were driven by settlements with international payment systems and the banks' transactions in the cash market.

The unfavorable information environment was a key factor behind the increased volatility in the cash segment. This was reflected in a weakening of the cash exchange rate and a widening of the spread between the official exchange rate and the gray market rate. In some periods, the spread exceeded 5%, but it remained significantly lower than in autumn last year, and narrowed again in late September (to almost 4%), primarily due to measures taken by the NBU.

In order to keep the exchange rate under control and maintain stability in the FX market, the NBU significantly increased its interventions, with the balance rising to USD 7 billion (compared to USD 5.1 billion in Q2).

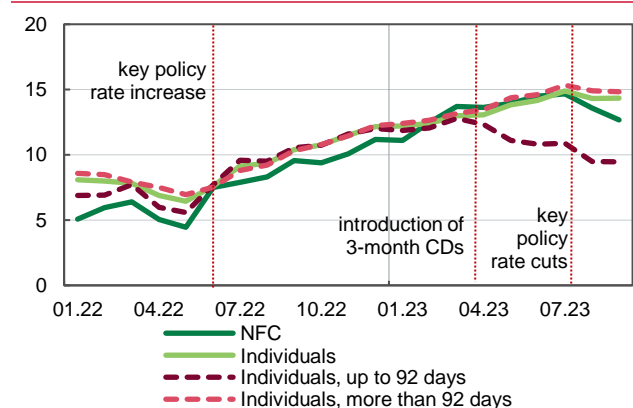
In addition to supporting the exchange rate through interventions, the NBU took a number of measures aimed at increasing the supply of cash foreign currency and easing restrictions on the sale of non-cash foreign currency. The latter resulted in a sizeable increase in such transactions in

Figure 2.6.4. Liquidity of the banking system and the outstanding amount on NBU operations, UAH bn



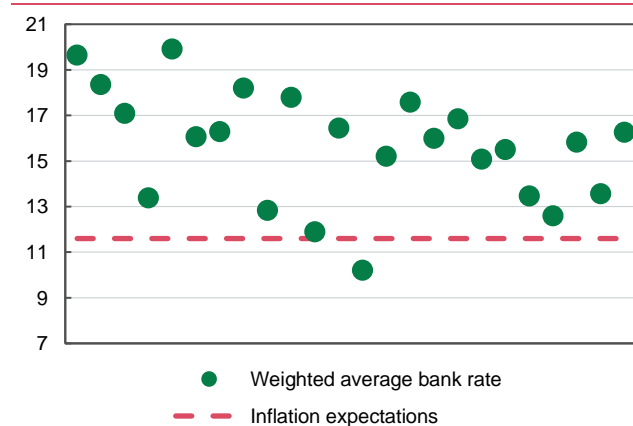
* Excluding insolvent banks and banks undergoing liquidation. Source: NBU.

Figure 2.6.5. Weighted average interest rates on hryvnia term deposits, %



Source: NBU.

Figure 2.6.6. Weighted average interest rates of selected banks* on hryvnia retail deposits with a term more than 3 months and 12-month-ahead inflation expectations, %**



* Banks with the stock of hryvnia retail term deposits exceeding UAH 1 billion as of 1 October 2023 (according to preliminary data). ** According to the September household survey. Source: NBU, Info Sapiens.

late August and early September, which contributed to a decline in demand for cash foreign currency. Other restrictions were also eased, while measures to prevent unproductive capital outflows were strengthened.

Steady progress in reducing inflation, the accumulation of significant international reserves, and the improved attractiveness of hryvnia assets allowed the NBU to switch to a regime of managed exchange rate flexibility in early October. Under the new regime, the NBU will continue to focus on maintaining exchange rate sustainability. The NBU will remain the key player in the market, compensating for the structural deficit of foreign currency and limiting exchange rate fluctuations through FX interventions. Thanks to these actions, the situation in the FX market remained under control even after the change in the exchange rate regime, and the deterioration in exchange rate expectations was marginal. The hryvnia exchange rate on the interbank market moved in both directions in October, and actually strengthened slightly. At the same time, the exchange rate's volatility helped boost trading between market participants without the NBU's involvement, while having little effect on the dynamics of the cash exchange rate.

Despite the nominal decline in rates, yields on hryvnia assets remain attractive due to lower inflation and improved expectations

The banking system's liquidity surplus has continued to grow, with a significant inflow of funds through the budget channel outweighing the impact of the NBU's interventions to sell foreign currency. The banking system's liquidity will continue to expand, given the large budget deficits, which will continue to be funded primarily by international assistance.

Amid an unprecedented liquidity surplus, steady inflows of deposits, and a rapid decline in inflation, the asymmetry of the banks' responses to monetary policy easing is increasing²³. Thus, the weighted average rate on hryvnia term deposits of nonfinancial corporations responded to the NBU's previous steps by decreasing by 1.8 pp over the quarter.

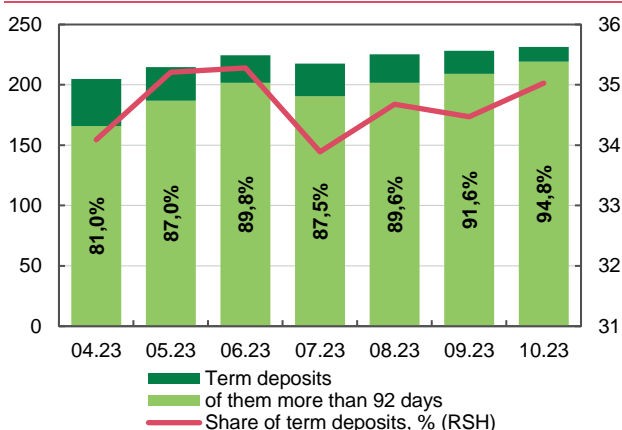
At the same time, the situation was somewhat different for the interest rates on hryvnia retail term deposits. Yields on deposits with a maturity of up to three months also declined sharply over the quarter (by 1.4 pp). Instead, rates on deposits with a maturity of more than three months proved resilient (up marginally by 0.2 pp). The restrained response of these rates reflected NBU measures to regulate structural liquidity and the unconventional operational design of monetary policy²⁴. The NBU used these measures to encourage banks to compete for longer-term retail deposits.

