National Bank of Ukraine

Inflation Report

January 2022

The Inflation Report reflects the opinion of the National Bank of Ukraine (NBU) regarding the current and future economic state of Ukraine with a focus on inflationary developments that form the basis for monetary policy decision-making. The NBU publishes the Inflation Report quarterly in accordance with the forecast cycle.

The primary objective of monetary policy is to achieve and maintain price stability in the country. Price stability implies a moderate increase in prices rather than their unchanged level. Low and stable inflation helps preserve the real value of income and savings of Ukrainian households, and enables entrepreneurs to make long-term investments in the domestic economy, fostering job creation. The NBU also promotes financial stability and sustainable economic growth unless it compromises the price stability objective.

To ensure price stability, the NBU applies the inflation targeting regime. This framework has the following features:

- A publicly declared inflation target and commitment to achieve it. Monetary policy aims to bring inflation to the medium-term inflation target of 5%. The NBU seeks to ensure that actual inflation does not deviate from this target by more than one percentage point in either direction. The main instrument through which the NBU influences inflation is the key policy rate.
- Reliance on the inflation forecast. In Ukraine, it takes between 9 and 18 months for a change in the NBU's key policy rate to have a major effect on inflation. Therefore, the NBU pursues a forward-looking policy that takes into account not so much the current inflation rate as the most likely future inflation developments. If inflation is projected to be higher than its target, the NBU raises the key policy rate to bring inflation down to the 5% target. And vice versa, if inflation is projected to be below its target, the NBU cuts the key policy rate.
- Open communications with the public. The transparent and predictable monetary policy of the NBU, which is achieved among other things by publishing this Inflation Report, enhances public confidence. Public confidence, in turn, is an important prerequisite for the effective management of inflation expectations and ensuring price stability.

The NBU Board decides on the key policy rate eight times a year, in line with a schedule 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 based on new economic developments in Ukraine and beyond that have emerged since the latest forecast.

The NBU Board announces its interest rate decision at a press briefing held on the same day at 2 p.m., after the NBU Board's monetary policy meeting. A week later, the NBU publishes the Inflation Report with a detailed macroeconomic analysis and outlook underlying its interest rate decisions. 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, which reflect the consensus position of the NBU Board, the summary shows depersonalized opinions of all MPC members on the monetary policy decision to be made and their positions. That includes not only the opinions expressed by the majority, but also dissenting views.

The analysis in the Inflation Report is based on the macroeconomic data available at the date of its preparation. Thus, for some indicators, the time horizon of the analysis may vary. The cut-off date for most data in this report is 19 January 2022, for selected data – 26 January 2022.

The forecasts of inflation and other macroeconomic variables were prepared by the Monetary Policy and Economic Analysis Department and approved by the NBU Board at its monetary policy meeting on 20 January 2022.[1]

Previous issues of the Inflation Report, the presentation of the Inflation Report, the forecast of the main macroeconomic indicators, and time series and data for tables and charts in the Inflation Report are available on the NBU website at the following link: https://bank.gov.ua/monetary/report.

[1] NBU Board decision No. 25-D *On Approval of the Inflation Report* dated 20 January 2022.

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Summary

Having peaked in autumn 2021, inflation has been declining. However, the decline has been slower than expected, and the underlying inflationary pressure has even increased

Inflation declined at the end of the year thanks to the record-high harvest and a correction of some global food prices, the strengthening of the hryvnia in the previous months, the vanished low base effect, and monetary policy tightening. Inflation was also restrained by administrative decisions to fix tariffs on some utility services. As a result, consumer inflation slowed from a peak of 11% in September to 10% in December.

At the same time, a faster disinflation was prevented by a further increase in global energy prices, which passed through to prices of goods and services, and by pressures from other production costs, including labor costs. Robust consumer demand also continued to play a role. In particular, this spurred core inflation further, to 7.9% as of the end of the year.

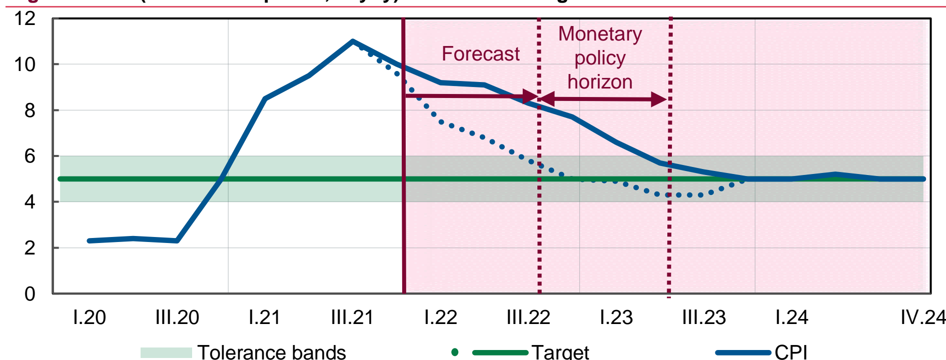
Inflation will slow in 2022 but will return to the 5% target only in 2023

The NBU has downgraded its 2022 inflation forecast, from 5% to 7.7%, considering the materialization of a number of pro-inflationary factors.

In particular, global energy prices will remain high for longer than expected. It will put pressure on businesses' production costs as well as utility tariffs. Price pressures from trading partner countries, in which inflation is only approaching its peak, will remain strong. Second-round effects from businesses' larger raw material expenses and labor costs will persist. An increase in demand for Ukrainian labor force, both inside the country and abroad, and qualification mismatches on the labor market will impact the growth in wages more than expected. With household income rising, consumer demand will remain robust, which will also restrain disinflation.

Moreover, a deterioration in the information environment amid geopolitical tensions that occurred late last year affected the sentiment of various groups of economic agents, putting a depreciation pressure on the hryvnia. Through exchange rate and expectations channels, this will create additional pressures on prices in the coming months.

Figure 1[2].CPI (as of end of period, % yoy) and inflation targets



Source: SSSU, NBU calculations.

Monetary policy tightening by the NBU, a correction of global commodity prices, and the influence of last year's bumper crops will foster a gradual disinflation. It will be additionally driven by the easing of the global inflation surge and the waning effects of the pandemic, reflected, among other things, in a larger correction of prices for raw materials, food, and logistical services.

The NBU tightening its monetary policy will also contribute to a decline in the underlying inflationary pressure. Core inflation is expected to slow to 4% in the coming years, with the administrative component making the largest contribution to the increase in consumer basket prices.

At the same time, inflation will be quite volatile in 2022 due to base effects. In addition, like in many other countries, the rise in inflation in Ukraine will last longer than previously anticipated. Taking into account the strong pro-inflationary factors and the need to continue supporting the

[2] Unless specified otherwise, a dashed line in the figures indicates the previous forecast.

post-pandemic economic recovery, inflation is projected to return to the target range of 5%±1 pp in mid-2023, given the monetary conditions envisaged under the baseline scenario.

GDP growth will accelerate somewhat, to 3.4% in 2022. However, high energy prices and the information environment around geopolitical tensions will restrain the economy from recovering more rapidly

Real GDP grew by about 3% in 2021, by NBU estimates. The economic recovery was driven by sustained consumer demand, increased investment by businesses after the crisis, a record harvest of crops. However, the recovery came out slower than expected. This was in part due to a spike in energy prices and shortages, the impact of weak 2020 harvests, a slower recovery in the services sector, the limited production capacity of some manufacturing sectors, more significant losses from the pandemic, and a faster fiscal consolidation.

The forecast of real GDP growth for 2022 has been revised to 3.4% from 3.8%. The growth will be underpinned by consumer demand and still rather favorable terms of trade. On the other hand, the tense geopolitical situation will remain a significant deterrent that will adversely affect investment decisions. In addition, despite the gradual retreat of the pandemic, the consequences of the COVID-19 crisis will remain quite significant. Relatively high energy prices and shortages of certain raw materials, especially in the first half of the year, will also limit growth potential.

In 2023–2024, real GDP growth will accelerate to about 4% per year. This will be driven by the stabilization of geopolitical conditions during 2022, the fading of the fallout from COVID-19, further growth in the global economy, and the persistence of rather benign terms of trade.

It is due to favorable terms of trade that the current account deficit in 2021 was relatively small. However, it will continue to widen moderately as domestic demand increases

The current account ran only a moderate deficit (1.1% of GDP) in 2021. This was made possible by high global prices for food and metals-and-mining products, which are Ukraine's major exports. Yet this deficit widened rapidly in the second half of the year because of surging energy prices, weaker external demand for metals-and-mining products, and record-high dividend payments. As domestic demand from both consumers and investors revives, the current account deficit will expand further to 3.3% of GDP in 2022 and to 3.3%–3.5% of GDP thereafter.

Further progress on cooperation with the IMF will be one of the main drivers of more sustainable economic development

IMF financing was a significant catalyst of the Ukrainian economy in 2020–2021. Cooperation with the IMF stands to be at least as important in the years ahead, especially against a deteriorating information backdrop as geopolitical tensions loom large and competition for capital between EMs and other countries intensifies amid the tighter monetary policies pursued by central banks around the globe.

As many of the pro-inflationary risks have materialized, tighter monetary policy is needed in order to improve inflation expectations and ensure steady disinflation toward the target of 5%

The NBU raised the key policy rate to 10% per annum in January. Further monetary tightening is expected. Under the baseline scenario of the macroeconomic forecast, the monetary policy stance will remain moderately tight over the forecast horizon. The key policy rate will be at least at its neutral level this year and in the coming years.

In addition, to shore up the interest rate channel of monetary transmission by managing the structural surplus of liquidity in the banking system, the NBU in February will raise by 2 pp the required reserve ratio for current accounts denominated in hryvnias and current accounts and term deposits in foreign currency. This will encourage banks to take longer-term deposits while maintaining the role of required reserves in dedollarization. In March, the central bank will also consider the issue of introducing other measures to regulate the banking system's structural liquidity surplus.

The NBU will continue to intervene in the FX market to smooth out excessive market fluctuations. At the same time, the NBU decided, in the coming quarters, not to carry out scheduled daily interventions to purchase FX on the interbank FX market to replenish the reserves (from August 2021 these interventions amounted to USD 5 million).

Key risks to the forecast are still posed by an escalation of the military conflict with Russia and a longer and more pronounced global price surge than expected earlier

The stoking of tensions in the media regarding the possibility of military aggression has decreased the value of Ukrainian assets and created depreciation pressures. Prolonged geopolitical tensions could have a very negative impact on the expectations of households, businesses and investors. These tensions will significantly hamper investment into the economy, while also making it difficult to raise external financing. If geopolitical risks increase, the NBU will stand ready to tighten its monetary policy.

The ongoing global spike in inflation due to, among other things, persistently high energy and food prices, remains an important risk. In some countries, including Ukraine's trading partners, inflation is only coming close to its peak. Looking ahead, global price movements will strongly depend on how quickly leading central banks respond to inflation challenges. Any delays will push up external price pressures. Conversely, a rapid tightening of monetary policies by leading central banks poses the risk of there being more substantial capital outflows from emerging markets.

The baseline scenario of the NBU's forecast assumes that the impact of the pandemic on the Ukrainian economy will continue to decrease. That said, the emergence of new coronavirus variants, coupled with the still low vaccination rollout in Ukraine, poses the risk of additional economic losses in 2022. New pandemic outbreaks are unlikely to hit consumer demand hard, but will stifle business activity. This will be accompanied by rising inflationary pressures.

Other pro-inflationary risks are also important. More specifically, a marked deterioration in terms of trade and/or a sharp decline in harvests after last year's bumper ones could create additional depreciation pressures, while also putting greater pressures on prices. A revival in labor migration, on the back of the gradually waning pandemic, could increase the mismatches in the domestic labor market, pushing up wage costs more noticeably and translating into rising consumer prices over time.

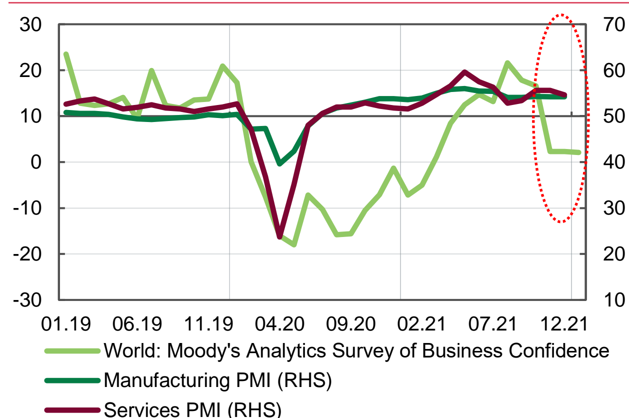
The speed at which administered prices change poses a separate risk. Any delays in taking decisions regarding utility prices will accumulate quasi-fiscal imbalances and future pressures on prices. In contrast, a quick adjustment of utility prices to cost covering levels will create significant inflationary pressures and worsen expectations.

The NBU continues to assess the balance of risks for its baseline forecast of inflation and the key policy rate as having shifted upward, especially in the medium term.

Part 1. External Environment

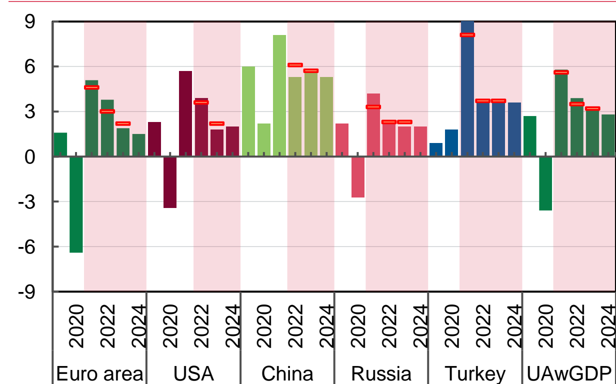
- Global economic growth will slow following the rapid recovery seen in 2021. Nevertheless, growth will be steady as quarantine measures are gradually lifted, supply chain disruptions ease, and global trade picks up.
- Global commodity prices will decline due to an increase in supply amid lower uncertainty about the pandemic. However, the overall level of prices will be higher than before the pandemic, due to the intensification of efforts to reduce emissions.
- In the majority of Ukraine's main trading partners, inflation will remain high for longer than expected due to the substantial increase in energy prices. Inflation will approach target levels only in 2023.
- Financial conditions will tighten due to the Fed phasing out quantitative easing (QE) and hiking its interest rates, expected already by the end of Q1 2022, although the ECB's policy is to remain accommodative. Competition for capital will increase among emerging markets (EMs), which will require them to tighten further their monetary policies.

Figure 1.1. Global PMI and World Business Confidence



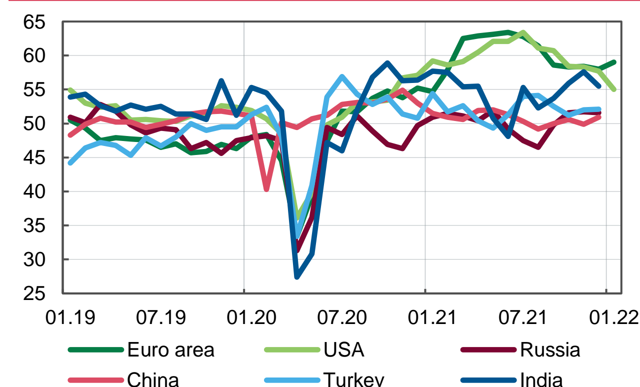
Source: J.P.Morgan, IHS Markit, Moody's.

Figure 1.2. Real GDP of selected countries and weighted average of annual GDP growth of Ukraine's MTP countries (UAwGDP), % yoy



– - the NBU's previous forecast.
Source: national statistical offices, NBU staff estimates.

Figure 1.3. Manufacturing PMI of selected countries



Source: IHS Markit.

The global economy will grow as supply chain disruptions ease and global trade picks up

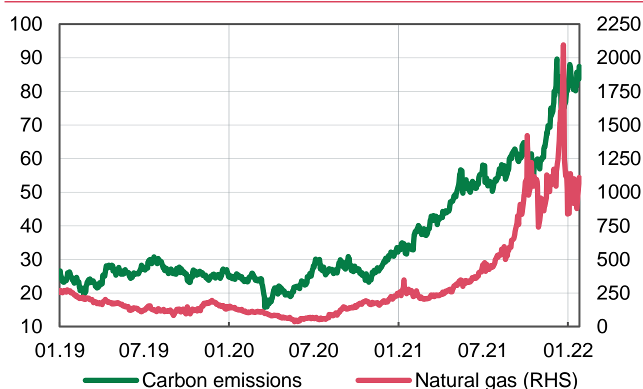
The global economy has grown more slowly in Q4 due to the spread of new variants of the COVID-19, which negatively affected business confidence, especially in the service sector. On the other hand, global industrial production has been recovering steadily, and companies expect production to grow further in 2022. Signs of the easing of supply chain disruptions was an important factor behind these developments. The evidence came from the Global Supply Chain Pressure Index (developed by the Federal Reserve Bank of New York), as some of its components pointed to the peak having passed. Growth in the cost of sea transportation slowed, deliveries became faster, and backlogs of work declined. As supply increased, countries continued to lift trade restrictions related to the pandemic.

However, pressures from supply-chain disruptions in 2021 remained high, and delays in the supply of some components and raw materials caused the growth in inventories of these items to reach a 24-year high. As a result, growth in the global merchandise trade decelerated in Q4. The volume of global merchandise trade is expected to rise by 4.7% in 2022 (following a 10.8% acceleration in 2021), approaching its pre-pandemic long-term level.

The recovery remained uneven across the advanced economies and EMs due to differences in vaccination rates and the scale of fiscal and monetary stimuli.

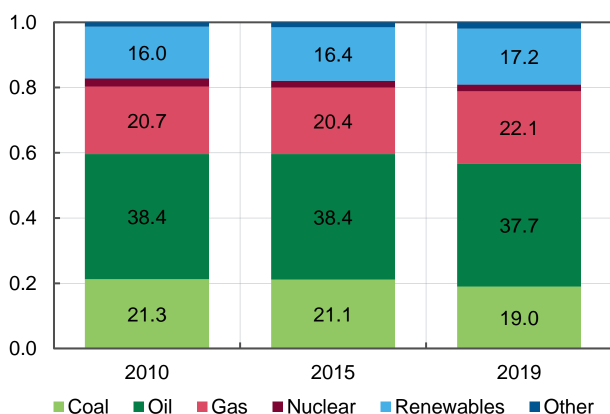
The economy of the United States continues to recover steadily: slower growth in new orders in the industrial sector is offset by record-high orders in the service sector (despite the spread of the Omicron variant), and cost-push inflation has decelerated thanks to some moderation of supply chain pressures. However, consumer inflation remains high. The Fed estimates that the country's economy has approached maximum employment, with growth in household income being driven by both higher wages and social benefits provided by the government. Real GDP is expected to grow in 2022 in the United States thanks to supply restrictions being eliminated in the majority of sectors. On the other hand, demand pressures will ease as the effects of the expansionary fiscal policy conducted during the pandemic vanish. Against a backdrop of monetary policy tightening, this will lead to a significant slowdown in real GDP growth in 2023–2024. However, real GDP will be considerably above its potential level across the entire forecast horizon.

Figure 1.4. ETS carbon emissions prices (euros/MT) and Netherlands TTF natural gas prices (USD/kcm)



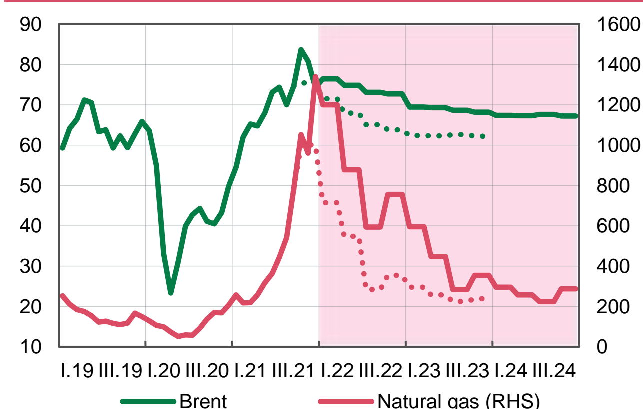
Source: Investing.

Figure 1.5. Gross final energy consumption



Source: World bioenergy association.

Figure 1.6*. World crude oil prices (USD/bbl) and Netherlands TTF natural gas prices (USD/kcm)



Source: Refinitiv Datastream, NBU staff estimates.