This, on the one hand, allows the banks to gradually reduce their funding costs (at the expense of corporate deposits), and, on the other hand, to maintain a sufficient level of attractiveness of hryvnia term deposits by keeping real interest rates high for retail deposits. For example, most

²³ For more details on the asymmetry in the response of interest rates, see the box *Transmission of NBU Key Policy Rate to Rates on Households' Hryvnia Term Deposits* in the July 2023 Inflation Report.

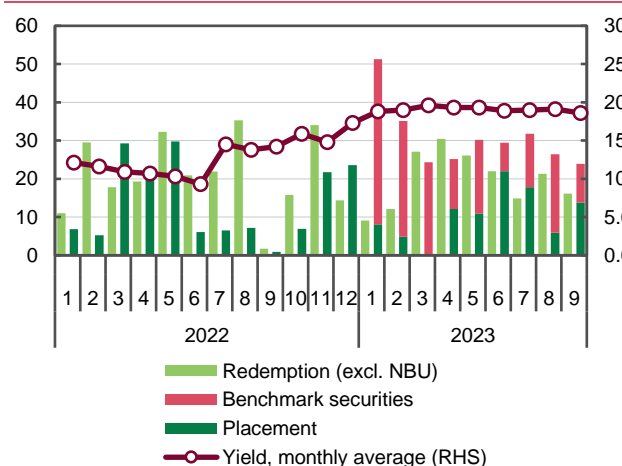
²⁴ In particular, reducing the share of retail term deposits that is taken into account when calculating the limit on the banks' investments in three-month certificates of deposit.

Figure 2.6.7. Hryvnia retail term deposits* (UAH bn) and their share in the total stock of hryvnia retail deposits



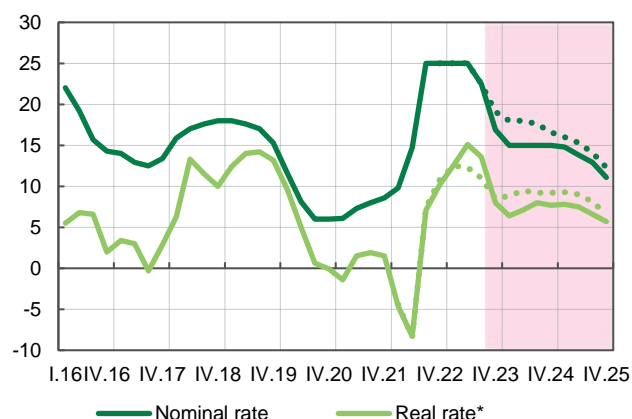
* According to preliminary data.
Source: NBU.

Figure 2.6.8. Placement* and redemption of T-bills & bonds, UAH bn and YTM



* Excluding hryvnia T-bills & bonds issued in December for recapitalization of Ukrfinzhytlo.
Source: NBU.

Figure 2.6.9. Nominal and real key policy rate, period average, %



* Deflated by model expectations (QPM).
Source: NBU.

banks are offering rates on term deposits that allow savers to cover expected inflation. This strengthens confidence in the hryvnia and contributes to further growth in the volume and share of term deposits. In Q3, hryvnia retail term deposits grew by 1.6%, while deposits for more than three months increased by 3.6%²⁵. Despite the war, the dollarization of retail deposits continued to decline (by 2.4 pp since the start of the year, to 33.6%).

Yields on hryvnia domestic government debt securities also fell moderately. They remained high enough to ensure strong demand. In addition, considering the expected easing of the interest rate policy, investors are interested in securing attractive yields.

At the same time, the NBU easing its interest rate policy contributed to a decrease in loan rates. Weighted average interest rates on hryvnia loans to nonfinancial corporations thus declined by 1 pp over the quarter. Along with the decline in interest rates, there were the first signs of a recovery in lending. Outstanding hryvnia loans to nonfinancial corporations increased by 1.8% during this period, and retail loans grew by 4.2%. The Bank Lending Survey also shows some signs of an improvement in lending. According to the survey, the banks recorded a recovery in demand for loans and expected further growth in corporate and retail loan portfolios. High security risks remain the main obstacle to a more rapid decline in loan rates and a full recovery in lending.

The NBU's monetary policy will continue to help maintain sufficient attractiveness of hryvnia instruments

In October, the NBU set its key policy rate at 16%, making it equal to the rate on overnight certificates of deposit. In such a way, the NBU modernized the operational design of its monetary policy in line with the floor system. That said, the interest rates on the NBU's other transactions with the banks remained unchanged: 20% for three-month CDs and 22% for refinancing loans. The decisions taken will reinforce the signaling role of the key policy rate amid the structural liquidity surplus. The updated monetary policy design allows the stimuli that keep hryvnia assets highly attractive to be maintained.

If there are no signs of a deterioration in the balance of risks and market participants successfully adapt to the new FX regime, the NBU expects to cut the key policy rate in December. At the same time, the expected trajectory of inflation and the next steps planned to liberalize the FX market limit the room for easing the interest rate policy going forward. Key policy rate cuts will be possible in 2024 if risks to exchange rate sustainability and inflation dynamics decline substantially.

²⁵ Given the technical decline in volumes of term deposits in July as some banks reclassified deposits with early termination options. According to real-time statistics.