* Dotted line in charts refers to the previous forecast unless otherwise stated.

In the euro area, economic growth slowed in Q4, mainly due to weaker business activity in the service sector caused by the worsening of the pandemic. In contrast, industrial output continued to grow. The euro area's economy is expected to recover further, underpinned by still loose fiscal and monetary policies amid high domestic demand, which will be supported by an improvement in labor market conditions. It is projected to exceed pre-pandemic levels already in Q1 2022.

High raw material prices, robust demand from advanced economies, and relatively low global interest rates supported growth in EM economies, despite new waves of infection. Economic activity in EMs that are Ukraine's main trading partners is expected to accelerate as the epidemic situation stabilizes. China's economy will grow at a steady pace, despite the slowdown seen at the end of 2021 due to a downturn in the real estate sector and strict quarantine measures. The steady growth will be bolstered by cuts in taxes and duties for businesses, targeted state support for the service sector, and monetary policy easing. The countries of Central and Eastern Europe (CEE) will recover on the back of an improvement in global trade, and the strengthening of the labor market amid looser quarantine restrictions.

Global inflation will slow due to an increase in supply, but price levels will be higher than before the pandemic, as more efforts are made to fight emissions

In post-crisis periods, the world often faces increased demand and high energy prices. The year 2021 was no exception. However, it was marked by an energy crisis, with one of the reasons being that green policies were actively promoted amid the limited supply of more environmentally-safe sources of energy. According to the UN, global emissions have to decline by 7.6% annually in order to fight climate change, whereas they decreased by only 5.8% even in the crisis year of 2020. Currently, the most effective mechanism is carbon pricing using different methods (through taxes or emissions trading). Experts estimate the carbon price must rise and remain above USD 75 in order to attain the targets for reducing emissions.

In the EU's Emissions Trading System, prices quickly approached this level in late 2021, as demand for coal and crude oil increased on the back of limited supplies of natural gas. However, coal and oil account for more than a half of global carbon emissions. Coking coal, which is mainly used in steel production, alone causes 8% of global emissions. This is prompting producers to use more environmentally safe types of energy, natural gas in particular, and is spurring demand for bioethanol.

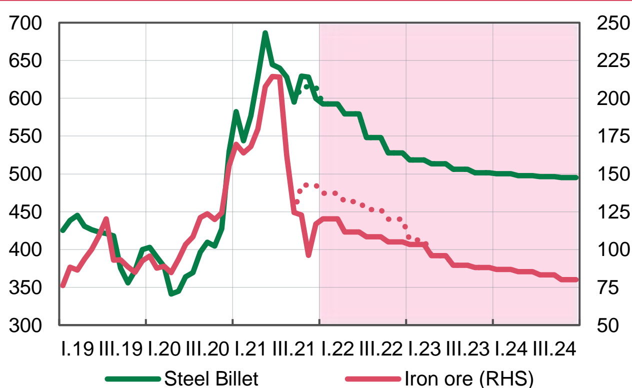
International organizations forecast a steady upward trend in carbon prices. This will incentivize enterprises to change their technological processes in order to minimize emissions. The implementation of these plans will be accompanied by large expenses on investment, which will partially pass through to prices of final products. As a result, in the long run global prices for the majority of goods will exceed pre-pandemic levels, despite the increase in supply.

Europe saw a sharp rise in global prices for crude oil and natural gas in Q4 2021. Despite an increase in production by OPEC+ members, oil prices went up due to high demand. Only a partial release of strategic reserves by the United

Figure 1.7. External Commodity Price Index (ECPI), Dec 2004 = 1

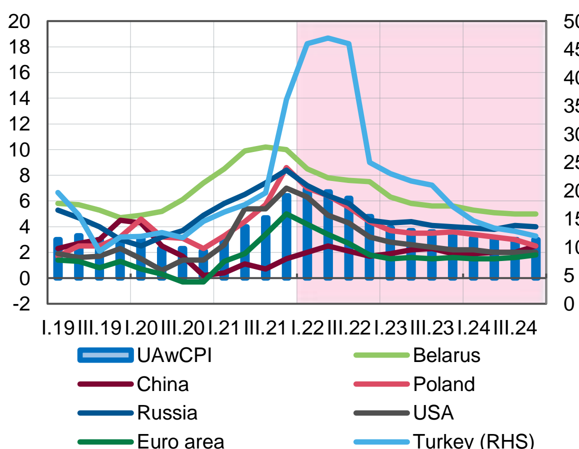
** The ECPI is calculated using a basket of 14 world price indicators, weighted by the share of corresponding Ukrainian exports in total exports of Ukraine. The total weight of these goods in Ukrainian exports is over 70%.
Source: World Bank, NBU staff estimates.

Figure 1.8. World price of ferrous metals and iron ore*, USD/MT, quarterly average



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

Figure 1.9. UAwCPI and consumer inflation of selected Ukraine's MTP countries (eop), % yoy



* Change in the quarterly average compared to the same quarter one year ago.
Source: national statistical agencies, NBU staff estimates.

States, China, Japan, and South Korea and the spread of the Omicron variant of the coronavirus restrained price growth at the end of the year. Oil prices are expected to hover around USD 75–85 per barrel over the forecast horizon. The market will be relatively balanced as the growth in demand for oil slows due to environmental requirements and supply continues to increase.

In Europe, natural gas prices reached an all-time high due to high demand and limited supply. The lack of supply was driven by low inventories, Russia's refusal to exceed contractual supply volumes, and strong competition from Asia. Only a sharp rise in LNG imports, especially from the United States, caused some price correction at the end of the year. Natural gas prices are expected to remain flat in Q1 2022. Going forward, gas prices will decline gradually as the market reaches equilibrium. However, prices will remain high in 2022 and exceed pre-pandemic levels in the following years, as natural gas will be in demand as a more environmentally safe type of fuel and as its inventories need to be replenished.

As expected, global prices for Ukraine's main export goods (expressed as the External Commodity Price Index, ECPI) mainly declined, despite being high. In 2022–2024, they are projected to decrease as supply increases.

Steel prices went down in Q4 2021 due to weak demand from China and the wait-and-see approach taken by other buyers, in particular by countries in the Middle East. Further on, demand for steel will stabilize as Chinese metal production recovers after restrictive measures are lifted and demand rises in India and Indonesia. However, the accelerated recovery in global supply will make prices decline further. A decrease in iron ore prices driven by production growth amid large inventories will be another factor.

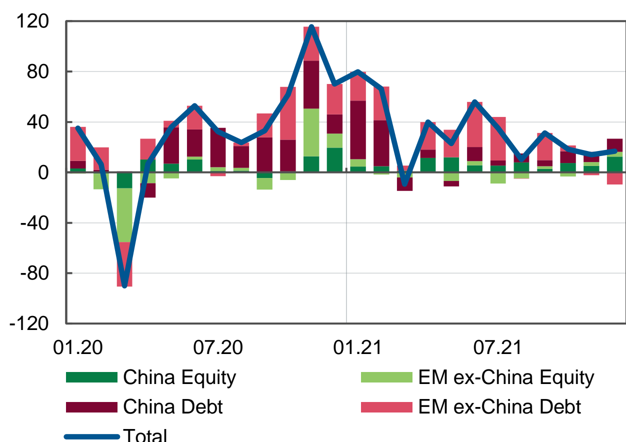
Prices for wheat and corn grew in late 2021, propped up by strong demand, downgraded yield estimates in various countries, and increased production costs amid higher natural gas prices. These factors also led to higher level of prices over the forecast horizon. At the same time, grain prices will decline gradually thanks to a gradual decrease in natural gas prices and, as a result, in the prices of fertilizers, and growth in global production.

Inflation will slow down, but will remain above its target levels in 2022. Financial conditions will become less favorable for EMs, prompting their central banks to continue monetary policy tightening

At the end of 2021, price pressures in advanced economies were the highest for several decades. This was mainly driven by high energy prices, increased prices of raw materials and inputs amid strong demand and supply shortages, and greater transportation expenses (in particular, due to a shortage of shipping containers). This encouraged leading central banks to reconsider the nature of the high inflation and start monetary policy normalization earlier. The Fed started to taper its QE in November, while in December the Bank of England was the first among leading central banks to raise its key rate.

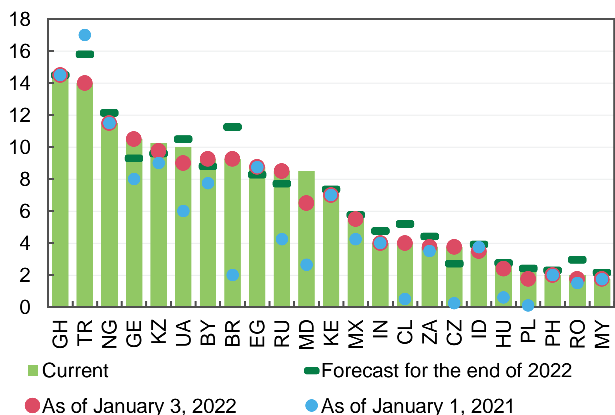
Presently, the Fed's more aggressive policy has the strongest influence on the financial markets. The Fed is expected to complete its QE tapering by the end of Q1 2022 and is likely

Figure 1.10. Nonresident net portfolio flows to EM, USD bn



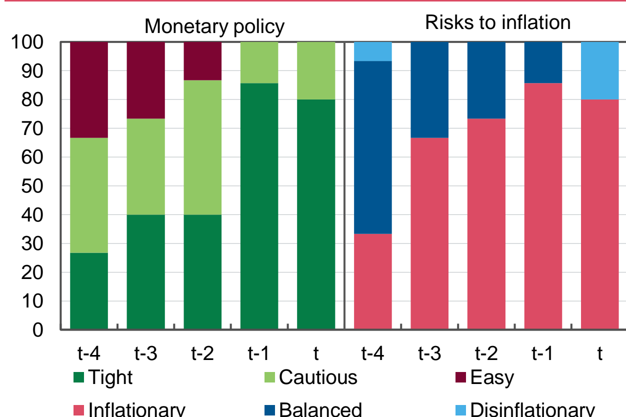
Source: IIF.

Figure 1.11. Key policy rates in selected EM countries, %



Source: official web pages of central banks, Focus Economics, Trading Economics, as of 25.01.22.

Figure 1.12. Balance of CBs' sentiment according to press releases on monetary policy decisions*, % of CBs



* t – meeting in Jan 2022, t-1 – Q4 2021, t-2 – Q3 2021, t-3 – Q2 2021, t-4 – Q1 2021.
Each indicator accounts only for those CBs which held their meetings in the respective period.
Source: official web pages of central banks, as of 25.01.2022.

to hike interest rates as early as March. Amid slower growth in consumer spending, projected by the Fed, such a policy will bring inflation down considerably. Easing of supply chain disruptions and lower energy prices will reinforce this tendency. Short after starting to raise the rates, the Fed is expected to begin trimming its balance sheet, which will lead to an increase in long-term yields and may prevent the yield curve from flattening or inverting (unlike in the previous hiking cycle).

On the other hand, the ECB's policy will remain accommodative owing to weaker economic growth. Despite the Pandemic Emergency Purchase Programme (PEPP) ending at the end of March 2022, volumes of asset purchases under the regular Asset Purchase Programme (APP) have increased. The interest rate is not expected to change in the coming years. Inflation will remain high in the short run, but will soften in 2022 owing to lower energy prices and easing of supply chain disruptions.

A faster monetary policy normalization by the Fed has pushed up short-term interest rates and supported the U.S. dollar against other leading currencies. However, long-term rates on advanced economies' sovereign bonds remained relatively unchanged due to high demand for safe assets in view of persisting risks to growth induced by the spread of the Omicron variant of the coronavirus. The latter factor could for some time keep potential GDP growth in the United States at below current expectations, thus leading to a lower long-term neutral level of federal funds rates.

Inflation in EMs grew mainly due to the higher share of food and energy, as well as less anchored inflation expectations. In some countries, the political choice of stimulating the economy by using monetary instruments played an important role.

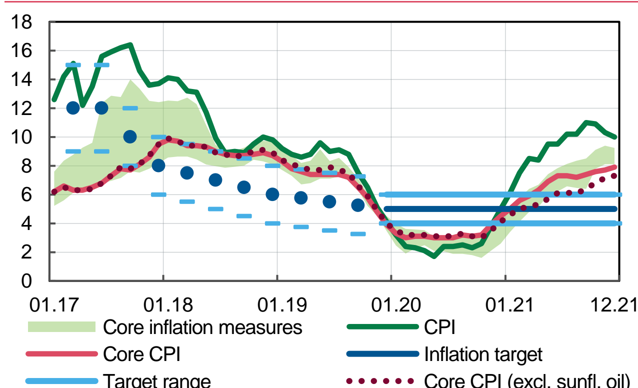
Investor sentiment toward EM assets was dampened by rising global inflation, the accelerated tightening of the Fed's monetary policy, and the slow recovery of EM economies. As a result, EMs' national currencies weakened against the U.S. dollar. Amid high inflation and stronger competition on global financial markets, EM central banks continued to actively raise their key interest rates. Going forward, their monetary policies are expected to tighten further. Exceptions are China (due to the need to stimulate the economy amid relatively low inflationary pressures) and Turkey (due to a political pressure on the central bank to lower interest rates).

Part 2. Economy of Ukraine

2.1. Inflationary Developments

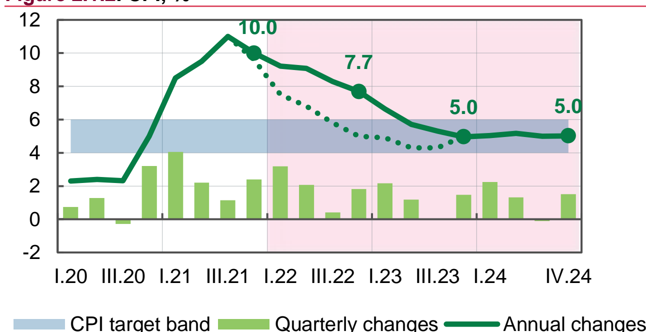
- As expected, inflation peaked in the fall and returned to trending downward. However, it declined more slowly than forecast due to the materialization of a number of pro-inflationary risks, in particular higher energy and food prices, and a weakening of the hryvnia at the end of the year.
- Achieving the inflation target in 2022 will be impeded by the pass-through of second-round effects from high global prices for energy and food to the prices of many goods and services, businesses' higher labor costs, and a correction of administered prices.
- Inflation will reach the target range of 5% ± 1 pp in mid-2023 and meet its target at the end of that year, thanks to lower global inflation and the effect of the NBU's monetary policy tightening.

Figure 2.1.1. Underlying inflation trends*, % yoy



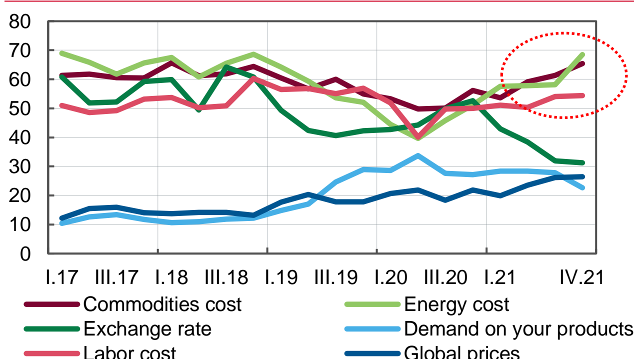
* Read more in the January 2017 Inflation Report (pages 20–21).
Source: NBU staff estimates.

Figure 2.1.2. CPI, %



Source: SSSU, NBU staff estimates.

Figure 2.1.3. Factors that have the highest impact on business production prices, %



Source: NBU.

Consumer inflation declined as expected at the end of 2021, but remained higher than forecast, while the underlying inflationary pressure even increased

Having peaked in September 2021 (11% yoy), consumer inflation as expected declined, reaching 10% yoy in December.
This was driven by the following:

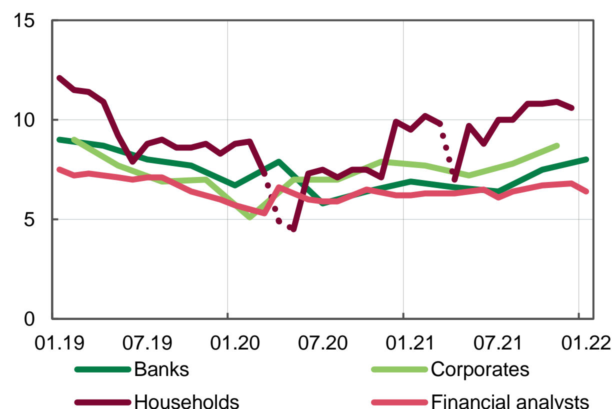
- weaker external pressures on prices of some food products (in particular sunflower oil) coupled with Ukraine's record harvests
- pass-through effects from the hryvnia strengthening throughout most of the year
- administrative decisions to implement annual fixed-price contracts for households, keeping other utility rates unchanged during the heating season, and regulation of the maximum trade markup on petrol
- waning low base effects on prices of some goods and services
- monetary policy tightening.

At the same time, inflation declined more slowly than envisaged in the previous forecast (October 2021 Inflation Report). The deviation is explained mainly by stronger pro-inflationary pressures from second-round effects of higher costs. In the Business Outlook Survey for Q4 2021, 68.5% of respondent companies reported that energy costs were impacting selling prices, which was 10 pp higher than in Q3. A sizable increase was seen in the proportion of companies that considered the costs for raw materials and labor as the most important price drivers in H2 2022. Robust consumer demand also continued to play a role.

The majority of respondents had worse inflation expectations for the next 12 months. This was caused by high actual inflation and likely by the unfavorable information environment due to extremely high natural gas prices. An improvement seen in households' expectations at the end of 2021 could be a reaction to decreases in the prices of some goods that are viewed as nominal anchors by respondents (some food products and fuel) compared to previous months, and unchanged utility rates.[3] The brighter expectations of financial analysts at the start of 2022 could be attributed to statistical effects.[4] The NBU's monetary policy tightening

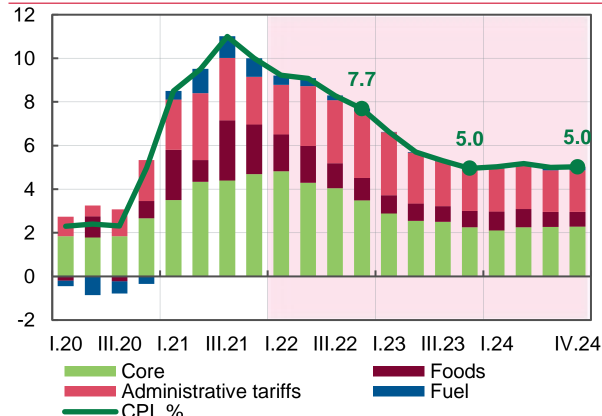
[3] According to the study (D'Acunto et al. 2019, 2021), households' expectations depend mostly on changes in prices of staple goods.
[4] For example, the non-response bias. This especially concerns small samples, when the lack of a number of responses can have a significant influence on the maximum and average values of indicators.

Figure 2.1.4. **12-month-ahead inflation expectations*, %**



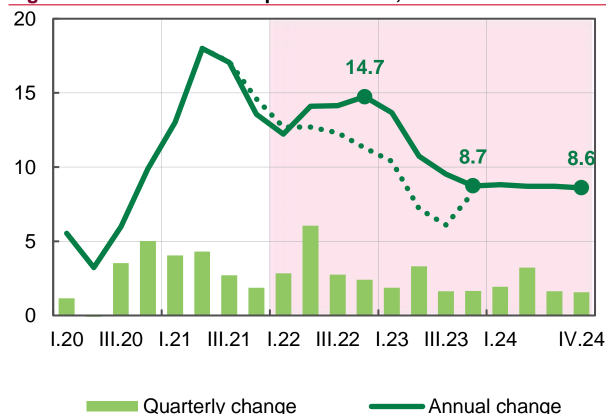
* The dotted line indicates switching to the survey method of telephone interviews due to quarantine restrictions.
Source: NBU, GfK Ukraine, Info Sapiens.

Figure 2.1.5. **Contributions to annual CPI growth by main components, pp**



Source: SSSU, NBU staff estimates.

Figure 2.1.6. **Administered price inflation, %**



Source: SSSU, NBU staff estimates.

restrained a further deterioration of inflation expectations and curbed inflationary pressures.