Box 3. On the Way to Floating: Global Best Practices in Applying Various Exchange Rate Regimes in Wartime and in a Post-War Period

To stabilize the foreign exchange market, the NBU fixed the official UAH/USD exchange rate in the first hours of the full-scale invasion and introduced a number of temporary administrative restrictions on FX transactions and capital flows. The NBU has recently shifted from the fixed exchange rate regime to managed flexibility of the exchange rate. This is only the first step to returning to the inflation targeting regime (the IT regime) with a floating exchange rate, which remains the NBU's strategic goal. Therefore, the NBU will benefit from global experience and lessons learned from central banks of countries that have experienced military conflicts and used various exchange rate regimes, with varying degrees of effectiveness, before switching to floating.

Fixing or pegging the exchange rate is a common and effective crisis "painkiller" In many countries that have gone through war, fixing and various forms of less hard pegging of the exchange rate of the national currency have proven to be effective as a temporary crisis-management tool to keep inflation under control and ensure macrofinancial stability.

For example, in mid-1985, Israel began implementing a stabilization program, the cornerstone of which was exchange rate sustainability. For three years, the shekel was tightly pegged first to the U.S. dollar, and then to a basket of currencies of major trading partners, with a deviation corridor of $\pm 3\%$ from the midpoint. Exchange rate stability was expected to reduce triple-digit inflation to the levels of the developed European countries. This goal has been partially achieved, with inflation falling to double digits.

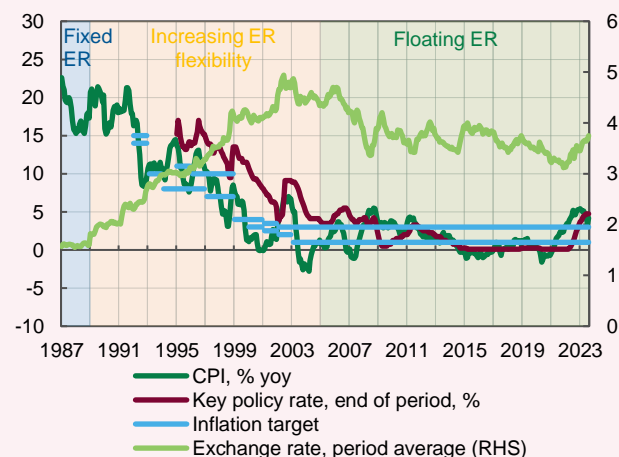
Croatia's stabilization program, which aimed to significantly slow inflation in its post-war period (since 1995), also included the recognition of the exchange rate as an anchor for price stability, FX market reform, and its liberalization. In 1991–1993, the Croatian dinar was tightly pegged to the Deutsche mark. After the introduction of a new currency, the Croatian kuna, in May 1994, the central bank defined the exchange rate regime as managed floating, but significantly limited exchange rate fluctuations by conducting FX interventions. Between 1994 and 1996, the kuna exchange rate remained sustainable, with an average deviation of $\pm 1.6\%$ per year. Together with other stabilization measures, maintaining such exchange rate sustainability helped to improve inflation and exchange rate expectations and to reduce inflation rapidly (from 1,903% yoy in October 1993 to (-3%) yoy in December 1994).

A thorny path to greater exchange rate flexibility. The central banks of the studied countries considered exchange rate fixing or various forms of less hard pegging mostly as a temporary stabilization measure before returning to a more flexible exchange rate and IT regime with the key rate as the main monetary tool. However, such returns were not achieved in the same way.

As noted above, ensuring the exchange rate sustainability of the shekel through a hard peg regime allowed the central bank of Israel to significantly lower inflation in 1988. At the same time, the strengthening of the real exchange rate meant the central bank had to make a choice: either to adjust the official exchange rate periodically, or to allow it to be more flexible. In such a way, in 1989–2004, the central bank experimented with various options for pegging the shekel, gradually increasing the band of exchange rate fluctuations

from $\pm 3\%$ in 1992 to $\pm 7\%$ in 1995. As inflation continued to decline from 20% to 7% yoy (with the achievement of variable inflation targets), the central bank decided to introduce a crawling peg, widening the exchange rate band annually from $\pm 15\%$ to $\pm 26\%$. The boundaries of the band were determined, among other things, by taking into account the difference between Israel's inflation target and expected inflation in its trading partner countries. The central bank also reduced its presence in the FX market. In 2003, inflation reached its permanent target: staying within the range of 1%–3% continuously over the previous 12 months. In 2005, the central bank switched to a floating exchange rate regime.

Figure 1. CPI, the official ILS/USD exchange rate, and the key policy rate of the Bank of Israel



Source: IFS, Karnit Flug, Bank of Israel.

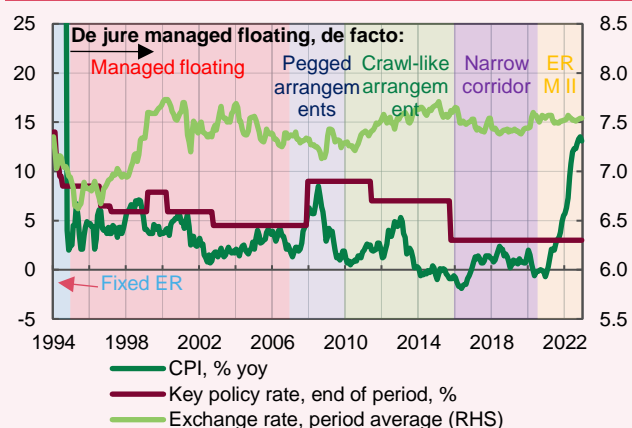
Georgia had a floating exchange rate regime until August 2008. In conditions of military invasion by Russia, the central bank of Georgia temporarily fixed the exchange rate of the lari to the U.S. dollar to prevent panic, balance the FX market, and ensure macrofinancial stability. However, the FX interventions that maintained the fixed exchange rate depleted the country's international reserves: in August 2008, their volume decreased by 23% compared to the previous month. Therefore, in early November 2008, the central bank of Georgia decided to adjust the GEL/USD exchange rate as an interim step on the way back to a floating exchange rate. The exchange rate weakened by 15% in two steps: by 4% on 4 October 2008 and by 11% on 10 October 2008. The central bank considered the new level of the exchange rate to be equilibrium, taking into account, among other things, the negative balance of payments forecast and the significant overvaluation of the lari due to the sharp strengthening of the U.S. dollar against other currencies as the latest global financial crisis unfolded. Over the next two days after the