Inflation will slow in 2022 but will return to the 5% target only in 2023

In 2022, inflation is expected to slow to 7.7%, and its dynamics will be rather volatile, taking into account base effects. High energy prices will be the main obstacle to meeting the target. This will put pressure on production costs but will also require a gradual correction of utility tariffs. Food price inflation will remain high for longer, especially for energy-consuming products (sunflower oil, sugar, bread, and greenhouse vegetables). The service sector will also pass higher energy costs onto prices. Second-round effects from businesses' higher raw material expenses and labor costs will persist. Price pressures from Ukraine's MTPs, where inflation rates are only approaching their peaks, will remain strong. In addition, robust domestic consumer demand will restrain disinflation.

A deterioration in the information environment amid geopolitical tensions of late 2021–early 2022 is an important factor that prevents inflation from declining more rapidly. This impacted the sentiment of various groups of economic agents and put depreciation pressure on the hryvnia, thus causing additional price pressures to build up in the following months via the exchange rate channel and the expectations channel.

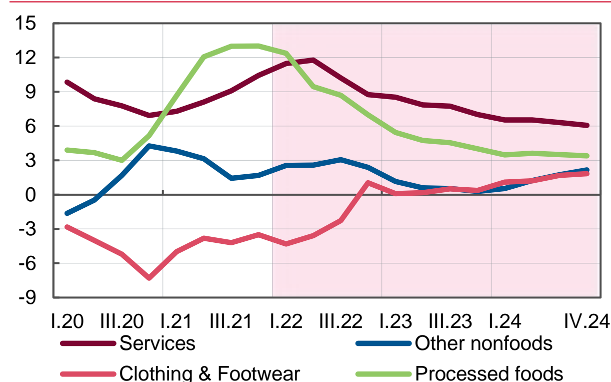
Monetary policy tightening by the NBU, a correction of global commodity prices, and the influence of last year's bumper crops will foster gradual disinflation. It will be additionally driven by the easing of the global inflation surge and the waning effects of the pandemic, reflected, among other things, in a larger correction of prices for raw materials, food, and logistical services. Taking into account strong pro-inflationary factors and the need to continue supporting the post-pandemic economic recovery, inflation is projected to return to the target range of 5% ± 1 pp in mid-2023, provided that monetary conditions are in line with the baseline scenario.

Administered inflation has been growing more slowly than forecast, but it will make the largest contribution to CPI growth further on. In the meantime, fuel prices will have a disinflationary effect

Despite the increase in prices of alcoholic drinks, landline phone rates, and commissions for railway tickets, administered inflation decreased in Q4, from 17.1% yoy in September to 13.6% yoy in December. This was driven mainly by annual natural gas contracts with a fixed price for households, which were introduced in May.[5]. Moreover, heating and hot water tariffs were frozen in the fall, and electricity tariffs were even reduced for some consumers.[6] As a result, the rapid growth in natural gas prices on European markets had little direct effect on consumer inflation in Ukraine. On the other hand, the growth rates of utility tariffs decreased sharply due to the waning of the low base effect.

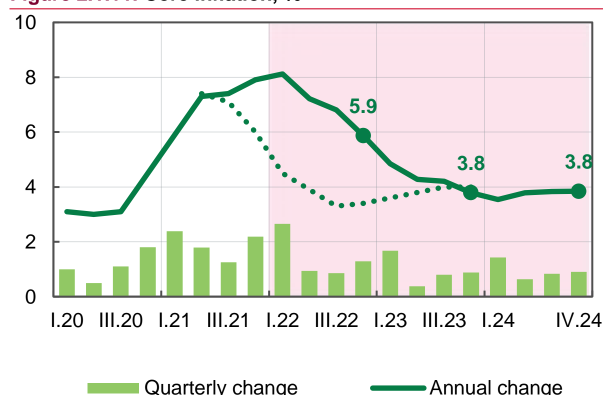
[5] Many other countries also took similar measures in order to protect household consumers. In particular, in the EU, France locked in natural gas prices for 2022, and the Spanish government allocated EUR 2.6 billion for supporting gas consumers.
[6] Effective 1 October 2021, the price of electricity for households consuming less than 250 kWh per month (around 80% of households according to the Ministry of Energy) decreased from UAH 1.68 per kWh to UAH 1.44 kWh. At the same time, the price remained unchanged for other consumers at UAH 1.68 per kWh.

Figure 2.1.10. Core CPI components at the end of period, % yoy



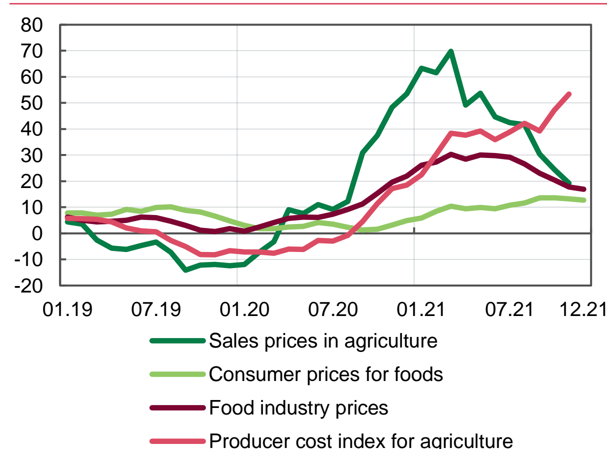
Source: SSSU, NBU staff estimates.

Figure 2.1.11. Core inflation, %



Source: SSSU, NBU staff estimates.

Figure 2.1.12. Food prices for consumers, in food industry and agricultural production, % yoy



Source: SSSU, NBU staff estimates.

In particular, the growth in gas prices slowed from 175.3% yoy in June to 15.5% yoy in December. The prices of tobacco products also grew more slowly, likely a result of either an increase in illegal market trading or growth in the market of electronic cigarettes.

Frozen utility tariffs amid a surge in global natural gas prices created a large gap between prices for households and businesses. This may lead to a correction of household tariffs to market levels in the future. At the same time, considering the expected downward correction of European gas prices in 2022 and the social significance of utility services, the majority of tariffs will most likely move toward import parity gradually, over a period of several years.

Further rises in tobacco product prices due to the scheduled annual excise tax increase will primarily determine the rapid growth in the administrative component. Overall, the administrative component of inflation will remain the largest among CPI components over the entire forecast horizon.

Fuel prices rose throughout most of 2021, driven by higher global crude oil prices. However, their growth was restrained by some factors, namely a maximum trade markup having been set for some types of fuel from May, a correction of global prices at the end of the year, and the hryvnia strengthening throughout most of the year.

Going forward, fuel prices will rise much more slowly thanks to a stabilization of global crude oil prices and lower volatility of the hryvnia exchange rate. In turn, this will dampen growth in the cost of other consumer inflation components, in particular transportation services.

Underlying inflationary pressures have increased. Curbing global inflation and the NBU's tight monetary policy will help reduce them over the forecast horizon

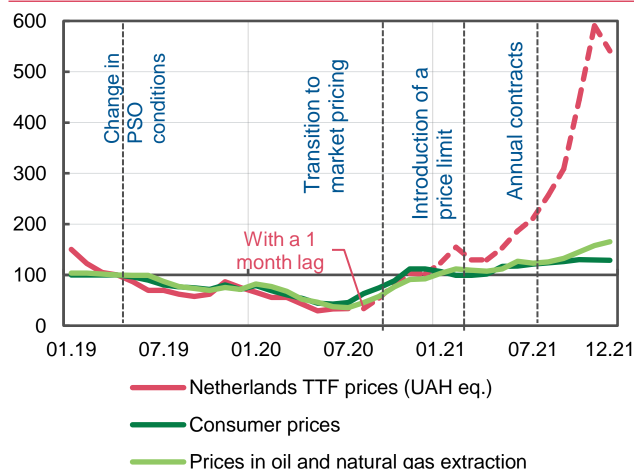
Core inflation accelerated in 2021 (to 7.9% yoy in December), driven by rapid growth in the prices of processed foods (13.0% yoy in December) and services (10.4% yoy). In particular, global prices of food products, especially sunflower oil, made a significant impact. A record harvest of sunflower seeds in Ukraine and a stabilization in global prices slowed the growth in the prices of sunflower oil and oil-containing products for Ukrainian consumers at the end of the year.

The growth in raw food prices decelerated late last year. Good harvests of apples, potatoes, and sugar beet slowed the rise in prices for vegetables, fruits, and sugar. Prices of cucumbers and tomatoes also decreased on the back of larger imports from Turkey. This supported slower growth in prices for processed foods. In particular, the prices of confectionery and canned food declined more slowly.

However, higher production costs, driven by the increase in energy prices among other things, and persisting stagnation in animal farming spurred price growth for flour products (bread, pasta, cookies, cakes), milk, dairy products, meat, and meat products. As a result, although food inflation passed its peak in September (13.6% yoy), its decline was slow (12.7% yoy in December).

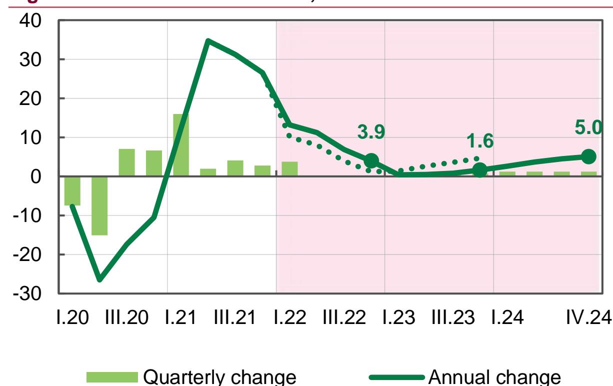
Despite the record harvest of 2021, food price inflation will

Figure 2.1.7. Natural gas prices, 04.2019 = 100



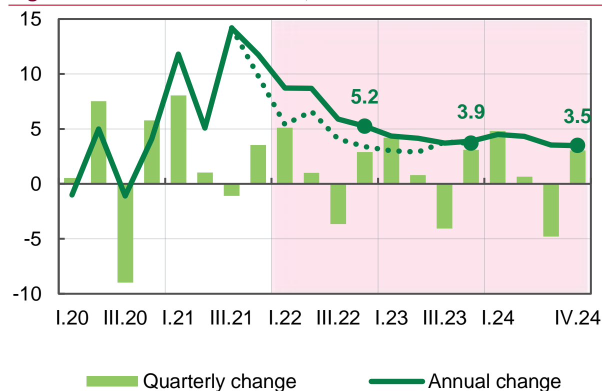
Source: SSSU, Refinitiv Datastream, NBU staff estimates.

Figure 2.1.8. Fuel Price Inflation, %



Source: SSSU, NBU staff estimates.

Figure 2.1.9. Raw food inflation, %



Source: SSSU, NBU staff estimates.

remain high in the next few quarters due to pressure from energy prices. At the same time, a correction of global prices for food and energy and stronger harvests of fruits and berries will make food price inflation decelerate gradually in 2022. Given there are no significant supply shocks, food price inflation (for both raw and processed foods) will then stabilize within the range of 3%–4% per year, supported primarily by higher household incomes.

Services prices grew throughout the year, driven by both robust consumer demand and higher costs. The latter factor started to dominate in Q4. Consequently, the growth in services prices was uneven: prices for some services rose slowly (services of health insurers and resort hotels), whereas growth in other services prices accelerated sharply from the middle of the year (home repairs and maintenance services, services of movie theaters, gyms, hair and beauty salons, and diagnostic centers).

Growth in prices of nonfood goods accelerated in December, to 0.5% yoy, up from 0.2% yoy in September. On the one hand, the prices of home appliances, personal care products, home goods, and household supplies went up, which can be explained by sustained demand, higher production costs, and global supply chain disruptions. On the other hand, the strengthening of the hryvnia throughout most of the year[7] restrained price growth for nonfood products. In particular, the prices of clothing and footwear continued to decline.

The underlying inflationary pressure will be high in the short run – core inflation will remain at around 8% because of second-round effects of the pass-through from production costs. Further on, the pressure will ease, impacted by tighter monetary policy and lower global inflation. This will primarily influence prices of goods and services that have a substantial import content. As a result, core inflation will decline to 6% in 2022 and to around 4% in the next two years.

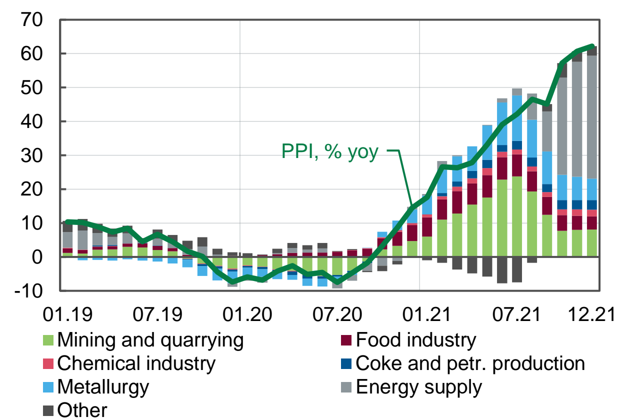
The GDP deflator remained high, which reflected persisting overall inflationary pressures in the economy

Producer price inflation rose in 2021, reaching 62.2% yoy in December. Such dynamics were driven by a significant increase in global prices for Ukraine's main exports (metals, fertilizers, iron ore, and vegetable oil) and higher energy prices. The latter factor became the main one in Q4. Natural gas prices for industrial producers grew rapidly on the back of record-high prices in Europe. This pushed up producers' costs in the sectors in which production heavily depends on gas consumption (the chemicals industry and the production of rubber and plastic). Higher energy prices coupled with coal shortages and the transition from a commodity to a financial model of special obligations toward households[8] led to an increase in the price of electricity, which affected all sectors. Labor costs also put pressure on prices. Moreover, prices of construction materials also grew, and transportation prices went up on the back of higher fuel prices. High global prices

[7] The average hryvnia exchange rate against the U.S. dollar was almost 6% stronger in Q4 2021 compared to 2020.

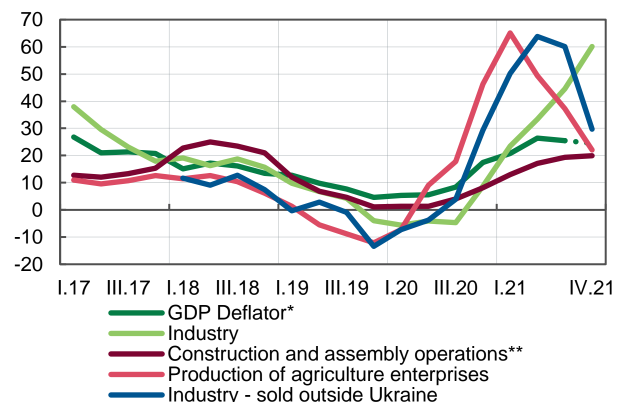
[8] From October 2021, Energoatom NNEGC and Ukrhidroenergo PrJSC were allowed to sell all generated electricity at market prices, including to providers of the universal service of electricity supply for households. Previously, these companies had been selling electricity at a fixed reduced price. The difference between the reduced price and the cost of electricity was covered by income from Energoatom NNEGC and Ukrhidroenergo PrJSC.

Figure 2.1.13. Contributions to the annual change in PPI, pp.



Source: SSSU, NBU staff estimates.

Figure 2.1.14. Other inflation measures, quarterly averages, % yoy



* Data for Q4 2021 represent the NBU staff estimates.
** Data for Q4 2021 cover two months.
Source: SSSU, NBU calculations.

of grains and oilseeds and larger transportation costs spurred price growth in agriculture.

The NBU estimates the GDP deflator reached 24.5% yoy in Q4. Going forward, the deflator will decline thanks to downward trends in global prices for commodities and energy. This will push producer price inflation down, while also dampening consumer inflation through second-round effects. Monetary policy tightening by the leading central banks will have an additional impact, easing pressures from the import component.

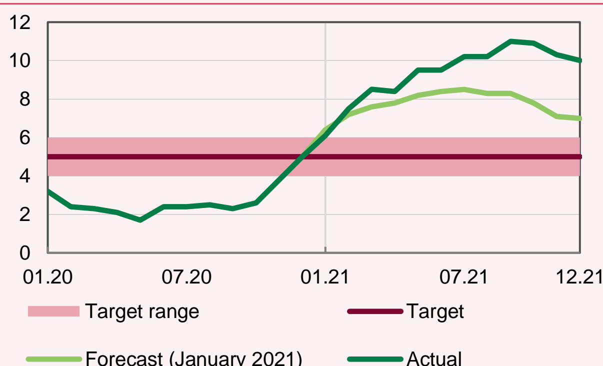
Box 1. Assessment of Inflation Target Achievement

In 2021, consumer inflation was 10.0%. The target of 5% ± 1 pp was exceeded by significantly more than expected a year ago. The inflation trends observed in Ukraine were largely a reflection of global processes. Consumer inflation rose across the globe, while in advanced economies it was the highest in several decades. This was a result of demand recovering rapidly on the back of large-scale fiscal and monetary stimuli and a reorientation toward some groups of goods. On the other hand, growth in supply failed to keep up with demand due to disruption to production and supply chains. This caused a sharp increase in the prices of energy, commodities, and some production components. These factors were exacerbated by growing labor market mismatches caused by the pandemic. This was reflected in workers' reluctance to rejoin the active labor force, and – in some countries – in high rates of voluntary resignations due to changes in the life priorities of workers. At the same time, demand for some specialists grew considerably, for example for IT and healthcare specialists. Manual labor workers were also in demand. Consequently, foreign demand spurred labor migration and pushed labor costs to increase further. On the one hand, these processes translated into significant import of inflation. On the other, they helped strengthen the hryvnia thanks to there being large amount of exported commodities and remittances from labor migrants, which restrained price growth. Internal pro-inflationary factors also played a role: in contrast to previous crises, consumer demand recovered rapidly.

The NBU accelerated its monetary policy tightening in response to the materialization of a number of pro-inflationary risks and the transformation of transitory drivers of inflation (both domestic and global inflation) into more persistent and systemic factors. In particular, the central bank raised the key policy rate considerably at the start of Q2 2021 and phased out monetary stimuli introduced in 2020 in response to the pandemic. The NBU will continue to tighten its monetary policy in 2022. However, taking into account the magnitude of pro-inflationary factors and the lagged effect of the transmission mechanism, inflation will return to the target later, in H2 2023.

According to the macroeconomic forecast the NBU made in January 2021, inflation was to have been outside the target range for the entire year. In particular, inflation was expected to accelerate considerably in H1, including due to a number of transitory factors such as the impact of weaker harvests of 2020 in Ukraine and globally and the low base of the pandemic year. Inflation should have started to decline from Q3 due to the waning of these effects and thanks to the monetary policy tightening.

Figure 1. Inflation trajectory according to the NBU's January 2021 forecast and actual dynamics of consumer inflation, % yoy



Source: SSSU, NBU staff estimates.

The majority of inflation factors turned out to be stronger than expected. The rapid recovery of economic activity across the globe was accompanied by disruptions to production and supply chains, and an abrupt shift of demand toward some groups of goods (e.g., natural gas as more environmentally-friendly fuel compared to oil) led to shortages on some markets. The correction of global food prices due to the arrival of new harvests was weaker than expected because of smaller harvests in some countries, increased demand, including from animal farming and biofuel producers, and higher natural gas prices.

The impact of some internal factors was also stronger. Wages grew more rapidly in Ukraine, fueling consumer demand and increasing production costs. Decisions on administered prices had a mixed impact. On the one hand, excise taxes and some utility tariffs increased at the start of the year. On the other, a number of administrative decisions restrained inflation in H2.