depreciation, the central bank actively intervened to stabilize the exchange rate at its new level and restore confidence in the lari. Subsequently, the central bank significantly reduced the daily volume of its interventions, and in January 2009 switched to an IT regime. At the same time, from 2009 to 2013, the exchange rate was kept in a relatively narrow range of GEL 1.6-1.8 per USD.

FX interventions as the main monetary instrument. The various types of exchange rate targeting (stabilization) regimes usually require active actions by central banks to balance the FX market. Central banks' FX interventions thus start playing the role of the main monetary instrument.

For example, the targeting of the Croatian kuna exchange rate in 1994–1998 was accompanied by active interventions in the FX market. The transition to greater exchange rate flexibility in Croatia was gradual, long, and cautious. Although managed floating has been the official exchange rate regime in Croatia since 2009, de facto it was a crawl-like arrangement in 2010–2015, and stabilized arrangement regime in 2016–2019, when the exchange rate fluctuated within a narrow band of $\pm 2\%$. To curb exchange rate volatility, the central bank was active in the FX market by conducting interventions, which were the main instrument of its monetary policy.

Figure 2. CPI, the official HRK/EUR exchange rate, and the key policy rate of the Croatian National Bank



Source: HNB.

In 2004–2014, the central bank of Iraq also focused on stabilizing the dinar by holding auctions for the sale of foreign currency.

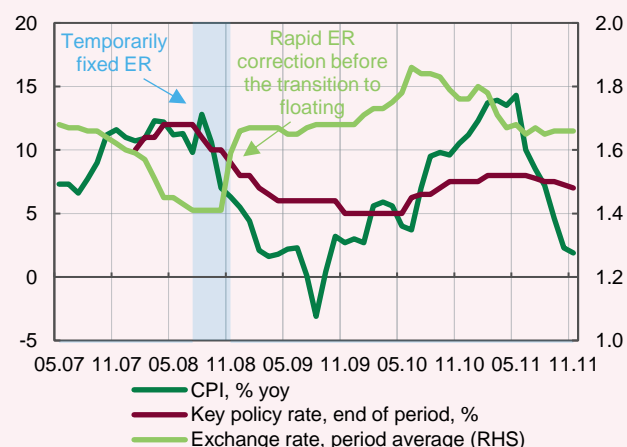
Interest rate policy as an auxiliary tool for maintaining exchange rate sustainability. Under a range of exchange rate targeting regimes, the central banks of Croatia, Israel, Kuwait, and other countries used the key policy rate as a complementary tool to reduce pressure on international reserves and maintain FX market sustainability.

Sometimes, the favorable impact of internal and external factors can lead to a rapid decline in inflation, even during a war or in a post-war period. However, a premature easing of interest rate policy while security, inflation, and devaluation risks remain high could undermine exchange rate sustainability and, consequently, the prospects for price stability in the medium term.

For example, despite the negative consequences of the "five-day" war, due to the disinflationary impact of the global

financial crisis, inflation in Georgia declined rapidly in annual terms: from 12.8% in August 2008 to 1.6% in March 2009. Given the favorable price dynamics, the central bank of Georgia began a cycle of interest rate policy easing in September 2008 to support economic growth. At the same time, lower interest rates in combination with a significant devaluation of the lari had a negative impact on the attractiveness of the national currency and public confidence in it. This led to an increase in the level of dollarization of the economy, and was one of the factors behind the considerable acceleration of inflation in 2010. As inflationary pressures were also fueled by external factors (in particular, rising prices on global markets), the central bank of Georgia was forced to tighten its interest rate policy to prevent inflation from settling at high levels. In total, from June 2010 to February 2011, the key policy rate was raised by 3 pp, to 8% per annum. The central bank kept it at this level for five months. Given the insufficient effectiveness of the interest rate channel of the transmission mechanism, as well as the high level of dollarization, the central bank of Georgia, in addition to raising its key policy rate, increased the required reserve ratio for dollar-denominated liabilities from 5% to 15%, and tightened the banks' liquidity and regulatory capital requirements.

Figure 3. CPI, the official GEL/USD exchange rate, and the key policy rate of the National Bank of Georgia



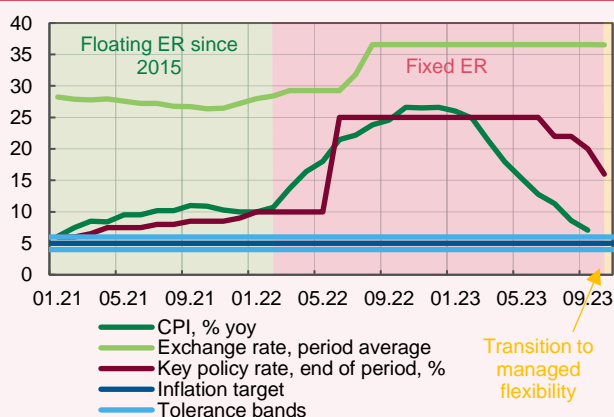
Source: NBG.