Therefore, the following factors determined price dynamics in Ukraine:

- **A sharp rise in energy prices** driven by the rapid recovery of the global economy and the worldwide tightening of environmental requirements. The price of Brent crude oil almost doubled, and European prices for natural gas increased more than six-fold, reaching an all-time high. This also affected domestic prices. Electricity tariffs rose at the start of the year, and natural gas prices increased in May. Further growth in tariffs was curbed by administrative decisions, but a sharp increase in energy prices directly impacted the cost of goods and services. Inflation continued to deviate from the target due to second-round effects.
- **Food supply factors.** The FAO Food Price Index reached a 10-year high in 2021. This was mainly attributed to poor harvests of agricultural crops in the previous year and high global demand for food products. First of all, sunflower oil prices grew sharply, which was reflected in domestic prices and the prices of oil-containing products.
  A rise in global grain and oilseed prices pushed up prices of animal feed. Coupled with long-lasting problems in domestic animal farming, this led to an increase in the prices of dairy and meat products. Moreover, in 2021, harvests of vegetables and potatoes turned out to be smaller than the NBU had expected. In some countries, harvests of grains and oilseeds were also weaker than expected in 2021. Together with higher natural gas prices

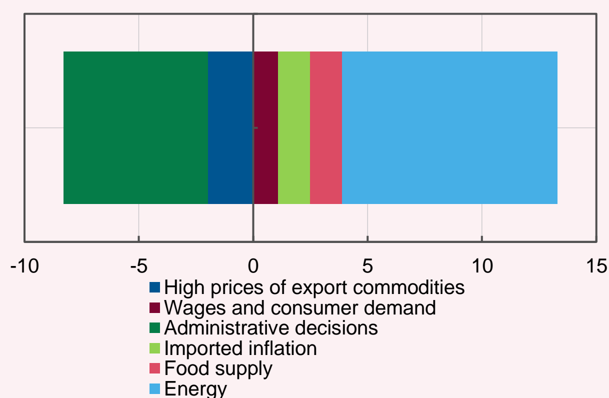
(which influence the production costs of corn and oil) and strong demand, including from biofuel producers, this restrained the correction of global prices.

Table 1. Deviations from selected assumptions made in the NBU forecast (January 2021)

Variable	Forecast	Actual (Estimation)
Brent oil price, USD/bbl.	51.4	70.5
Price of imported natural gas, USD/kcm (annual average)	193	447
CPI in the euro area, % yoy	0.6	4.8
Grain harvest, million tonnes	72	84.6*
Sunflower oil export prices, USD/t	756	1,265
Weighted average grain export prices, USD/t	183	249
Weighted average metal export prices, USD/t	441	643
Real wages, % yoy	8.3	9.8
Hryvnia NEER,% yoy ("+" strengthening,"-" devaluation)	-7.6	-1.9
Changes in natural gas tariffs for households,% yoy	2	15.4

Source: NBU staff estimates (* Real-time data from the Ministry of Agriculture).

Figure 2. Decomposition of inflation deviations from the target in December 2021, pp



Source: SSSU, NBU staff estimates.

- **Higher global consumer inflation.** A rapid recovery in demand on the back of large-scale stimuli implemented by leading countries' central banks and governments, higher energy prices, and disruptions of supply chains caused an increase in global inflation. In particular, inflation in the United States in December 2021 reached a 40-year high, while inflation in the euro area was the highest since the introduction of the common currency. High consumer inflation in Ukraine's main trading partners also impacted prices of consumer goods in Ukraine, in particular due to a rise in prices of imported goods, especially nonfood goods.
- **Rapid growth in wages and consumer demand.** Wages grew more rapidly in 2021, reflecting not only the decision to raise the minimum wage and revise the wage scale in the public sector, but also the pressure from foreign demand for labor and labor market mismatches in the private sector (read more in the section "Labor Market and Household Income"). First, this increased the cost of goods and services due to higher labor costs. Second, this boosted consumer demand, which was also supported by the NBU's monetary stimuli, which were implemented in 2020 to help the economy emerge from the crisis. Both wages and consumer demand grew faster than expected.
- In contrast, **administrative decisions** mainly curbed inflation. The introduction of annual natural gas contracts with a fixed price for households, locked-in heating tariffs, the slower pace of bringing electricity tariffs[9] to market levels, and the implementation of trade markup regulation for fuel limited the direct impact on price growth and caused a large negative contribution to the deviation of inflation from the target. However, some decisions had a pro-inflationary effect. Due to the rise in excise taxes on tobacco products and passenger transportation fares, inflation in these groups was two-digit.
- **A favorable price environment for Ukrainian exports of goods and services** restrained the rise in inflation. Prices of mining and metals products being high throughout most of the year, an increase in IT services exports[10], and remittances from labor migrants contributed to the growth in FX revenues. FX inflows supported the hryvnia's appreciation, which, in turn, reined in inflation among imported goods, primarily nonfood goods.

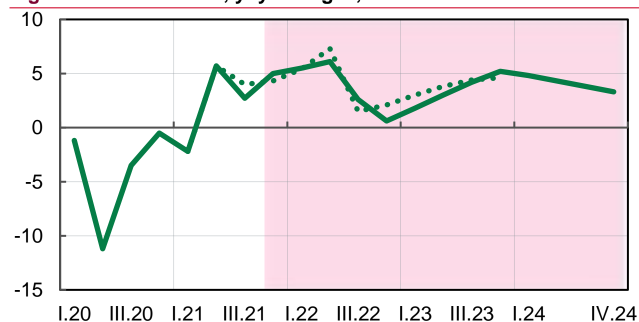
The NBU took these factors into account when making decisions during the year and updating its macroeconomic forecasts. Considering the buildup of inflationary pressures, the NBU tightened its monetary policy by raising the key policy rate and ending anti-crisis monetary measures. The gap between the actual key policy rate and the trajectory envisaged in the January 2021 forecast widened gradually. By Q2, the actual key policy rate was already 0.4 pp above the forecast on average, and the gap reached 2 pp at the end of the year. The NBU will continue to tighten its monetary policy in 2022. However, taking into account the magnitude of pro-inflationary factors and the lagged effect of the transmission mechanism, inflation will return to the target only in the middle of 2023, whereas this was supposed to happen in H2 2022 according to the January 2021 forecast.

[9] In January 2021, the electricity tariff was raised for households by 36.6%. It was expected that it would continue to be increased in the summer in order to bring it closer to the market level. Instead, the tariff was reduced for most households in October, as the financial model of special obligations was put in place.
[10] Preliminary estimates show that exports of IT services were worth USD 7.1 billion in 2021, up by 37.2% compared to 2020.

2.2. Demand and Output

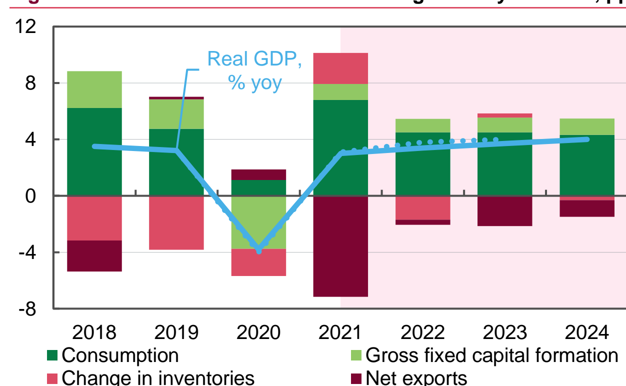
- In 2021, according to NBU estimates, the economy grew by 3% due to sustained consumer demand, increased investment, and record crop yields.
- Economic recovery has been hampered by a number of factors, including pressures from high energy and raw materials prices, and their shortages, the impact of a low 2020 harvest, slower-than-expected recovery in the services sector, limited production capacity, including due to repairs, and faster fiscal consolidation.
- In 2022, high energy prices and geopolitical tensions, together with the consequences of the global shortage of certain production components, will limit economic recovery (+3.4%). Going forward, real GDP will grow by about 4% per year against the backdrop of global economic growth and still favorable terms of trade.

Figure 2.2.1. Real GDP, yoy changes, %



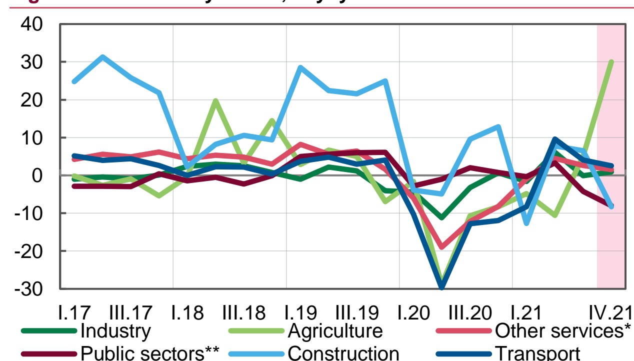
Source: SSSU, NBU staff estimates.

Figure 2.2.2. Contributions to annual GDP growth by final use, pp



Source: SSSU, NBU staff estimates.

Figure 2.2.3. GVAs by sector, % yoy



* Other services include tempor. accom. and catering; IT and telecom.; real estate trans.; professional, scientific and technical activities; activities in the field of admin. and support services; arts, sports, entert. and recreation; other types of services.
** Public sectors include public administration and defense; education; health care and social assistance.
Source: SSSU, NBU staff estimates.

In 2021, the economy recovered at a slower pace than expected, despite record harvests. The reasons for the weaker growth included underinvestment during previous periods, and high prices and shortages of raw materials and energy resources, the consequences of which will be felt throughout 2022–2023

Real GDP growth in 2021 was restrained (3.0%), even with the low base effect from last year, by NBU estimates. As a result, the economy has yet to recover to pre-pandemic levels.

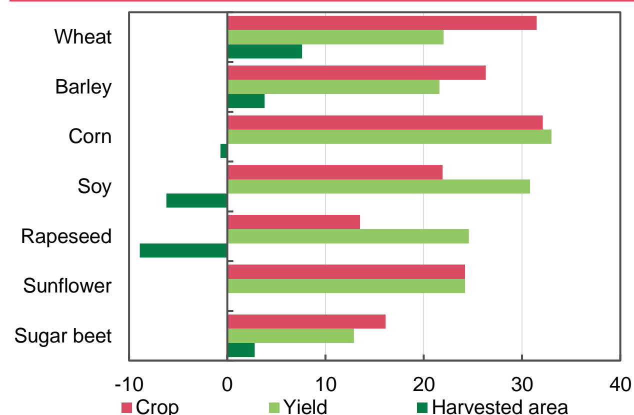
In Q4, agriculture was the main driver of economic activity growth. A significant pick-up in the harvesting of late crops resulted in record harvests of sunflower and corn. High growth rates in agriculture also affected related sectors, such as food production, freight transportation, and wholesale trade (for details, see the box Effects of Record Crop Yields on Ukraine's Economy in the October 2021 Inflation Report). Thanks to higher-than-expected yields, the estimate for real GDP growth in Q4 was upgraded to 5% yoy (up from 4.3% yoy in the previous forecast). A number of factors that hindered the recovery in other sectors of the economy also prevented a more significant improvement in the GDP estimate in Q4. Some of these factors also made the recovery weaker than had been expected in the previous quarter (GDP was up only 2.7% yoy).[11] As a result, the projection for real GDP growth for the year did not change compared to the previous forecast.

Industry recovered slowly during the year, despite benign external conditions. This was largely due to the difficult situation in the energy sector, with prices for natural gas surging amid extremely low reserves of power-generating coal. The shortage of coking coal limited production in the coke industry and metallurgy. Record prices for natural gas affected production not only in the sectors that use it as a raw material (the chemicals industry)[12], but also in energy-intensive industries such as metallurgy, the manufacturing of construction materials (glass, tiles, refractory products) and even products in agriculture and the food industry (greenhouse vegetables, sugar, oil, and bread)[13].

The significant degree of depreciation of fixed assets due to underinvestment in previous years (as evidenced by

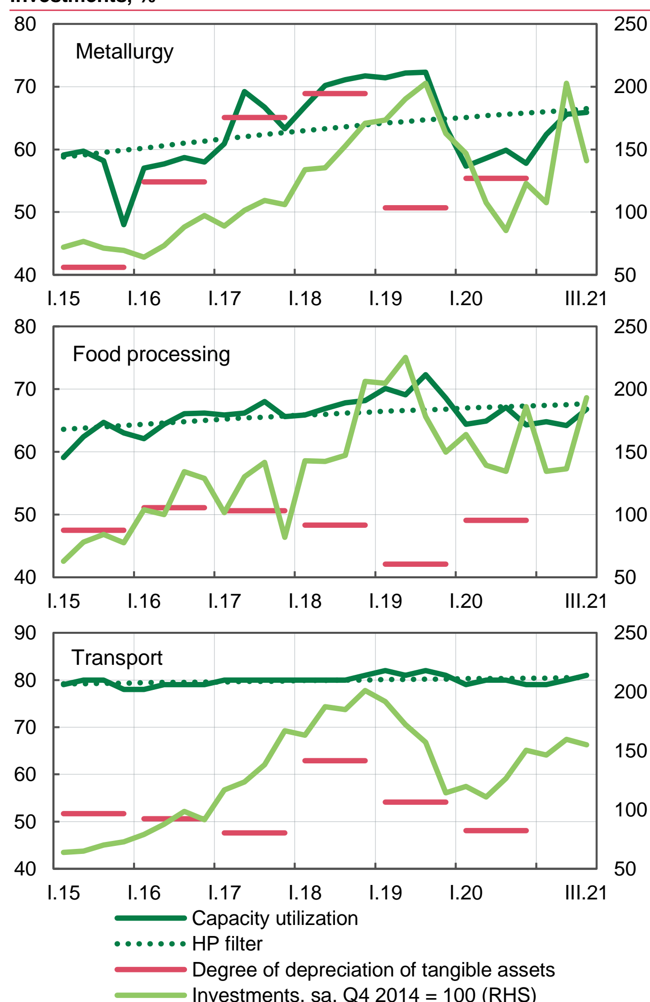
[11] One of the key reasons for the slower GDP growth in Q3 was the lower pace of late crop harvesting, which was completely offset in Q4.
[12] In September 2021, for instance, the manufacture of urea at OPP PJSC came to a halt as natural gas supplies dropped because of higher prices. The plant was expected to resume urea production on 1 November 2021, but it did not. OPP PJSC is currently pursuing other activities, including ammonia transshipment through an ammonia pipeline, and oxygen production.
[13] Expert estimates available in the public domain show that energy makes up as much as 30% of the cost of sugar production, 10%–15% or up to 20%, according to the latest data, of the cost of bread, up to 50% of the cost of sunflower oil, and up to 60% of that of greenhouse vegetables in winter.

Figure 2.2.4. Crops, harvested areas and yields in 2021, % yoy



Source: SSSU, Ministry of Agriculture, NBU staff estimates.

Figure 2.2.5. Capacity utilization according to SSSU surveys, degree of depreciation of tangible assets, and capital investments, %



Source: SSSU, NBU staff estimates.

significantly lower growth rates of investment in Ukraine compared to the regional average), higher costs of production inputs, including raw materials and energy, and the global push to tighten measures to combat emissions made it necessary to conduct repairs at many industrial plants[14]. This reduced effective capacities and the potential for scaling up production. This was amplified by the weakening of external demand for metals-and-mining products in H2. Forced stoppages due to accidents and the elimination of their consequences took place in oil refining.

The consequences of underinvestment and the depreciation of tangible assets were seen in other activities, including transport. The shortage of rolling stock, especially noticeable during the harvest and the selling of harvested crops, the worsening of railway car turnover in H2, and the increase in transportation costs also affected the pace of economic recovery. Another negative contribution to the growth in the GVA of transport came from a further reduction in natural gas transit.

The service sectors also recovered more moderately. They were similarly constrained by rising production costs and further quarantine restrictions. Despite the easing of restrictions for vaccinated persons and those testing negative for COVID-19, and the adaptation of businesses and households to working under quarantine (as seen from virtually unchanged growth rates of retail trade during Q4), the quarantine of "red zoned" areas continued longer than the NBU's previous forecast assumed. Quarantine restrictions were also tightened in other countries. This led, in particular, to a slowdown in the growth of passenger transportation.

Apart from their direct impact, the quarantine restrictions also had less immediate effects on certain sectors due to difficulties in attracting labor and the growth in labor costs.[15]

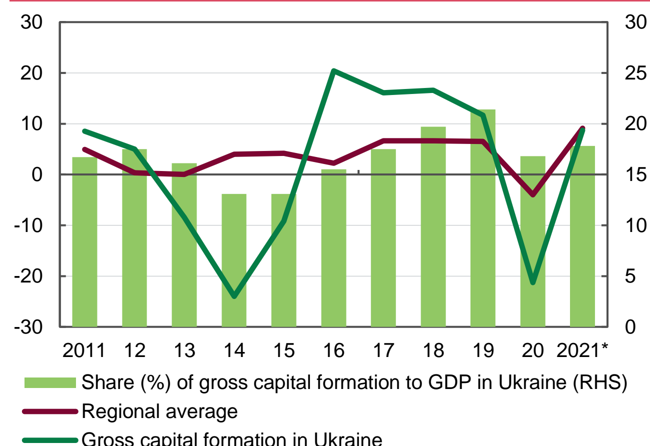
The faster budgetary consolidation (for details, see the section "Fiscal Policy" on page 27) was another factor that restrained growth in H2 2021. In particular, this affected the GVA of a number of budget sectors – primarily public administration and the defense and education sectors. GVA growth in healthcare also decelerated.

The forecast for real GDP growth in 2022 was revised down to 3.4% from 3.8%. The economy will be driven by consumer demand and by the still fairly favorable terms of trade. Meanwhile, the tense geopolitical situation will remain a significant factor adversely affecting investment decisions. In addition, although the pandemic is gradually retreating, the fallout from the coronavirus crisis will remain rather significant. Relatively high energy prices and the scarcity of certain raw materials, especially in H1, will also limit the growth potential.

Part of the impact of these restraining factors will be manifested in 2023. While the baseline forecast assumes a gradual decline in the risk premium from Q2, the

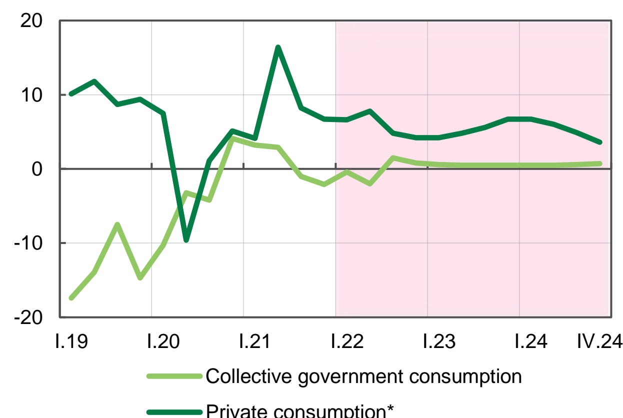
[14] In Q3 2021, the reconstruction of one of Europe's largest blast furnaces, No. 9 at ArcelorMittal, was launched in order to reduce total emissions, ramp up output, and reduce the cost of pig iron production. The reconstruction will last until the end of 2023. Repairs were also carried out at the Dnipro Metallurgical Plant and Interpipe Steel.
[15] Quarterly business surveys highlighted an increased share of respondents in 2021 who cited a "lack of qualified staff" and rising labor costs as factors limiting the ability of their businesses to ramp up production (see the section "Labor market and household income").

Figure 2.2.6. Indicators of investment activity in Ukraine and the region,% yoy



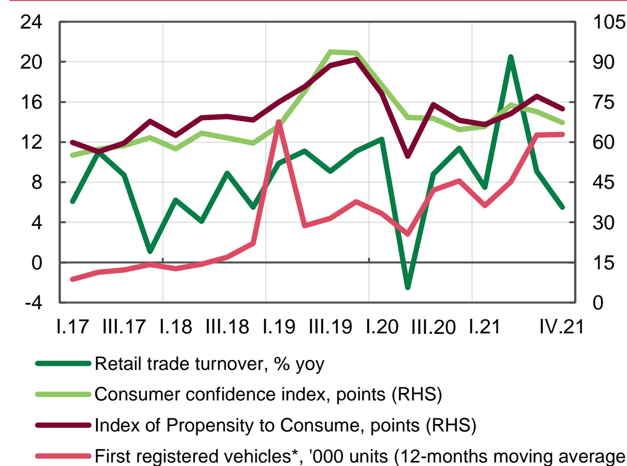
* Regional data – for three quarters of 2021, for Ukraine – NBU staff estimates.
Source: SSSU, IMF, NBU staff estimates.

Figure 2.2.7. Final consumption expenditure, % yoy



* Including non-profit institutions serving households.
Source: SSSU, NBU staff estimates.

Figure 2.2.8. Selected indicators of private consumption



* New and used ones, excluding cars imported with violation of customs regulations.
Source: SSSU,Info Sapiens, Ukravtoprom.

consequences of current geopolitical tension will persist in 2023 due to its adverse effect on investment in 2022.