Ukraine's experience. Since 2015 and until the start of the full-scale war, Ukraine had been applying a floating exchange rate regime, combining it with an active policy of FX interventions to smooth out excessive exchange rate fluctuations and to accumulate international reserves. At the same time, in order to stabilize the situation in the FX market, the NBU fixed the official hryvnia exchange rate against the U.S. dollar in the first hours of Russia's full-scale invasion and introduced a number of temporary administrative restrictions on foreign currency transactions and cross-border capital flows. These steps helped prevent panic and limit capital outflows, and contributed to a decrease in depreciation pressures.

Given the change in the fundamental characteristics of Ukraine's economy during the war and the strengthening of the U.S. dollar against other currencies, the NBU adjusted the official hryvnia exchange rate by 25% on 21 July 2022. This step made it possible to converge exchange rate conditions for different groups of businesses and households

and ease the pressure on the exchange rate and international reserves, while also helping increase the competitiveness of Ukrainian producers.

Figure 4. CPI, the official UAH/USD exchange rate, and the key policy rate of the NBU



Source: NBU.

To maintain the fixed exchange rate and finance imports that are critical to continuing military resistance and the functioning of the economy, the NBU is actively intervening to sell foreign currency. The NBU also periodically recalibrates FX restrictions, easing them where possible to minimize the existence of multiple exchange rates, as well as to reduce the inconvenience to households and the burden on businesses.

Given the high uncertainty caused by the war, the fixed exchange rate became the main anchor for stabilizing expectations and a key tool for achieving the NBU's priority goals of ensuring price and financial stability, which is an important precondition for economic recovery. At the same time, based on its own and international experience, the NBU realized that, if maintained for a long time, the fixed exchange rate would gradually lose its stabilizing potential and could lead to the accumulation of macroeconomic imbalances, the realization of which could trigger a financial and economic crisis. Therefore, back in April 2022 (shortly after the exchange rate was fixed), the NBU announced its intention to return to the IT regime with a floating exchange rate as soon as the appropriate macroeconomic and financial conditions were in place. In June 2023, the NBU approved the Strategy for Easing FX Restrictions, Transitioning to Greater Flexibility of the Exchange Rate, and Returning to Inflation Targeting ("the Strategy") and disseminated its public version. The Strategy outlines priorities and principles for taking steps in the above areas.

To implement the Strategy, on 3 October 2023, the NBU switched to managed exchange rate flexibility, considering the steady progress in reducing inflation, the accumulation of significant international reserves, and the maintained

attractiveness of hryvnia instruments. Thanks to proper preparations, the transition was controlled and successful overall. Following anticipated flux in the first days of the new exchange rate regime, the FX market had already stabilized by the third day, and the volume of NBU interventions fell to the average daily value observed in September.

The gradual increase in exchange rate flexibility envisaged by the Strategy, as the necessary preconditions are formed, will strengthen the resilience of the Ukrainian economy and FX market, helping them better adapt to internal and external shocks, and lowering the risk of the accumulation of FX imbalances. At the same time, the NBU will continue to play an active role in the FX market, compensating for the structural component of net demand for foreign currency. As a result, the hryvnia will fluctuate in both directions under the influence of market factors. Meanwhile, the NBU will significantly limit exchange rate fluctuations through its FX interventions, preventing the hryvnia from making significant swings in either direction.

The NBU's interest rate policy is aimed at maintaining exchange rate sustainability. In the current environment, the rationale for using the key policy rate differs from its traditional use under the IT regime. In particular, the key determinant of interest rate policy is not only the expected inflation dynamics compared to the target, but also the attractiveness of the national currency as a means of saving compared to foreign currencies. Thanks to high interest rates, economic agents can protect their savings from inflation without converting them into foreign currency. As a result, the pressure on the FX market and international reserves decreases, while exchange rate sustainability increases. This not only directly restrains the growth in the cost of goods and services, in particular through the lower cost of imports, but also eases the pressure on inflation and exchange rate expectations of households and businesses. This strengthens the NBU's ability to ensure price and financial stability.

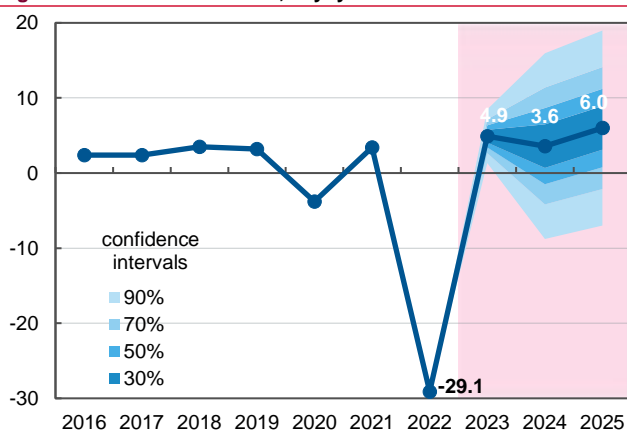
To this end, in early June 2022, the NBU hiked the key policy rate by 15 pp to 25% and kept it unchanged for more than a year to improve the attractiveness of hryvnia instruments and reduce pressures on the FX market.

Improved inflation expectations, a forecast of a further slowdown in inflation, and a stable FX market made it possible to start the key policy rate cutting cycle in July 2023. The easing of interest rate policy will support economic recovery without posing threats to macrofinancial stability. The NBU's monetary policy will continue to be aligned with the need to maintain sufficient attractiveness of the hryvnia as a prerequisite for implementing the Strategy and achieving the NBU's priority goals.