In 2023–2024, real GDP growth will accelerate to 3.7% and 4%, respectively. This will be driven by the stabilization of geopolitical conditions during 2022, further growth in the global economy, and the persistence of rather benign terms of trade. The rollout of vaccines will also have a positive impact, contributing to the final elimination of the fallout from the pandemic and a further recovery of production and supply chains. This will increase production and revive investment activity in Ukraine. Private consumption, despite a slight slowdown, will remain one of the most stable components of GDP due to continued income growth and lending expansion.

The NBU's monetary policy, though expected to tighten on the forecast horizon, will not be an obstacle to economic growth. First, the flexibility of inflation targeting allows inflation to deviate from the target for a longer period of time in order to provide incentives for economic growth. Second, the NBU's policy will help ensure macroeconomic stability and mitigate investor concerns, which will help maintain foreign capital inflows into Ukraine.

Private consumption will remain stable and drive economic growth

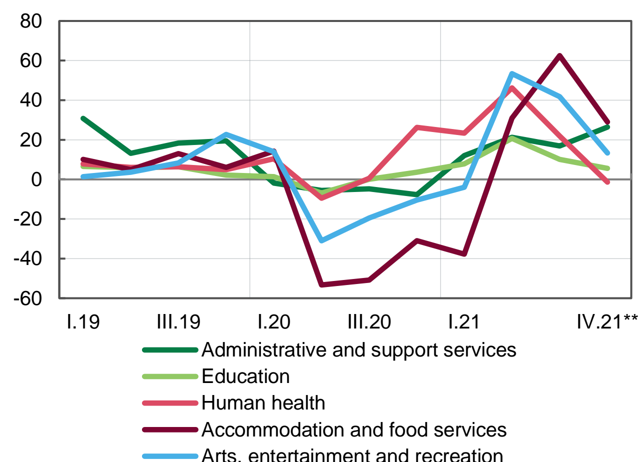
As expected, economic growth in 2021 was fueled by domestic demand. Private consumption, underpinned by rising household incomes (for details, see the section "Labor Market and Household Income" on page 24), continued to surge. In particular, high-frequency indicators testified to sustained consumer demand. The pace of growth in retail trade and imports of consumer goods therefore remained high, despite the slowdown in H2 due to the fading of low base effects and the tightening of quarantine restrictions at the end of the year. Car sales in 2021 reached record highs, and picked up at the end of the year. The number of airline flights grew at a fast rate. The general government's increase in individual consumer expenditures supported consumer demand (the government funded a part of household spending on educational, healthcare, housing, and utility services).

At the end of 2021, the government introduced the "e-Support" program to accelerate vaccination and bolster the most quarantined sectors of the economy. The impact of the program over a 12-month horizon may be 0.1%–0.15% of GDP, which will primarily be felt in 2022, according to the NBU[16].

Private consumption will remain the main driver of GDP growth. Consumer spending will continue to grow actively (5%–6% a year) in the forecast period, driven by an increase in real incomes (for details, see the section "Labor Market and Household Income" on page 24). Further improvements in consumer sentiment and a pick-up in lending are expected. The end of the pandemic will also boost consumer demand.

[16] The program has been doling out UAH 1,000 credits to fully vaccinated citizens for the purchase of goods and services in areas specified by the Cabinet of Ministers of Ukraine (CMU). In 2022, the program will also be extended to the purchase of medicines. The program provides for UAH 11 billion in spending (UAH 8 billion from the 2021 budget and UAH 3 billion from the 2022 budget). However, according to CMU data, as of 4 January 2022, vaccinated Ukrainians had been paid almost UAH 6 billion, of which only a little over UAH 700 million was spent, mainly in bookstores and theaters.

Figure 2.2.9. Receipts of taxes and fees by type of activity*,% yoy

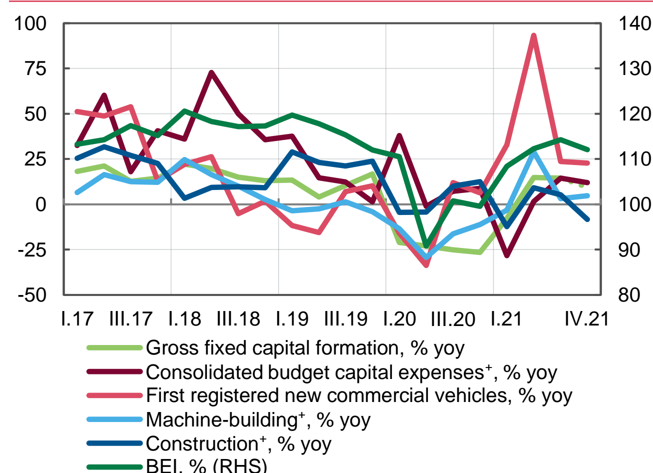


* Deflated to the corresponding consumer price indices.

** For two months of the quarter.

Source: STSU, NBU staff estimates.

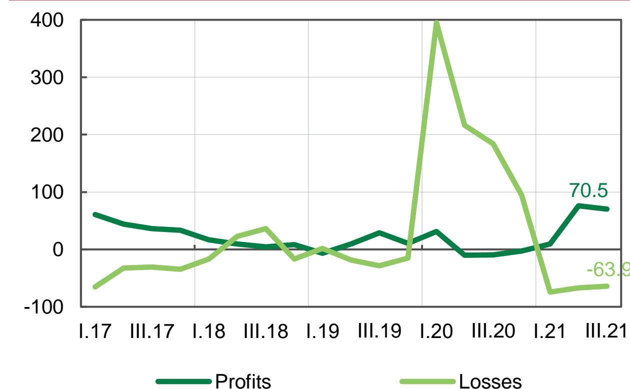
Figure 2.2.10. Selected indicators of investment demand



+ October-November 2021.

Source: SSSU, Treasury, NBU, Ukravtoprom.

Figure 2.2.11. Profits and losses of large and medium-sized enterprises, over the period, % yoy



Source: SSSU.

The expected fiscal consolidation will be low-key, which will maintain the public sector's incentives for consumption. The government will continue to step up social spending at a faster pace than inflation.

The recovery of investment will play an important role in boosting economic potential

Investment growth, which resumed in Q2 2021, has persisted. Specifically, GFCF in Q3 grew by 14.5% yoy, i.e. at almost the same pace as in the previous quarter[17]. This reflected capital repairs to industrial equipment amid the improving financial standing of businesses, as well as an increase in the funding of capital expenditures. The same factors bolstered the investment activity of businesses in Q4 (although the unfavorable information environment against the backdrop of elevated geopolitical tensions and flagging external demand slowed investment at the end of the year). The high rates of growth in investments were evidenced by an increase in production in a number of sub-sectors of engineering, and the significant pace of growth in investment imports (agricultural machinery, commercial vehicles, industrial equipment).

Despite the significant rate of investment growth, investment relative to GDP fell to all-time lows (about 9% in the first three quarters of 2021), which also restrained economic growth. However, with the base effect staying low, the pace of recovery in investment activity will be high in the coming periods. This will be facilitated by upbeat business expectations, increased lending, the further development of road infrastructure, and the liberalization of the land market. In addition, capacity-building projects (including those in the metallurgy and mining sectors) are expected to be implemented through the tightening of environmental requirements for exports to the EU and in line with domestic environmental commitments. Investments in the transport sector will also rise due to the need to upgrade passenger and freight rolling stock. Investments in natural gas extraction are expected to revive amid the surge in prices. Thanks to the rollout of vaccines, a decline of uncertainty in business about the impact of COVID-19 in Ukraine and around the globe will also play an important role.

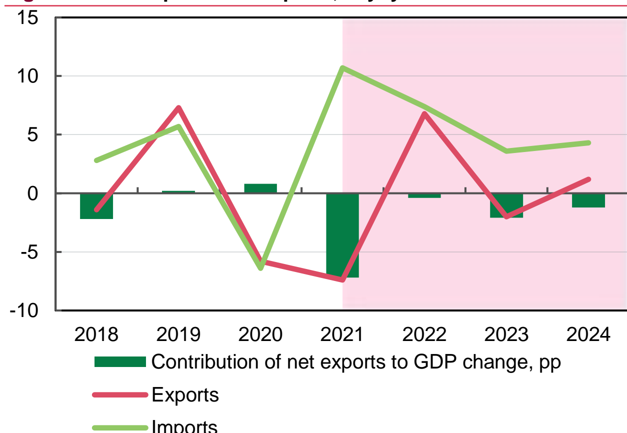
The increase in Ukraine's risk premium amid the buildup of military tensions will not only slow the revival of investment activity in 2022, but also affect potential investments in 2023. The limited supply of goods and components due to the worldwide shortage of semiconductors will continue during the year. GFCF will continue to grow relatively slowly, to as little as 14% of GDP in 2024. The still-low share of investment is one of the risks to potential GDP growth in the long run.

Domestic demand will spur imports, while export dynamics will be heavily influenced by fluctuations in crop yields

Weakening demand for metals-and-mining products in foreign markets and the effects of relatively low crop yields in 2020 led to a reduction in exports in real terms in 2021. Last year's record harvest will be reflected to a greater extent in

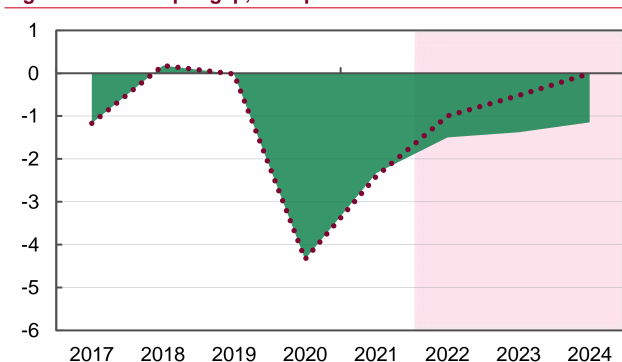
[17] In Q3, increases in capital investments into industry, construction, trade, and the hotel and restaurant business accelerated. Investments in agricultural and transport companies and in healthcare grew rapidly.

Figure 2.2.12. **Exports and imports, % yoy**



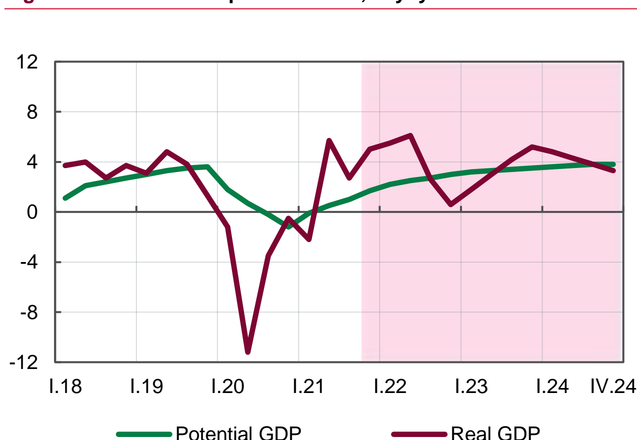
Source: SSSU, NBU staff estimates.

Figure 2.2.13. Output gap, % of potential GDP



Source: NBU staff estimates.

Figure 2.2.14. **Real and potential GDP, % yoy**



Source: SSSU, NBU staff estimates.

2022. Real exports are projected to grow by almost 7% this year. Going forward, yields of grain and oilseeds are expected to return to the average levels of previous years, in part due to higher prices and possible shortages of fertilizers. This factor, coupled with the gradual decline in export prices, will largely be behind a fall in exports in 2023. Exports of ferrous metals will gradually climb, although they will be limited by tight competition in foreign markets.

The recovery of domestic demand and the appreciation of the hryvnia REER will fuel a large increase in imports. Even in 2021, the growth was almost 11% in real terms, although the low base effect will make a strong contribution. Going forward, imports will grow due to the expansion of consumer and investment demand, but at a slower pace (4%–7% a year). Economic recovery will drive the demand for high-tech consumer and investment products. Energy imports will also rise due to the need to replenish natural gas and coal reserves amid falling prices.

Potential GDP growth will accelerate as investment resumes and people rejoin the labor force

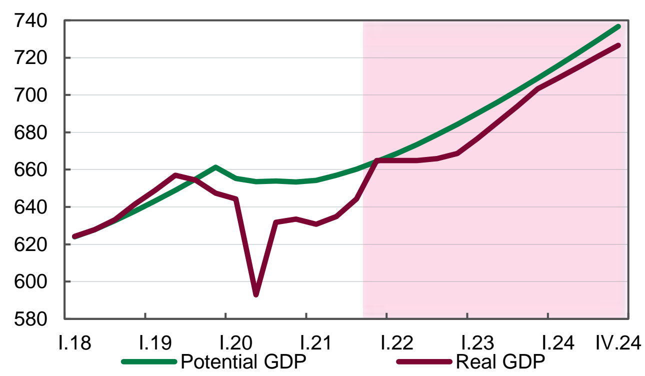
In 2021, potential GDP grew, reaching pre-crisis levels in Q4. The restructuring of business processes, based on the advantages of remote work and communications, will further increase labor productivity. This, as well as the accelerated renewal of fixed assets by businesses (primarily exporters aiming to meet higher environmental standards) in order to sharpen their competitive edge, will further accelerate the growth in potential GDP in the medium term. Adverse demographic trends, such as population aging and labor migration, will remain impediments to growth.

The negative GDP gap narrowed during 2021 and was close to zero in Q4. However, the structure of this gap by component of GDP and by type of activity differs significantly. This heterogeneity increased markedly during the coronavirus crisis. Specifically, investment activity is much lower than its potential level due to the uncertainty that businesses are facing amid long-term quarantine restrictions and the risk of military aggression escalating. Exports, despite favorable terms of trade, were also slightly below their potential due to the relatively low 2020 harvest and limited capacities in some manufacturing sectors. At the same time, prolonged monetary and fiscal stimulus, including at the global level, coupled with increased labor migration, led to high wage growth and overheating consumption and imports.

By sector, relatively rapid increases were seen in healthcare, financial and insurance activities, trade, and IT. However, growth in the sectors most affected by quarantine restrictions was restrained. These sectors include transportation, tourism, the hotel and restaurant business, art, sports, entertainment, and more. That is why state aid programs are built with the need to assist these sectors in mind.

In 2022, the GDP gap will go back into negative territory and will not close for a long time, which will support disinflation. Despite this, the level of activity across economic sectors will be more evenly distributed. In particular, the tighter monetary policy over the forecast horizon will help cool off sectors that have been fueled by overheated consumption and imports. At

Figure 2.2.15. Real and potential GDP, sa, at 2016 constant prices



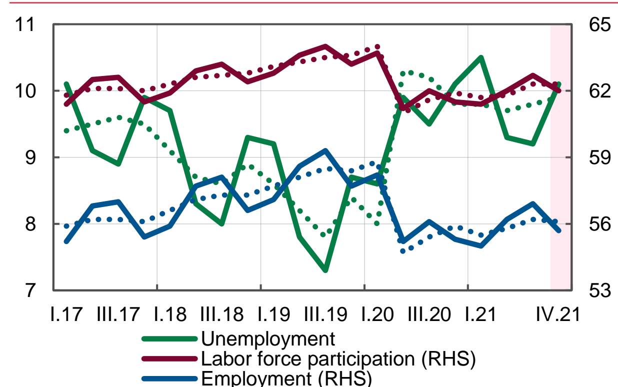
Source: SSSU, NBU staff estimates.

the same time, sectors in which quarantine restrictions were still impeding growth will increase faster with the lifting of these restrictions.

2.3. Labor market and household income

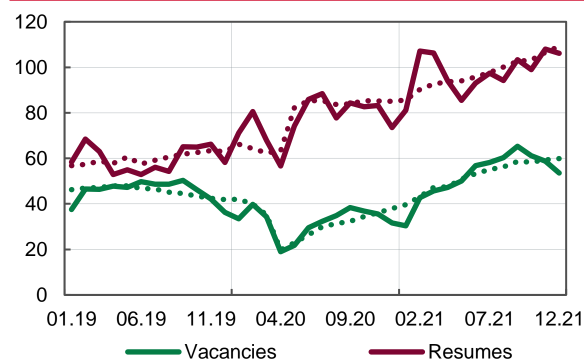
- Labor demand and supply increased in 2021, buoyed by the economic recovery. However, the labor force participation rate grew slowly due to the long-term consequences of quarantine measures. The same reasons, amplified by the deepening of occupational and qualification mismatches, resulted in unemployment remaining high.
- Household incomes, including salaries, grew rapidly. This was facilitated by the higher minimum wage, salary supplements for healthcare workers, higher wages in education, stronger demand for Ukrainian labor both domestically and abroad, record personal remittances, increased pensions, and significant social benefits during quarantine.
- Accelerating economic growth and increasing external demand for Ukrainian workers will support high wage growth. Unemployment will decrease to natural levels, but not as quickly as expected.

Figure 2.3.1. ILO unemployment*, employment and labor force participation** rate (dotted lines for sa), %**



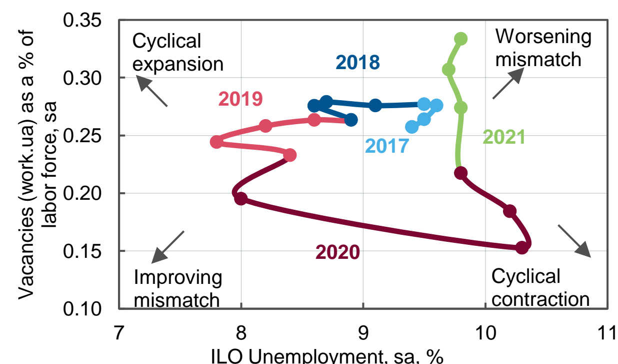
* As a % of population aged 15–70 in the labor force.
** As a % of total population aged 15–70.
Source: SSSU, NBU staff estimates.

Figure 2.3.2. New vacancies and resumes from work.ua, thousands (dotted lines for sa)



Sorce: work.ua, NBU staff estimates.

Figure 2.3.3. Beveridge curve



Source: SSSU, work.ua, NBU staff estimates.

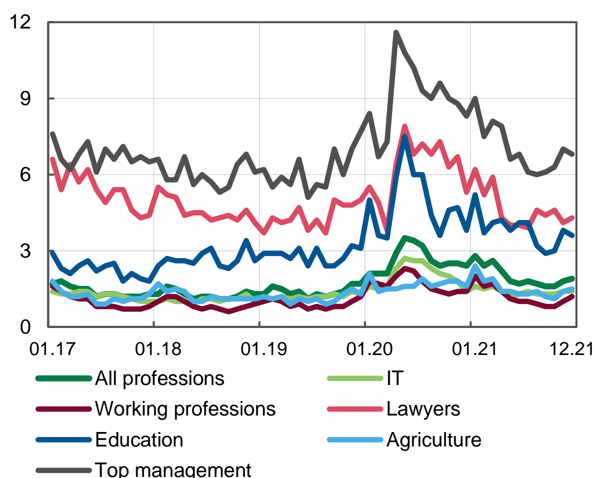
Quarantines and deepening mismatches have created tight labor market conditions. The return of unemployment to its natural level (8.5%) will take longer than anticipated

In 2021, the recovery of the economy after the crisis helped increase both the demand for labor and its supply. At the same time, major labor market indicators (the employment rate, the unemployment rate, the labor force participation rate) improved sluggishly in seasonally adjusted terms and lagged behind NBU forecasts. This was in part due to weaker-than-expected economic growth. In addition, the adverse impact of quarantine restrictions, which made certain categories of the population leave the labor force, lasted longer than projected. The vaccine rollout, which gained speed in late 2021, remained low, necessitating the on-and-off imposition of stricter quarantine restrictions.

Another important reason was the worsening of imbalances between labor supply and demand. Specifically, the business outlook surveys conducted during the year showed a greater share of companies highlighting a "lack of qualified personnel" as a factor having an adverse impact on their activities. This was also evidenced by the dynamics of the Beveridge curve, which plots the relationship between the level of vacancies (their number in relation to the labor force) and the unemployment rate. Other things being equal, when the number of vacancies is large, in particular due to an economic expansion, the unemployment rate should be relatively low, as available vacancies are filled by job seekers. However, this only happens if the job requirements of employers match the professional qualifications of job seekers. The shift in the Beveridge curve in 2021 due to an increase in the number of vacancies amid an almost unchanged unemployment rate therefore points to significant difficulties in filling existing vacancies due to mismatches between worker qualifications and employer needs.