Part 3. Risks to the Forecast

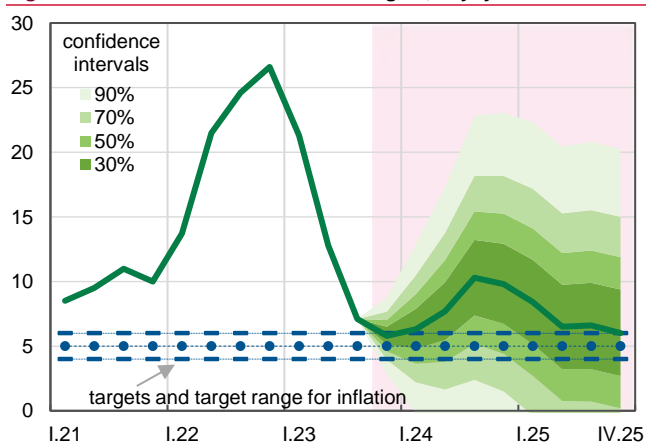
- Developments in the security situation, in particular the duration of hostilities, and their nature and intensity, are the most significant risks to this macroeconomic forecast. A swift victory for Ukraine would promote faster economic growth and eliminate a large part of the inflationary risks posed by the war. In contrast, if security risks were to persist for longer than currently expected, they could lead to additional losses of Ukraine's economic potential and heavier inflationary pressures throughout the forecast horizon.

Figure 3.1. Real GDP forecast, % yoy



Source: NBU staff estimates.

Figure 3.2. CPI forecast and inflation targets, % yoy



Source: NBU staff estimates.

The fan charts illustrate the projections for the key macroeconomic indicators. The confidence intervals which are symmetric represent the historical accuracy of the past forecasts dating back to 2016. They incorporate expert assessments of the recent economic conditions for the GDP projections. The confidence intervals widen over a two-year period and remain constant forward.

The baseline scenario of this macroeconomic forecast is built on a more conservative assumption than in previous forecasts: high security risks are expected to persist until the end of 2024. A longer duration and higher intensity of the war than envisaged in the baseline scenario would worsen Ukraine's economic recovery prospects, cause additional losses in development potential, and impede the more active return of migrants. Accordingly, both production assets and the labor market would recover more slowly. Business sentiment would be worse than in the baseline forecast, which would dampen investment activity and limit supply. Budget expenditures would be higher, putting pressure on public finances. In addition, exports would remain limited for longer than is currently expected. This would put additional pressure on the FX market, and thus on price dynamics. The extension of the moratorium on raising tariffs for certain housing and utility services in the context of a protracted war would only partially offset the impact of these pro-inflationary factors. Thus, to keep inflation moderate, the NBU might have to tighten its monetary policy more than envisaged in the baseline scenario of this forecast.

During full-scale war, the risks of significant damage to energy and port infrastructure remain high. This could lead to a greater deficit in Ukraine's own electricity generation than envisaged in the baseline scenario. There might not be sufficient technological capabilities to import supplies to cover the deficit. As a result, power outages would resume for both household and industrial consumers, limiting economic activity. Consequently, GDP growth would be lower than foreseen in the baseline scenario. At the same time, it is worth noting that businesses and households are better prepared for power outages compared to the previous winter.

In addition, continued active air attacks on port infrastructure might affect shipping. This would in the first place make it more difficult to export agricultural products, leading to a decrease in FX inflows, while in turn increasing the need for significant investments to restore export opportunities after security risks subside.

Public finances are highly vulnerable in wartime. Given the unpredictable nature of the war, the risks of a shortfall in planned budget revenues remain high, and the potential for optimizing expenditures is still limited. There is a significant risk of a forced increase in expenditures, primarily in the event of a rise in security risks or damage to critical infrastructure. This would lead to an increase in the budget deficit and require there to be a search for additional sources of financing.

		Probability that a risk will materialize		
		Low <15%	Medium 15%–25%	High 25%–50%
Degree of impact on the baseline scenario	Weak			
	Moderate		Intensified emigration Increasing the capacity of maritime export routes	Damage to energy and port infrastructure
	Strong		Additional budgetary needs and significant quasi-fiscal deficits, in particular in the energy sector Rapid implementation of the large-scale reconstruction plan for Ukraine (the "Marshall Plan")	Prolonged war, escalation, eco-terrorism of the occupiers Decreased or less regular disbursements of international assistance

At the same time, uncertainty over the amount of external financial assistance has increased, and it might become less regular. Given the limited capacity of the domestic financial market, this would create a threat that the NBU would have to resume emission financing of the budget. As a result, inflation and exchange rate expectations would deteriorate. Under this scenario, the NBU would have to maintain tighter monetary conditions than currently expected.

Uncertainty about the timing and parameters of the adjustment of energy tariffs for households is a particular risk to the inflation forecast. On the one hand, postponing decisions to bring utility tariffs to economically justified levels could lead to the accumulation of quasi-fiscal deficits and a deterioration in the financial standing of state-owned energy companies. This, in turn, would pose a threat of instability in the energy market and reduce the investment potential of this sector. In addition, the price pressure would only be postponed to the future. On the other hand, a rapid increase in energy prices aimed at eliminating imbalances in the energy sector would create additional inflationary pressure, social tensions, and the need for a sizeable increase in subsidies for households.

The significant duration and intensity of the hostilities, coupled with the aggressor's air attacks on civilian infrastructure, raise the risk that a large number of citizens who have left for abroad and who are gradually adapting to life outside Ukraine will not return. Unfavorable economic and social conditions after the war may also lead to an increase in emigration, particularly if the restriction on men aged 18–60 leaving the country is lifted. A decline in the number of consumers will weaken the recovery in demand. This will partially ease inflationary pressures, but, conversely, labor shortages and growing imbalances in the labor market will cause businesses' labor costs to rise, with a corresponding pass-through to prices.

The baseline scenario of the forecast assumes that the "grain corridor" will not work until the end of the active phase of the war. However, alternative maritime routes for exports of both food and metallurgical products are expected to continue to function. A substantial expansion of sea transportation capacity will not only improve the current situation for Ukrainian exporters, but will also stimulate production. This will contribute to a more rapid economic recovery and an increase in export earnings.