This is corroborated by data from job search sites. The market has an excess of supply of top managers, middle managers, lawyers, clerks, and journalists. In contrast, there continues to be a shortage of factory workers, IT specialists, and agricultural workers, including due to robust demand for these professions abroad.

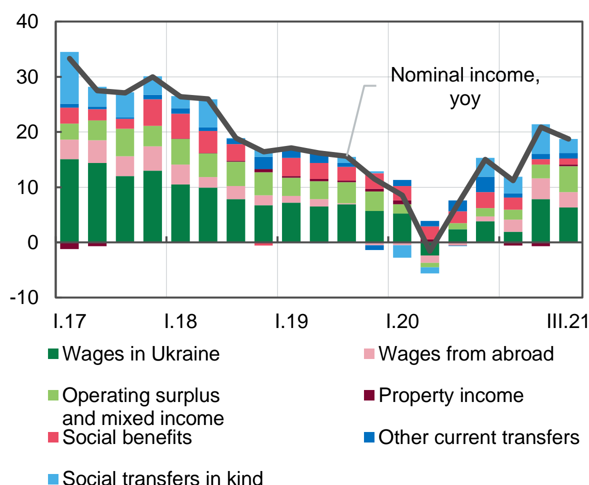
Figure 2.3.4. **Pressure per vacancy *, units**



* The ratio of resumes to vacancies by profession.

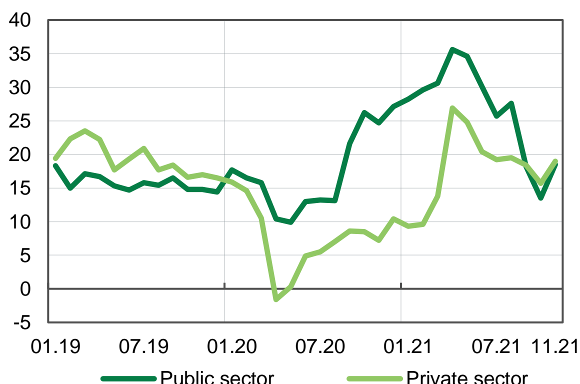
Source: work.ua, NBU staff estimates.

Figure 2.3.5. **Contributions to annual change in nominal household income, pp**



Source: SSSU, NBU staff estimates.

Figure 2.3.6. **Wages in public and private sectors, % yoy**



Source: SSSU, NBU staff estimates.

Further economic growth and an improvement in the business expectations of companies will stimulate an increase in the demand for labor over the forecast horizon. In particular, business outlook surveys in Q4 showed a majority of companies planning to hire more employees in 2022. The ongoing vaccine rollout will also support the labor market by boosting businesses' confidence that no quarantine restrictions will be imposed in the years ahead. As a result, the unemployment rate will decrease to 9.1% in 2022 and will gradually approach its neutral level (8.5%). However, this will take longer than expected, because of deepening labor market mismatches, longer-term effects of the pandemic on labor force participation, and a weaker-than-forecast economic recovery.

Household incomes grew rapidly in 2021. Real wage growth surpassed productivity increases, but over the forecast horizon both productivity and wages are set to grow at the same pace

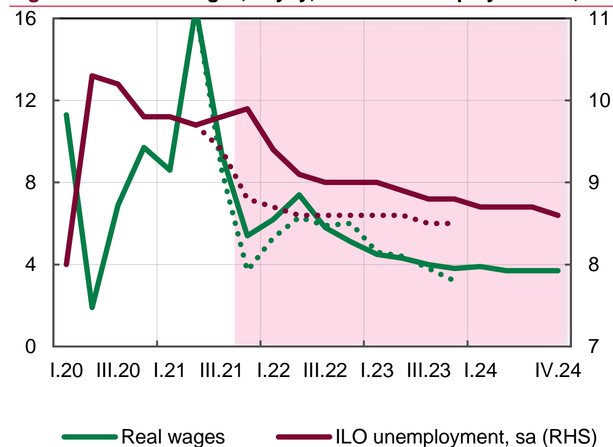
Although the economic recovery was relatively weak in 2021, wages in Ukraine increased quickly in both nominal and real terms (up 20% and 9.8%, respectively, by NBU estimates). An important factor underlying the wage increases was public sector salaries. Their growth was driven by two minimum wage raises (to UAH 6,000, effective 1 January 2021, and to UAH 6,500, starting 1 December 2021), a revision of pay grades in certain sectors, including education, and the provision of wage supplements for healthcare workers fighting COVID-19. The slowdown in wage growth at the end of the year was primarily due to the impact of the high base effect (from October 2020, when wage supplements in healthcare started to be paid). The growth in economic activity in labor migrant recipient countries amid the rollout of vaccination and the opening of borders led to stronger demand for Ukrainian workers[18]. Amplified by existing disparities in the domestic labor market, this put pressure on private sector wages. Personal remittances to Ukraine also increased.

The contribution of operating surplus and mixed income to the growth in household income increased over the course of the year. This signaled, in particular, an improvement in the financial standing of sole proprietors, in part through receiving COVID-19 relief checks from the government. The further indexation of pensions also made a significant contribution. As a result, real disposable income growth accelerated to 6.8% yoy in Q3 (despite mounting inflationary pressures).

Labor market mismatches and significant demand for labor abroad will continue to push wages up. Hence the revision of the forecast. However, with wage growth accelerating in nominal terms, the gap with salary levels abroad will narrow, which will reduce the motivation to migrate. In addition, businesses' propensity to hire people and raise wages will

[18] According to NBP data, the share of businesses with open vacancies in Q3 2021 rose to 47.6%, the highest since 2016, while 34% of businesses were planning to increase their number of employees in the next quarter. This is the highest percentage since the survey began. Although in real terms wages remained below the pre-crisis trend, employers were more likely to provide intangible bonuses (training, flexible working hours), and the surveys showed them reducing their qualification requirements.

Figure 2.3.7. Real wages, % yoy, and ILO Unemployment sa, %



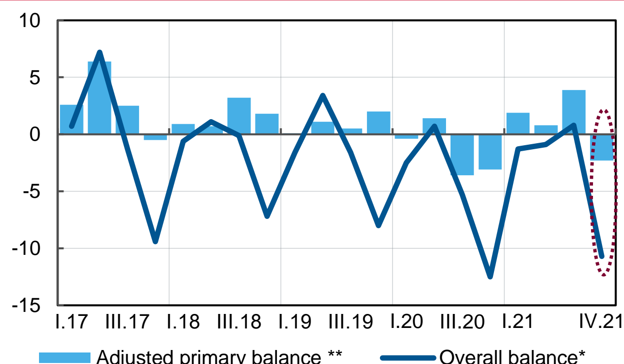
Source: SSSU, NBU staff estimates.

incentivize retraining and thus mitigate labor market mismatches. The growth in nominal wages will slow in the medium term (to 9%–10%, down from about 15% in 2022). Real wages will grow by about 6% in 2022 and 4% a year in 2023–2024, matching the rate of productivity growth as workers retrain. In 2022, caps on increases in salaries of public officials will have a certain restraining effect on wage growth, although this has been largely offset by the announced wage increases in education and healthcare.

2.4. Fiscal sector

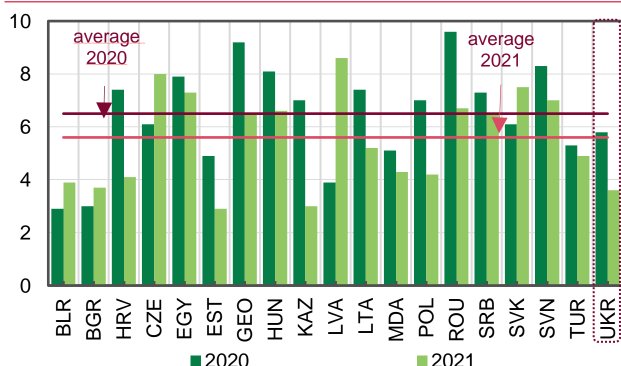
- Despite the sharp easing in Q4, fiscal consolidation went faster than expected compared to other countries in the region.
- The consolidated budget deficit, which was 3.5% of GDP in 2021, will continue to narrow slowly. This will be largely due to limited funding opportunities because of tighter conditions in the global financial markets and high risk premiums for Ukraine.
- Public and publicly guaranteed debt as a ratio of GDP shrank significantly – below 50% – in 2021, and will continue to decline in the coming years, ensuring greater sustainability and flexibility of public finance, as well as increasing the country's appeal to investors.

Figure 2.4.1. General government fiscal balance, % of GDP* and % of potential GDP**



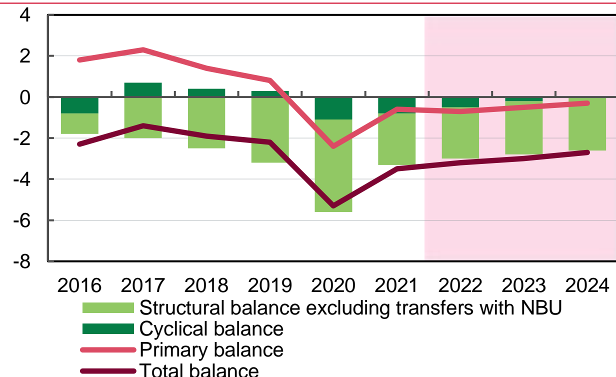
* Overall balance (% of GDP) is the consolidated budget balance, taking into account loans to the Pension Fund from the STA. ** Cyclically adjusted primary fiscal balance (CAPB) of the general government (% of potential GDP). CAPB is the difference between seasonally adjusted revenues, in the structure of which tax revenues are adjusted for cyclical changes in GDP, and seasonally adjusted primary expenditures.
Source: STSU, NBU staff estimates.

Figure 2.4.2. General government fiscal deficit by country, % of GDP



Source: IMF (WEO Database, October 2021), STSU, NBU staff calculations.

Figure 2.4.3. Consolidated budget balance, % of GDP



Source: STSU, NBU staff estimates.

In 2021, fiscal policy turned out to be tighter than expected. Fiscal consolidation will continue in the years ahead, but at a more moderate pace

In Q4, the consolidated budget ran a significant deficit, which is typical for this time of the year. Adjusted for the cyclical position of Ukraine's economy, the primary balance became negative, signaling that the policy was loose. This was due to a large increase in expenditures at the end of the year, primarily because of significant borrowing in November–December.

Despite a significant easing at the end of the year, fiscal policy overall remained tight in 2021. The rather rapid fiscal consolidation compared to other countries was one of the factors behind the weaker economic recovery. In particular, this was due to limited funding opportunities and the need to accumulate funds ahead of significant debt repayments. However, even with the significant resources received at the end of the year and the over-execution of the revenue plan (revised up several times during the year), the nominal deficit of the state budget came out slightly lower than approved, and much lower as a ratio of GDP (3.7%). With this in mind, public finances received a certain "liquidity cushion" for subsequent periods. Given the surplus of local budgets, the consolidated budget deficit also decreased compared to the previous year (to UAH 186.9 billion or 3.5% of GDP).

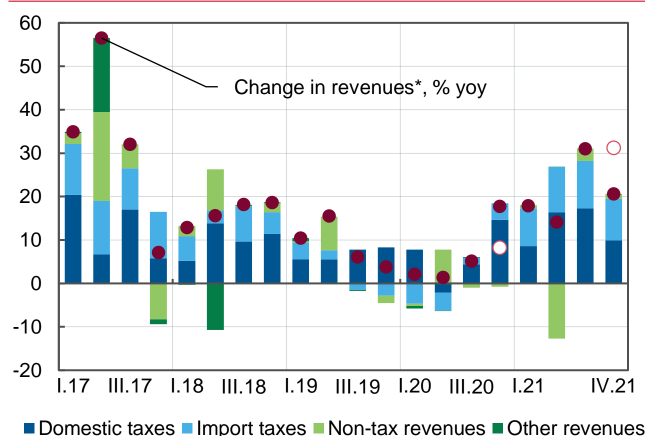
Over the forecast horizon, fiscal consolidation will continue, in part due to sustained economic growth, but it will be more moderate than in 2021. Specifically, a small reduction in the deficit is expected in 2022 (to 3.2% of GDP). In 2024, the deficit may actually fall below 3%. Such a policy will ensure greater stability and flexibility of public finances.

Tax revenues grew significantly due to a further recovery in demand and high prices in the commodity markets

Tax revenues grew at a high pace during the year due to the further recovery of domestic demand and high commodity prices. External conditions and record harvests contributed to significant corporate profits and thus to growth in CIT revenues. In addition, rental proceeds increased significantly. Significant wage growth fueled a steady increase in revenue from PIT, while sustained domestic demand and high imports drove the increase in revenues from VAT and excise duties.

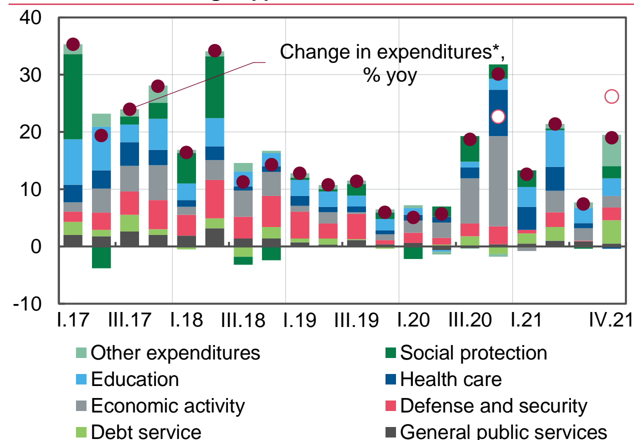
Overall, economic factors were precisely the reason why actual state budget revenues exceeded the planned amount

Figure 2.4.4. Contributions to annual changes in revenues of the consolidated budget, pp



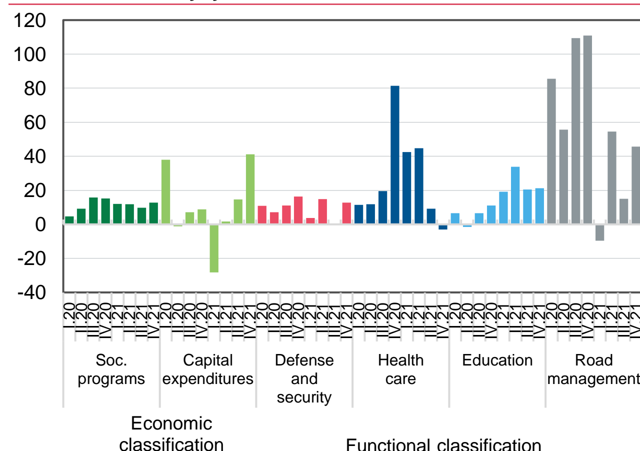
* IV.20 and IV.21 - change in revenues without taking into account settlements in December 2020 between the government, Naftogaz, and Ukrnafta is highlighted in a different color.
Source: STSU, NBU staff calculations.

Figure 2.4.5. Contributions to annual changes in expenditures of the consolidated budget, pp



* IV.20 and IV.21 - change in expenditures without taking into account settlements in December 2020 between the government, Naftogaz, and Ukrnafta is highlighted in a different color.
Source: STSU, NBU staff calculations.

Figure 2.4.6. Growth in consolidated budget expenditures by selected areas*, % yoy



* Defense and security includes defense and public order, security and the judiciary. Social programs include wages and social care.
Source: STSU, NBU staff calculations.

(by 2.8%), even after taking all changes into account.[19] Tax revenues, which came in at almost 28% higher than planned, ensured growth in total revenues despite dividends from state-owned companies having been lower than in 2020.

In the forecast period, revenue growth will slow to 8%–11% a year. The main reasons for this are the slowdown in inflation, especially producer price inflation, a more moderate increase in nominal incomes of households, as well as a weaker financial performance of businesses amid high prices for energy.

Expenditures picked up as usual in Q4. However, their annual growth was moderate.

Expenditures grew unevenly during the year, with an increase being seen at the end of the year as usual. The unevenness was due to the base effects and the need to accumulate funds ahead of debt repayments. Expenditure growth accelerated in Q4 despite the high base effect of late 2020 (significant COVID-19 spending). However, although the plan's implementation sped up, expenditures were still underfunded (by 1.4%) for the year. This was due to both lower debt-servicing payments and procedural factors.

The growth in social spending accelerated, fueled by increased benefits and utility subsidies for households, and the implementation of the e-Support program. Public sector wages also continued to rise, in part due to a planned increase in the minimum wage and pay grades in the public sector in December. In general, social spending remained a significant source of household income growth (for details, see "Labor Market and Household Incomes" on page 24), which drove consumer demand. Individual expenditures of the general government continued to grow rapidly, particularly those on education, culture, and sports. However, healthcare expenditures at the end of the year were lower than last year, mainly due to the base effect, despite the accelerated spread of COVID-19 in the fall and the increase in healthcare workers' wages.

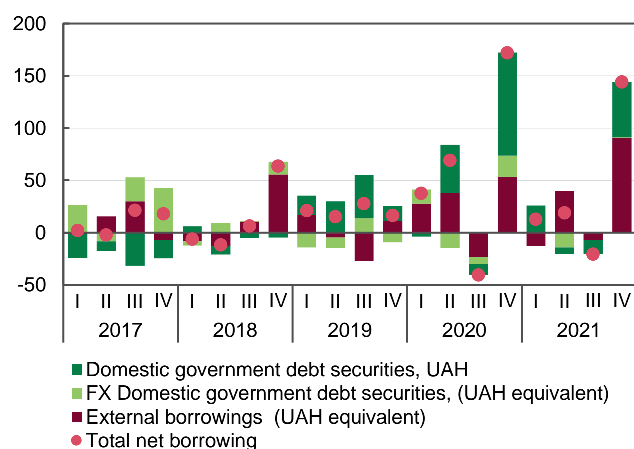
At the same time, investment expenditures increased, in particular on road infrastructure. The growth in collective expenditures, such as defense and environment spending, also accelerated, although the increase in other items (public administration and order) was moderate.

Despite there being savings on debt-servicing payments thanks to a stronger hryvnia, expenditures on this item increased significantly in 2021 (up about 27% from 2020). This was due to an increase in borrowing, including short-term, to finance the expanded deficit of the year 2020, which was impacted by the pandemic. At the same time, this resulted in a heavier debt burden and fewer opportunities to support the economy in the coming periods.

The government is expected to pursue counter-cyclical fiscal policies in the years ahead. In conditions of sustainable economic growth, the government will gradually implement

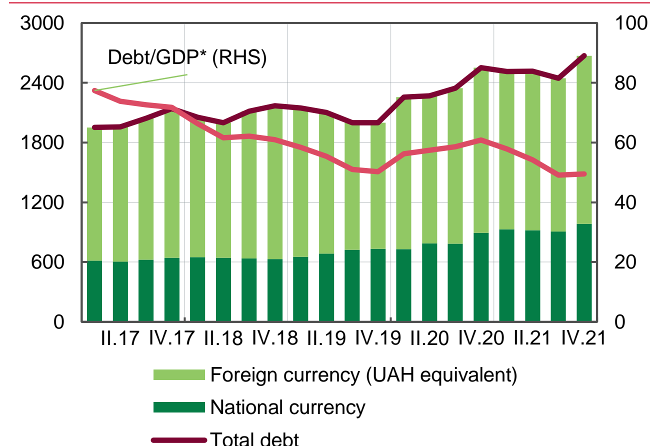
[19] Hereinafter the planned general fund of the state budget.

Figure 2.4.7. State budget net borrowings*, UAH billion



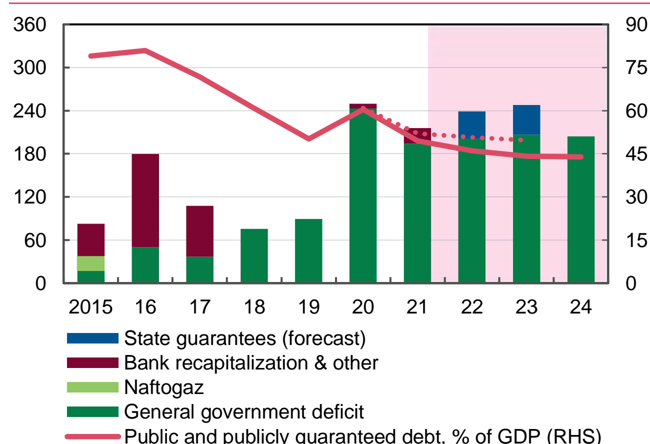
* 2017 borrowings do not include government bonds issued to increase banks' authorized capital, Q3 2020 borrowings do not include government bonds issued to increase banks' authorized capital, Q3 - PRJSC Export Credit Agency and PJSC "Ukrainian Financial Housing Company".
Source: STSU, MFU, NBU staff calculations.