It is expected that Ukraine's post-war recovery will take place in close cooperation with international lenders and donors. The investments needed to restore infrastructure and production can only be attracted if there is an appropriate reconstruction program approved at a high international level and successfully implemented by the Ukrainian authorities. Currently, this is not included in the baseline scenario of the macroeconomic forecast, as the accumulation of such resources and the detailing of the relevant program will take an extended period of time. The implementation of such a program, together with European integration reforms, will significantly accelerate economic growth. Household income will grow much faster than in the baseline scenario, leading

to an increase in underlying inflationary pressures. However, this will be offset by the appreciation effects from foreign currency inflows and a decline in the risk premium. This will enable the NBU to start a cycle monetary policy easing earlier.

Macroeconomic forecast (October 2023)																						
Indicators	2022				2023				2024				2025									
	2019	2020	2021	actual/ estimate	I	II	III	IV	current forecast	forecast 07.2023	I	II	III	IV	current forecast	forecast 07.2023	I	II	III	IV	current forecast	forecast 07.2023
REAL ECONOMY, % yoy, unless otherwise stated																						
Nominal GDP, UAH bn	3977	4222	5451	5191	1269	1532	1854	1970	6625	6525	1542	1789	2129	2270	7730	7620	1776	2068	2451	2605	8900	8830
Real GDP	3.2	-3.8	3.4	-29.1	-10.5	19.5	8.2	4.5	4.9	2.9	5.4	3.5	2.2	3.8	3.6	3.5	4.8	5.6	6.3	7.0	6.0	6.8
GDP Deflator	8.2	10.3	25.1	34.3	30.0	24.8	19.5	16.0	21.7	22.2	15.4	12.8	12.3	11.0	12.6	12.8	9.8	9.5	8.4	7.3	8.6	8.5
Consumer prices (period average)	7.9	2.7	9.4	20.2	-	-	-	-	12.9	14.7	-	-	-	-	8.3	10.4	-	-	-	-	7.4	7.1
Consumer prices (end of period)	4.1	5.0	10.0	26.6	21.3	12.8	7.1	5.8	5.8	10.6	6.3	7.7	10.3	9.8	9.8	8.5	8.4	6.5	6.6	6.0	6.0	6.0
Core inflation (end of period)	3.9	4.5	7.9	22.6	19.8	13.7	8.3	5.7	5.7	8.7	5.7	6.9	8.0	8.6	8.6	7.0	7.3	5.6	4.1	3.0	3.0	3.1
Non-core inflation (end of period)	4.8	5.9	13.5	30.6	22.8	11.7	5.3	6.0	6.0	13.2	7.0	8.4	13.0	11.3	11.3	10.3	9.7	7.5	9.5	9.6	9.6	9.3
raw foods (end of period)	3.9	4.1	11.8	41.6	31.6	18.2	0.3	1.2	1.2	13.3	0.1	-0.1	10.7	8.3	8.3	7.7	6.3	4.4	4.0	3.1	3.1	2.8
administrative prices (end of period)	8.6	9.9	13.6	15.3	13.5	12.5	11.3	11.4	11.4	14.4	12.7	14.2	15.7	15.6	15.6	15.5	14.6	11.6	16.9	18.8	18.8	18.8
Nominal wages* (period average)	18.4	10.4	20.9	6.0	11.4	28.8	21.4	10.6	17.7	19.6	13.2	14.9	15.8	18.9	15.8	16.1	16.5	15.3	13.6	11.2	14.0	12.8
Real wages* (period average)	9.8	7.4	10.5	-11.4	-10.2	11.7	11.4	4.8	3.9	3.9	6.5	7.1	5.9	8.0	6.9	5.2	6.8	7.5	6.1	4.5	6.2	5.4
Unemployment rate (ILO, period average)	8.2	9.5	9.8	21.1	-	-	-	-	19.1	19.0	-	-	-	-	16.5	16.9	-	-	-	-	14.2	14.4
FISCAL SECTOR																						
Consolidated budget balance, UAH bn	-87.3	-224	-187	-845	-	-	-	-	-1355	-1291	-	-	-	-	-1035	-1281	-	-	-	-	-1010	-883
% of GDP	-2.2	-5.3	-3.4	-16.3	-	-	-	-	-20.4	-19.8	-	-	-	-	-13.4	-16.8	-	-	-	-	-11.3	-10.0
excluding grants from revenues, % of GDP	-2.2	-5.3	-3.4	-25.5	-	-	-	-	-28.7	-26.2	-	-	-	-	-20.3	-19.8	-	-	-	-	-13.3	-11.8
BALANCE OF PAYMENTS (NBU methodology)																						
Current account balance, USD bn	-4.1	5.3	-3.9	8.0	-1.8	-0.2	-3.5	-1.8	-7.3	-11.0	-2.9	-1.8	-2.9	-3.4	-11.0	-17.2	-4.8	-4.2	-4.2	-4.3	-17.6	-16.1
Exports of goods and services, USD bn	63.6	60.7	81.5	57.5	13.8	12.7	11.3	13.8	51.7	51.5	13.4	13.2	13.3	14.7	54.6	55.2	13.4	13.3	15.3	17.0	59.0	60.4
Imports of goods and services, USD bn	76.1	63.1	84.2	83.3	23.3	20.5	22.1	24.2	90.1	89.7	22.6	21.2	22.0	23.6	89.4	89.6	21.7	21.6	22.9	23.9	90.2	90.1
Remittances in Ukraine, USD bn	11.9	12.0	14.0	12.5	3.0	2.9	2.8	3.0	11.7	12.2	3.2	3.1	3.2	3.1	12.6	13.5	3.0	3.3	3.5	3.8	13.7	14.6
Financial account, USD bn	-10.1	3.3	-4.4	11.1	-5.6	-4.1	-5.2	-3.3	-18.2	-18.4	-3.1	-2.3	-3.1	-2.4	-10.9	-18.4	-3.6	-3.9	-5.2	-5.8	-18.4	-18.1
BOP overall balance, USD bn	6.0	2.0	0.5	-2.9	3.9	3.9	1.7	1.6	11.0	7.4	0.2	0.5	0.2	-1.0	-0.1	1.2	-1.2	-0.4	1.0	1.5	0.8	2.0
Gross reserves, USD bn	25.3	29.1	30.9	28.5	31.9	39.0	39.7	41.8	41.8	38.3	42.1	44.0	44.7	44.7	44.7	42.6	43.2	42.8	43.3	45.0	45.0	44.1
Months of future imports	4.8	4.2	4.5	3.8	4.3	5.2	5.3	5.6	5.6	5.1	5.7	5.9	6.0	6.0	6.0	5.7	5.7	5.6	5.6	5.7	5.7	5.6
MONETARY ACCOUNTS (Cumulative since the beginning of the year)																						
Monetary base, %	9.6	24.8	11.2	19.6	9.0	14.5	17.0	22.9	22.9	24.1	2.8	7.4	9.8	16.2	16.2	15.5	0.2	2.4	3.9	9.8	9.8	12.0
Broad money, %	12.6	28.6	12.0	20.8	2.3	9.1	11.9	23.0	23.0	19.2	4.2	7.0	8.6	13.0	13.0	12.6	-1.0	0.9	1.6	7.9	7.9	13.0
Velocity of broad money (end of year)	2.8	2.3	2.6	2.1	-	-	-	-	2.2	2.2	-	-	-	-	2.2	2.3	-	-	-	-	2.4	2.3

* Until 2022 - the average nominal wages of full-time employees, since 2023 - nominal wages in the compensation of employees according to the system of national accounts

Forecast assumptions

Indicators		2020*	2021*	2022*	2023	2024	2025
Full access to Black Sea ports				-	-	-	+
Official financing	USD bn			32.2	45.4	38.6	25.1
Migration (net)	million				-0.2	0.1	0.7
Real GDP of Ukraine's MTP (UAwGDP)	% yoy	-3.4	6.5	3.5	1.7	2.9	2.9
Consumer inflation in Ukraine's MTP (UAwCPI)	% yoy	2.1	6.4	14.0	7.6	4.9	3.5
World prices:**							
Steel price, Steel Billet Exp FOB Ukraine	USD/t	389.4	615.0	618.1	554.7	549.3	497.2
	% yoy	-5.2	57.9	0.5	-10.3	-1.0	-9.5
Iron ore price, China import Iron Ore Fines 62% FE	USD/t	108.9	161.7	121.4	117.3	88.3	74.7
	% yoy	16.1	48.5	-24.9	-3.4	-24.7	-15.4
Wheat price, No.1 Hard Red Winter, ordinary protein, Kansas City	USD/t	185.5	265.8	360.2	290.8	272.2	251.8
	% yoy	12.6	43.3	35.5	-19.3	-6.4	-7.5
Corn price, Yellow #2 Delivery USA Gulf	USD/t	165.5	259.4	318.4	257.5	229.2	215.8
	% yoy	-2.7	56.7	22.7	-19.1	-11.0	-5.8
Oil price, Brent	USD/bbl	42.3	70.4	99.8	84.4	86.1	74.7
	% yoy	-33.9	66.4	41.8	-15.4	2.0	-13.2
Natural gas price, Netherlands TTF	USD/tcm	115.0	574.8	1355.9	517.1	532.3	431.8
	% yoy	-28.7	399.8	135.9	-61.9	2.9	-18.9
Volumes of gas transit	bcm	55.8	41.6	20.6	15.0	15.0	0.0
Harvest of grain and leguminous crops	m t	64.9	86.0	53.9	56.9	55.3	58.0
Minimum wage**	UAH	4815	6042	6550	6700	7775	8300

* Actual data.

** Annual average.

Terms and Abbreviations

GDP	Gross domestic product	UN	United Nations Organization
IDP	Internally displaced person	OPEC	Organization of the Petroleum Exporting Countries
HPP	Hydropower plant	MTP	Main trading partner
STSU	State Treasury Service of Ukraine	VAT	Value-added tax
SCSU	State Customs Service of Ukraine	PFU	Pension Fund of Ukraine
CD	Certificate of deposit	REER	Real effective exchange rate
SSSU	State Statistics Service of Ukraine	russia	russian federation
STA	Single Treasury Account	U.S.	United States of America
EU	European Union	Fed	U.S. Federal Reserve System
ECB	European Central Bank	CB	Central bank
BOI	Business Outlook Index	EM	Emerging market
IER	Institute for Economic Research	IT	Information technologies
CPI	Consumer Price Index	ITC	International Trade Centre
MPC	Monetary Policy Committee	PMI	Purchasing Managers' Index
IMF	International Monetary Fund	UAWCPI	Weighted average of the CPI in Ukraine's MTP countries
Ministry of Agrarian Policy	Ministry of Agrarian Policy and Food of Ukraine	UAWGDP	Weighted average of economic growth in Ukraine's MTP countries
ILO	International Labour Organization	UIIR	Ukrainian Index of Interbank Rates
MY	Marketing year		
MFU	Ministry of Finance of Ukraine		
NBU	National Bank of Ukraine		
NEER	Nominal effective exchange rate		
NFC	Nonfinancial corporation		
T-bills&bonds	Domestic government debt securities		
		pp	percentage point
m	million	bbl	barrel
bn	billion	yoy	in annual terms; year-on-year change
UAH	Ukrainian hryvnia	qoq	in quarterly terms; quarter-on-quarter change
USD	U.S. dollar	sa	seasonally adjusted
p	point	mom	in monthly terms; month-on-month change
			month-on-month
bp	basis point	RHS	Right-hand scale