Figure 2.4.8. Public and publicly guaranteed debt (by repayment currency), UAH bn and % of GDP*



* GDP for 2021 - NBU estimates.
Source: MFU, SSSU, NBU staff estimates.

Figure 2.4.9. Broad public sector deficit, UAH bn and public debt, % of GDP



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

fiscal consolidation measures. Expenditures will continue to grow, but at a slower pace (7%–10% a year). The growth in budget expenditures on wages and social security will be higher than the inflation rate, thus supporting the increase in real incomes. Capital expenditures will grow more slowly than social ones, but will exceed 3% of GDP for the entire forecast period.

Public and publicly guaranteed debt in 2021 fell sharply below 50% of GDP, and will stay at about 45% of GDP in the years ahead

Budget needs in Q4 were financed by both previously accumulated funds in government accounts and quite significant borrowing. In particular, financing was raised on preferential terms from the IMF, the EU, and the World Bank. At the end of the year, primarily in December, significant amounts of hryvnia domestic government debt securities were issued. The issuing of FX domestic government debt securities practically offset repayments. As in the previous year, this allowed the government not only to recoup expenditures, but also to accumulate resources to finance budgetary needs in H1 2022.

The volume of public and publicly guaranteed debt increased in absolute terms both in Q4 compared to the previous year and for the year as a whole. Apart from net borrowing, additional factors underlying the increase in the debt in late 2021 were the issuing of domestic government debt securities to recapitalize the Ukrainian Financial Housing Company PJSC, and the provision of public guarantees, including for the repayment of debts to renewable energy producers. At the same time, with nominal GDP having risen, the debt as a ratio of GDP declined over the course of the year to 49.5%, by NBU estimates.

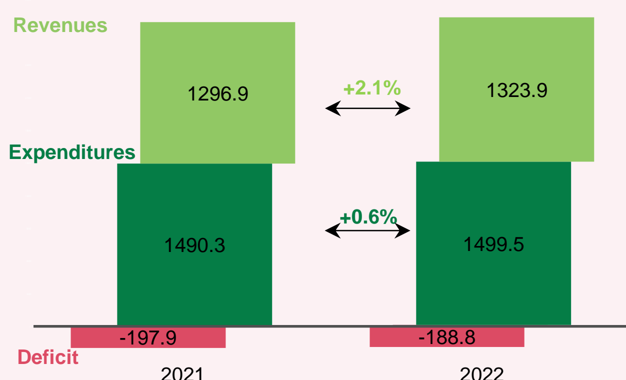
The gradual fiscal consolidation and further economic growth will help anchor the ratio of public and publicly guaranteed debt to about 45% of GDP in 2022–2024. This will shore up Ukraine's fiscal stability and investment appeal and preserve opportunities for increasing government stimulus if the overall economic situation deteriorates.

Box 2. Ukraine's 2022 State Budget in Figures

The fiscal consolidation started in 2021 will continue, following the crisis-driven widening of the state budget deficit in 2020. The deficit approved by the Law On the State Budget of Ukraine for the Year 2022 (the Law) is not only smaller than the actual deficit of 2021 in nominal terms and as a percentage of GDP (3.5%20), but also has the potential to narrow more significantly. The latter is related to the rather conservative macroeconomic forecast, which means there might be sizable unplanned revenues. From the experience of 2021, it is likely that the nominal deficit will persist even if other budgetary parameters are revised upward. Among other things, this is driven by possible difficulties in attracting external financing due to the unfavorable conditions on the global financial markets for EMs, and high risk premiums for Ukraine. Under such conditions, it is important to continue cooperating with international partners. This will allow Ukraine to receive official financing and facilitate its access to international capital markets after geopolitical tensions ease.

As a percentage of GDP, the state budget deficit for 2022 is in line with the benchmarks set in the Budget Declaration for 2022–2024. At the same time, the main parameters of the state budget are based on a conservative macroeconomic forecast, primarily in terms of nominal GDP and import volumes. In particular, this is reflected in a modest increase in the main state budget parameters – revenues and expenditures – compared to the actual figures of 2021. If the NBU's forecast of nominal GDP materializes, in 2022 the ratio of tax revenues to GDP will be less than 19%, whereas it exceeded 20.5% on average over the previous five years.

Figure 1. The main parameters of the state budget, UAH bn



Source: VRU, NBU staff estimates.

The revenue and expenditure plan for 2021 was repeatedly revised upward. Actual revenues of the general fund exceeded the previously approved plan by more than UAH 120 billion. A similar situation may occur again in 2022. Although the size of the deficit is likely to remain unchanged, significant adjustments to budget parameters might reduce the effectiveness of expenditure programs and make it more difficult for economic agents to plan their activities.

Moreover, revenues for 2022 were planned on the basis of changes to tax legislation (the so-called resource law)[21], which expanded the resource tax base and increased certain tax rates. However, the tax changes were not fully taken into account in the course of the budget's approval, which also creates the potential for additional revenues to be received.

Table 1. The main macroeconomic parameters

Indicator	2022	
	CMU	NBU
Nominal GDP, UAH billion	5369	6200
Real GDP, %	3.8	3.4
Consumer price index, % (Dec /Dec)	6.2	7.7
Exports of goods and services (USD billion)	70.3	83.5
Imports of goods and services (USD billion)	78.9	98.1
Exchange rate, UAH/USD (average)	28.6	-
Nominal average wage, UAH `000	15.3	16.0

Source: VRU (Explanatory note), NBU staff estimates.

Expenditures increased only slightly, and thus may be expected to grow in the event that over-than-planned revenues are received. Social support has remained important as usual: the minimum wage has been raised (to UAH 6,700 effective 1 October 2022), the increase in salaries for doctors and teachers has been taken into account, the assistance under the e-Support program has been extended, and the significant support to the Pension Fund has been continued. In addition, timelines for pensions indexation have been clearly defined and benefits for pensioners aged over 70 were introduced from October. Utility benefits and subsidies for households were set at a lower level than in 2021. However, given the uncertainty about the level of utility tariffs and high global energy prices, subsidy spending might need to be increased. As expected, defense and security and infrastructure projects remained among the spending priorities. Expenditures also increased on social and humanitarian spheres – education, healthcare, culture, and sports.

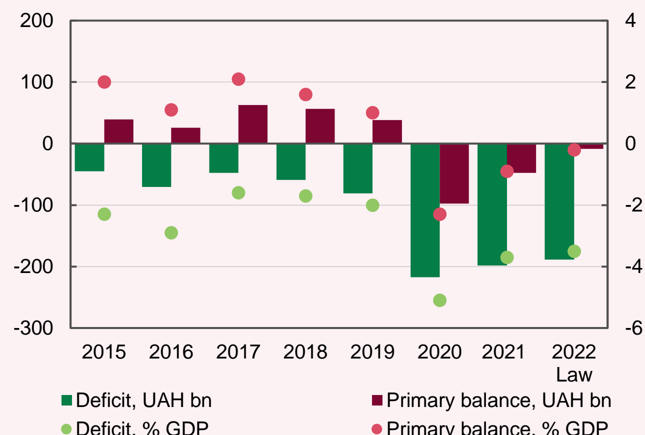
At the same time, debt servicing expenditures are envisaged to increase significantly in 2022 (by 20% yoy, or to 12% of total expenditures), which is the result of large borrowings made to finance previous deficits, especially in 2020.

The deficit is planned to be financed mainly from debt resources (borrowing will reach almost 11% of GDP). Although domestic borrowing remains the main source of

[20] Unless stated otherwise, the GDP data used here and further were taken from the Cabinet of Ministers forecast on which the 2022 state budget is based.
[21] Introduced by Law No. 1914-IX *On Amendments to the Tax Code of Ukraine and Certain Laws of Ukraine Regarding the Balance of Budget Revenues.*

financing (UAH 420 billion, or 7.8% of GDP), considering large redemptions, the NBU estimates the growth in net borrowing in the form of hryvnia domestic government debt securities as moderate, at around UAH 65 billion. Taking into account the 100% rollover rate of FX domestic government debt securities (both principal and interest payments), this will further reduce the ratio of domestic government debt securities to deposits in banks' portfolios (to around 36%).

Figure 2. State budget balance



* The functional classification was used to calculate the primary balance of 2015–2020, and the program classification was used for 2021–2022.
Source: STSU, VRU, NBU staff estimates.

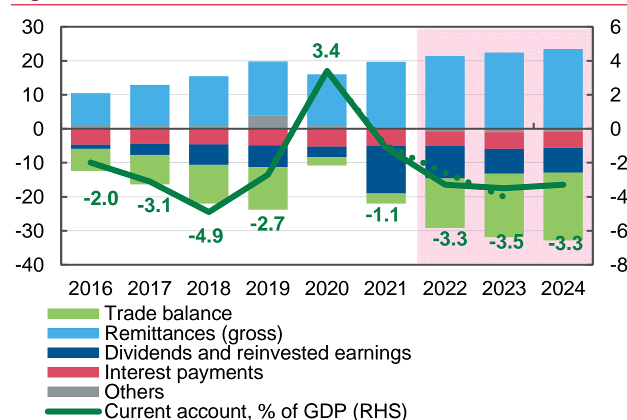
Significant support is expected from international organizations, the IMF and other IFIs. The cost of such borrowings is much lower compared to market instruments. At the same time, accessing international capital markets is also envisaged. However, it might be hampered in the short term by unfavorable external conditions – due to investors' interest in risky assets tending to decline globally in the wake of the normalization of the Fed's monetary policy, and due to high risk premiums for Ukraine spurred by the deteriorated information environment. In these circumstances, it is important to continue cooperating with the IMF. This will not only provide related financing from other partners, but will also help Ukraine return to the international capital markets more quickly after the geopolitical tensions ease.

The primary deficit for 2022 has narrowed to almost zero (from 0.9% of GDP in 2021) due to a moderate increase in total expenditures, against the backdrop of higher debt servicing costs. This points to the continuation of fiscal consolidation, which will lead to a further decline in the debt-to-GDP ratio. On the one hand, this should have a positive impact on investors' perception of the macroeconomic stability risks that are not related to the geopolitical tensions, as a low debt burden gives more room for conducting a countercyclical policy if the macroeconomic situation worsens. On the other hand, a tighter fiscal policy will restrain the still fragile recovery in economic activity.

2.5. Balance of Payments

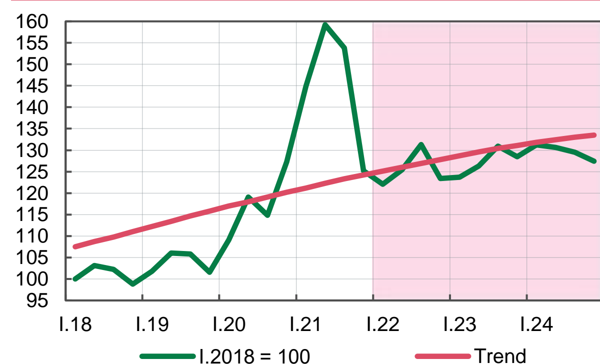
- In 2021, the current account returned to deficit, as expected. However, the deficit was smaller than its pre-crisis level thanks to favorable terms of trade. The widening of the deficit seen in late 2021 resulted from surging energy prices, weaker external demand for iron ores and metals, and record-high dividend payments.
- In 2022, the current account deficit will widen to 3.3% of GDP, propelled by high energy prices and a stronger REER of the hryvnia. After that, it will stabilize at 3.3% to 3.5% of GDP on the back of strong domestic demand.
- Despite investors' waning interest in emerging market assets in late 2021, the country, and especially its private sector, recorded a capital inflow. This, coupled with IMF financing, pushed international reserves up, to USD 31 billion. Further capital inflows, generated thanks to a tighter monetary policy and lower risk premiums, will maintain international reserves at USD 28 to USD 29 billion in 2022–2024.

Figure 2.5.1. Current account balance*, USD bn



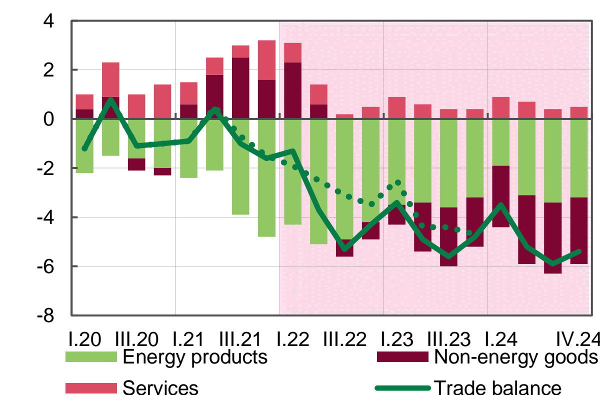
* Preliminary data for 2021.
Source: NBU staff estimates.

Figure 2.5.2. Terms of trade



Source: NBU staff estimates.

Figure 2.5.3. Trade balance*, USD bn



* Preliminary data for Q4 2021.
Source: NBU staff estimates.

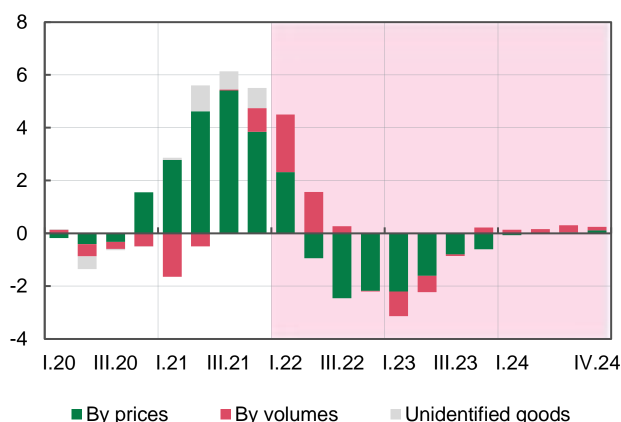
The current account posted a deficit in 2021 due to record-high reinvested earnings and dividend payments. This deficit will increase in the coming years, as usual driven by a widening in the merchandise trade deficit

The current account ran only a slight deficit of USD 2.3 billion or 1.1% of GDP in 2021. The return to deficit in the post-crisis period was to be expected. However, in contrast to previous periods, the deficit was caused by large reinvested earnings and record-high dividend payments, especially in Q4. Conversely, the deficit in the trade in goods, at USD 6.7 billion, was little changed on the previous year, in spite of there being robust domestic demand. Favorable terms of trade were responsible for both large investment income and the moderate trade deficit. On the one hand, this enabled foreign-invested companies to generate substantial profits and, consequently, large reinvested earnings and dividends. On the other hand, coupled with a bumper harvest, this supported buoyant export growth. Labor migrants' remittances also helped restrain the widening of the current account deficit. Remittances grew by 25% over the year, fueled by the re-opening of borders and the recovering economies of recipient countries. The current account deficit widened rapidly in H2. More specifically, the deficit in the trade in goods increased amid higher energy prices and weaker external demand for iron ores and metals. Despite a further rise in exports of IT services, the surplus in services trade narrowed due to the gradual revival of foreign travel.

In 2022, the current account deficit will widen to 3.3% of GDP. The widening will be mainly driven by high import prices for energy and fertilizers, as well as by the need to renew gas and coal stocks. Imports of other products, such as machinery and food, will also grow, propped up by the hryvnia's stronger REER and a further increase in domestic demand. Dividend payments will remain high. That said, they will contract compared to 2021, dragged down by companies' lower profits resulting from falling export prices and a poorer harvest of grain and oilseeds. In 2023–2024, the current account deficit will stabilize at 3.3% to 3.5% of GDP, which is close to the equilibrium level[22]. A fall in energy prices will be offset by a gradual drop in export prices for commodities. A lower grain and oilseed harvest compared to the 2021 record harvest, due to, among other things, shortages of fertilizers, and the revival of imports of travel services will be offset by a rise in exports of IT services and labor migrant's remittances.

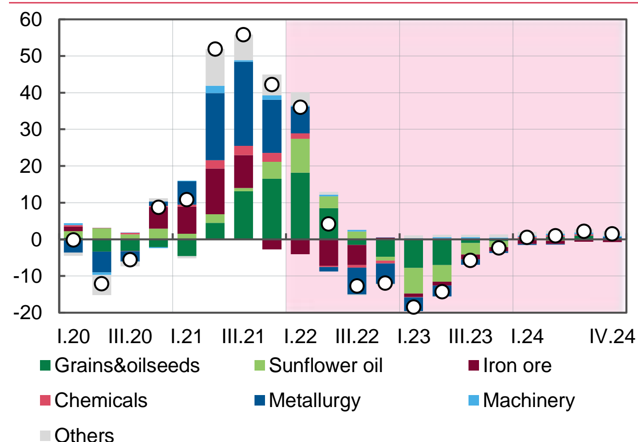
[22] Read more in the Box "The Current Account Norm: Estimates for Ukraine" in the July 2021 Inflation Report on pages 42-43.

Figure 2.5.4. Absolute annual change in prices and volumes of merchandise exports*, USD bn



* Preliminary data for Q4 2021.
Source: SCSU, NBU staff estimates.

Figure 2.5.5. Contributions to annual change in merchandise exports*, pp



* Preliminary data for Q4 2021.
Source: NBU staff estimates.

Compared to the previous forecast, the current account deficit has been revised upward for 2022 and downward for 2023. This adjustment for 2022 resulted mainly from higher prices and volumes of energy imports and larger dividend repatriations. Meanwhile, the lower deficit in 2023 was caused by higher estimates for harvest, grain prices, labor migrants' remittances, and exports of IT services.

Exports of goods grew rapidly in 2021, fueled largely by high prices. The price correction seen in late 2021 and a gradual fall in prices will worsen export performance in future

High global commodity prices affected exports more than imports. This was due to the higher volatility of commodity prices compared to prices for higher value-added goods, robust external demand for commodities on the back of rebounding global economic activity and disruptions in global supply chains, as well as due to a larger share of commodities in Ukrainian exports compared to imports. Overall, exports of goods expanded by 39.8% yoy in 2021, propelled mainly by prices. More specifically, the value of iron ore exports hit an all-time record for two years in a row, while metals exports almost reached the level of 2013. That said, the correction in global prices seen in Q4 resulting from falling demand from China decreased iron ore exports, while also slowing growth in metals exports. What is more, in late 2021 metals exports were depressed by repairs at metallurgical plants and by shortages of coking coal.

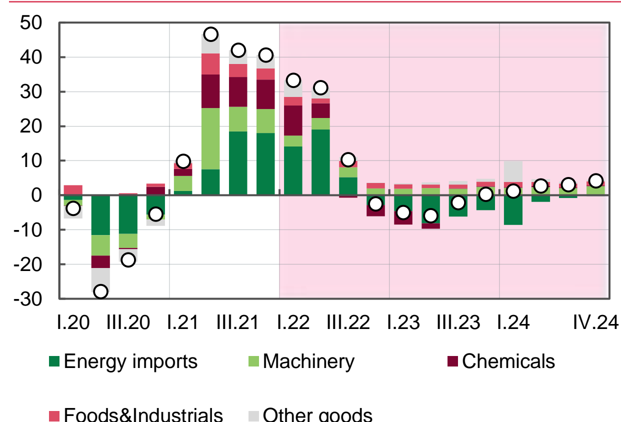
The bumper grain harvest was an important factor supporting exports in H2. Despite the later start of corn sales, in Q4 grain exports, together with overall food exports, had already hit an all-time high, driven by exports of wheat and barley. However, in late 2021 growth in food exports was restrained by more intense competition on the global soy market and problems with railway transportation. Chemical exports continued to grow at a fast pace, fueled by high prices. Machinery exports also increased, driven mainly by exports of some equipment to CIS countries.

Despite a correction in global commodity prices, exports of goods will continue to rise in 2022 due to the 2021 bumper harvest of grain and sunflower seeds. In 2023–2024, export growth will be dampened by a further correction in global prices, more intense competition on the external markets for iron ores and metals, and a lower grain harvest. Conversely, machinery and chemical exports will rise at a steady pace. In addition, exports of services, in particular IT services, will continue to grow.

Imports grew at a fast pace, propelled by more buoyant domestic demand and surging energy prices. These factors, together with a stronger REER, will continue to drive imports on the forecast horizon

In 2021, imports of goods rebounded rapidly (by 34.5% yoy), fueled by both energy and non-energy components. A pick-up in companies' investment activity led to a rapid recovery in machinery imports throughout the whole year. More specifically, companies ramped up their purchases of industrial equipment, agricultural machinery and trucks. Global shortages of semiconductors had no material impact on imports of new and used cars – these imports exceeded

Figure 2.5.6. Contributions to annual change in merchandise imports*, pp

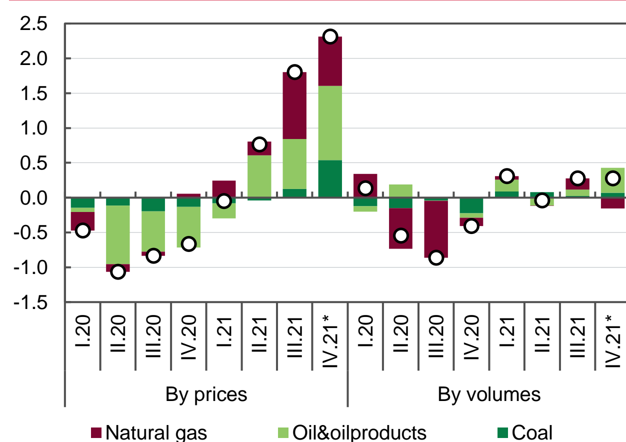


* Preliminary data for Q4 2021.
Source: NBU staff estimates.

Figure 2.5.7. Imports by BEC, % yoy

Source: NBU.

Figure 2.5.8. Absolute annual change in imports of selected energy products, USD bn



* Preliminary data for Q4 2021.
Source: SCSU, NBU staff calculations.

the level of 2019. This was, among other things, due to the new round of preferential customs clearance of foreign-registered motorcars. Although growth in consumer goods imports slowed in late 2021, in particular due to tighter quarantine restrictions, sustained consumer demand supported high purchase volumesof foods, industrial goods, and household appliances throughout the year. Reviving economic activity also pushed up imports of intermediate goods – some foods, machinery and chemicals. Higher energy prices also contributed to the growth in chemical imports. Surging energy prices were primarily responsible for the persistently high import growth seen in H2. Volumes of energy imports also increased. More specifically, imports of petroleum products spiked on the back of active harvesting and sowing campaigns and the emergency shutdown of Kremenchuk oil refinery. The need to replenish critically low stocks at thermal power plants stimulated growth in coal imports. Falling purchases of natural gas because of exorbitant gas prices somewhat curbed the growth in energy imports.

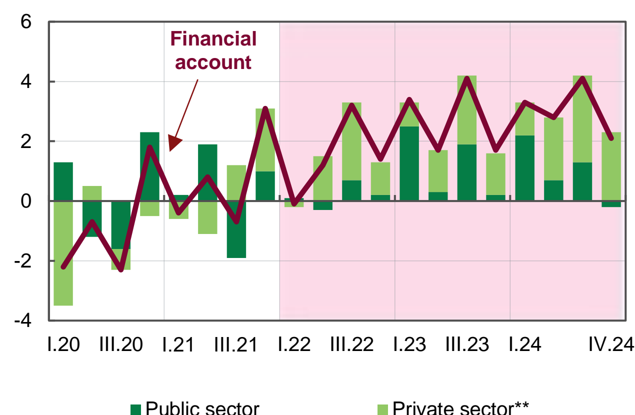
In H1 2022, imports of goods will continue to be mainly driven by high energy prices and the need to replenish coal and gas stocks. In H2, import growth will decelerate noticeably on the back of a correction in gas prices, which will outweigh the impact of the steady strengthening of the hryvnia's REER and rising domestic demand. Domestic demand will be mainly responsible for the ongoing growth in non-energy imports, largely machinery and food imports.

In spite of more intense competition on the external markets, Ukraine will continue to witness capital inflows thanks to the NBU's tight monetary policy and lower risk premium

Despite the decline in investors' interest in EM assets in late 2021, Ukraine's financial account recorded considerable capital inflows in Q4. As a result, the financial account in 2021 as a whole recorded a net inflows More specifically, the government received official financing from its international partners as well as other funds. In late 2021, Ukraine received the next tranche from the IMF, a macro-financial assistance package from the EU, and a loan from the World Bank. This offset the capital outflows that resulted from nonresidents' withdrawal from hryvnia domestic government debt securities in H2. The private sector placed Eurobonds and increased its liabilities under trade credits. Although declining considerably in late 2021, reinvested earnings were a main source of capital inflows to the private sector in 2021.

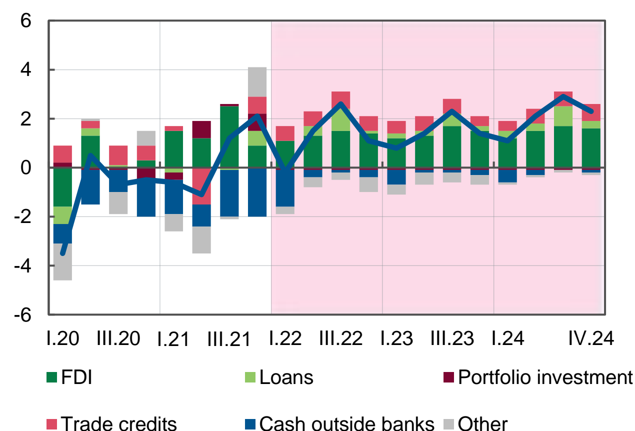
Despite expectations of more intense competition among EMs for capital, the inflows to the private sector are projected to increase moderately in 2022–2024. The inflows will be stimulated by lower risk premiums on the back of a gradual de-escalation of geopolitical tensions, and by a tighter monetary policy. These same factors will gradually revive nonresidents' moderate interest in domestic government debt securities. That said, FDI inflows will remain rather restrained amid an unfavorable investment climate. The gradual de-escalation of geopolitical tensions and continued cooperation with the IMF will ease Ukraine's access to the international capital markets. What is more, this will help reduce uncertainty about Ukraine's economic policy and the

Figure 2.5.9. Financial account*: net external liabilities, USD bn



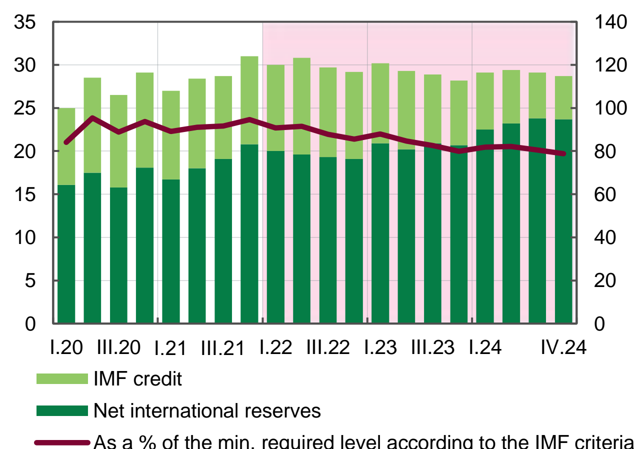
* Preliminary data for Q4 2021.
** Including net errors and omissions.
Source: NBU.

Figure 2.5.10. Private sector*: net external liabilities**, USD bn



* Including net errors and omissions.
** Preliminary data for Q4 2021.
Source: NBU.

Figure 2.5.11. Gross international reserves



Source: NBU staff estimates.

vulnerability of the country's economy, which will decrease risk premium. This in turn will ensure that the cost of financing the budget deficit remains at an acceptable level in the coming years.

Financial account inflows have been almost unchanged on the previous forecast: the downward revision in FDI for 2022 will be offset by an increase in companies' trade and short-term loans for importing goods and services.

International reserves will hover between USD 28 and USD 29 billion in 2022–2024

Ukraine's external position remains sustainable. Although in 2021 gross external debt remained almost unchanged in absolute terms, its relative indicators improved thanks to a significant increase in nominal GDP. By late Q3, the debt had shrunk to 69% of GDP. A drop in the debt of the private sector offset an increase in the liabilities of the government sector, which was mainly generated by the funds Ukraine raised through the SDR allocation. These funds and Ukraine's active cooperation with its international partners enabled the country not only to smoothly traverse through a period of large FX debt repayments, but also to augment its reserves. By late 2021, reserves had increased to USD 30.9 billion, covering 3.8 months of future imports and standing at about 95% of the required minimum according to the IMF's ARA (Assessing Reserve Adequacy) metric.

Looking ahead, reserves will decrease to USD -28–29 billion as the government will borrow less to finance smaller budget deficit. At that level, reserves will hit 80% to 90% of the required minimum according to the IMF's ARA metric.

Box 3.CBAM: Threat for Ukraine or Chance to Upgrade Economy?

In 2021, the EU presented a design for environmental policy reform. For Ukraine, its most important part is the Carbon Border Adjustment Mechanism (CBAM), which will apply to around 20% of goods exported from Ukraine to the EU, thus directly influencing export dynamics. If the country's production technology is not upgraded, Ukraine will lose around USD 100 million per year on exports due to the CBAM, with the largest losses incurred by electricity generation and the metallurgy. However, losses could be greater, as the current mechanism is up for revision in February 2022, and similar regulation mechanisms are being put in place in other countries. A transition period is envisaged to allow third countries to adapt to the new rules and green their production, and thus avoid losses.

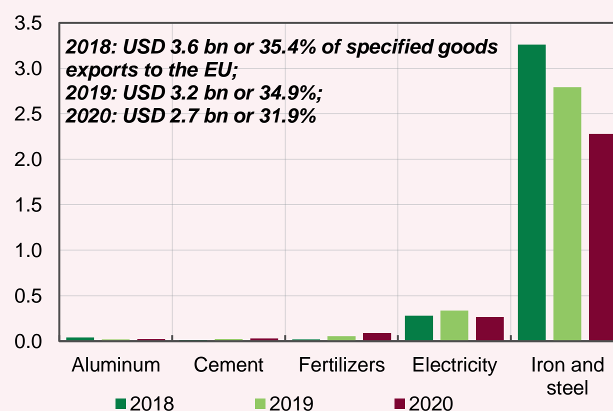
CBAM's essence and goals. In 2019, the EU approved an ambitious strategy, the European Green Deal (EGD). It aims to make Europe the first climate-neutral continent by 2050. The EGD includes the reform of the Emissions Trading System (ETS), which has applied to European producers since 2005. This instrument has a system of free allowances ; then, once they are used up, producers need to buy emission allowances at an auction. Funds received from the auctions can be allocated for ecological modernization of production. However, the free allowances provided in the EU ETS have made green investing sluggish inside the EU and create no incentives for them outside the union. The auctions influence prices of goods manufactured by European producers only, as importers do not participate.

In July 2021, the European Commission published the *Fit for 55* package of legislative proposals. The CBAM is one of its key elements. Its ultimate goal is to equalize carbon prices for European producers that are already buying allowances through the EU ETS with prices for importers. Effectively, this mechanism has widened the application of the EU ETS to cover imported goods. A direct obligation to make CBAM payments will be imposed on companies that import goods to the EU, but not on exporters. Importers will be obliged to buy special CBAM certificates from authorized state bodies. The price of certificates will be set once a week, calculated as the average auction price of emission allowances traded in the EU ETS.

Nevertheless, the CBAM envisages a transition period. In 2023–2025, importers will only have to report on a monthly basis to EU special authorized bodies about import volumes, direct and indirect emissions of carbon dioxide, and carbon taxes paid abroad. That said, third-country exporters can provide European importers with verified actual data about carbon dioxide emissions for calculating CBAM payments. If such data are unavailable, standard benchmarks will be applied. The full scale implementation of the CBAM is planned for 2026. It will take account of direct carbon dioxide emissions only – meaning emissions that occur directly in the process of manufacturing final products.

CBAM's scope of application. According to the European Commission Regulation, the CBAM will apply to five types of products: iron and steel, electricity, fertilizers, cement, and aluminum. Goods belonging to these groups accounted for around 20% of exports from Ukraine to the EU, averaging USD 3.2 billion per year in 2018–2020. Iron and steel made up the lion's share of this amount.

Figure 1. Exports to the EU of goods covered by the CBAM, USD bn



Source: NBU staff estimates.

Article 31 of the CBAM Regulation is the critical one for third countries, as it stipulates that the number of CBAM certificates needed by importers will depend on the distribution of free allowances in the EU ETS. Therefore, importers will make CBAM payments in proportion to the share of emissions actually paid by European producers within the EU ETS. According to data from the European Environment Agency, in 2020, allowances for only 4% of actual emissions were bought by metallurgical companies, 11% by cement producers, and around 20% by producers of fertilizers and aluminum. The rest of the emissions were covered by free allowances. The mechanism will be used until 2036, but volumes of free allowances will decrease by 10% every year. This will allow third countries to adapt to the new rules and will restrain growth in the cost of imported products. Electricity is an exception, with almost no free allowances provided.

Determining CBAM payments for Ukraine. A number of studies have been carried out in Ukraine[23] that showed how CBAM payments varied depending on the calculation method (taking into consideration the provisions of Article 31, allocation of allowances, pass-through to final price, etc.). In its calculations, the NBU used average supplies of respective groups of goods for 2018–2019. It is assumed that the carbon intensity of goods production will remain at the level of 2019–2020[24] and the legislative framework will not change. Two variants of CBAM certificate price were used: the actual carbon allowance price in the EU ETS in Q4 2021 (USD 78.8

[23] Studies by the Kyiv School of Economics, GMK Center, Resource & Analysis Center "Society and Environment", and many more.
[24] As the Greenhouse Gas Emissions Monitoring, Reporting, and Verification System was launched in Ukraine only at the start of 2021, official data on carbon dioxide emissions are not yet available. Data from Ukraine's Greenhouse Inventory 1990–2019 were used as minimum benchmarks of carbon intensity, and data from GMK Center consulting company were used as the maximum benchmarks.

per tonne of carbon dioxide) and an adjusted consensus forecast[25] of the price in 2026 (USD 95.2 per tonne). Taking into account the provisions of Article 31 of the CBAM regulation and the schedule for canceling free allowances, it is assumed that certificates will need to be bought in 2026 for 20% of iron and steel exported to the EU, 25% of cement, 30% of fertilizers and aluminum, and 100% of electricity supplies.

Table 1. Estimated CBAM payments for Ukrainian exports in 2026, USD m*

Sector	Exports to EU, m t	Emissions (min-max), t CO_2/t	EU ETS price – USD 78.8/t CO_2		EU ETS price – USD 95.2/t CO_2	
			Payments (min)	Payments (max)	Payments (min)	Payments (max)
Iron and steel	5.7	1.8–2.3	158.6 (793.1)	207.3 (1 036.5)	191.6 (958.2)	250.4 (1 252.2)
Aluminum	0.0	4.0–11.5	0.9 (4.6)	2.6 (13.2)	1.1 (5.5)	3.2 (15.9)
Fertilizers	0.2	1.41–2.0	4.1 (20.6)	5.9 (29.3)	5.0 (24.9)	7.1 (35.4)
Electricity, MWh	5.4	1.0–1.1	424.6	467.0	512.9	564.2
Cement	0.5	0.5–0.9	4.0 (20.2)	6.7 (33.3)	4.9 (24.4)	8.0 (40.2)
Total	–	–	**592.3 (1 263.1)**	**689.5 (1 579.3)**	**715.5 (1 526.0)**	**833.0 (1 907.9)**

In parentheses is the cumulative value of CBAM payments in 2035, when it will be applied to the entire volume of imports.
* The average EUR/USD exchange rate for Q4 2021 was used for the forecast horizon.
Source: GMK Center, Ukraine's Greenhouse Inventory 1990-2019, forecasts of international organizations, NBU staff calculations.

Therefore, CBAM payments by importers that buy Ukrainian goods will be USD 600–800 million in 2026, depending on carbon prices and the carbon intensity of production. Since CBAM payments will be made by importers, their impact on Ukrainian exports will be similar to the custom duty: a part of the payment will pass through to final consumer prices, and the other will lead to a drop in supplies or a decline in exporters' margins. At the same time, losses from the CBAM will be uneven across groups of goods.

Electricity. Given the current supply model and carbon intensity, the price of Ukrainian electricity would be more than double the EU's import price as a result of the CBAM implementation. This would halt electricity supplies to the EU. However, Ukraine plans to join ENTSO-E in 2023, having undertaken to discontinue coal-fired power generation by 2030. A reduction in the share of thermal power generation – which currently prevails in supplies and has a large carbon footprint (up to around 10%) – would limit electricity export losses to USD 42–56 million per year.

Metals industry. A gradual cancelation of free allowances for European metallurgical companies will proceed in parallel with an increase in the number of certificates bought by steel importers. This mechanism will not have much influence on the competitiveness of Ukrainian metals on the EU market, for several reasons. First, CBAM payments will be covered mostly at the expense of the final consumer. Second, although the environmental tax is lower in Ukraine, unlike in the EU it is paid by all producers. In addition, the gradual cancelation of free allowances gives more room for a pass-through to final consumer prices. As a result, CBAM-related losses of the Ukrainian metallurgy could reach around USD 30–50 million per year. At the same time, an increase in the final price of metal products by up to 10% per year would lead to a decrease in demand from the EU.

Other. As cement production has low carbon intensity, fertilizer production depends on natural gas prices, and Ukraine has almost no aluminum production, the impact of such mechanism will have a minimum impact on exports of these goods.

Ukraine's prospects and next steps. The total potential losses of Ukrainian exports from the CBAM format proposed by the EU are estimated as moderate, at around USD 100 million per year from 2026 and on. However, the losses may turn out much larger. For one reason: a scheduled meeting of the European Commission is planned for February 2022 to consider tightening the CBAM through widening the list of covered goods, factoring in indirect emissions, more rapidly cancelling free allowances, and shortening the transition period. For another: the other main trading partners of Ukraine (China and the United States) plan to develop similar mechanisms that might be even more stringent for third countries. Finally: it is realistic that other countries that are Ukraine's competitors on the global market might increase their efforts to upgrade production, which would give them a competitive advantage over Ukraine, particularly taking into account systemic underinvestment seen in previous years.

In order to reduce the negative impact of the CBAM on exports, Ukraine needs to take measures to decarbonize its economy and upgrade production. The key measure is to implement a national emissions trading system that would comply with Directive 2003/87/EU. This mechanism would allow CBAM-related losses to be cut, and the funds saved to be allocated to green modernization. Due to the CBAM, Ukrainian companies (in particular, in the metallurgy and mining sector) are already actively considering ways to reduce carbon intensity. At the same time, the role of the state is critical in the context of decarbonization – in particular, with regard to planning and accumulating the resources needed to implement the Updated Nationally Determined Contribution of Ukraine under the Paris Agreement. Taking into account the transition period, the CBAM could become a powerful driver for upgrading Ukrainian manufacturing.

[25] The consensus forecast of international organizations for 2030 was used. The price for 2026 was calculated on the basis of the assumption that it would rise evenly throughout 2021–2030.

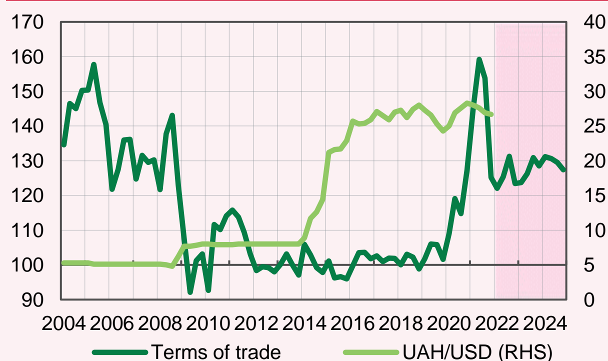
Box 4. Commodity Terms of Trade and Monetary Policy

Ukraine is a small open economy that has a substantial share of commodities in its external trade. That is why global market conditions have a significant bearing on Ukraine's GDP, exchange rate, inflation and, ultimately, monetary policy decisions. To quantify this impact, the NBU calculates a commodity terms-of-trade index, which is based on the largest groups of Ukraine's exports and imports.[26] At the same time, the same changes in terms of trade may have a different impact on inflation, depending on the nature of the shock and the magnitude of direct and indirect effects. Monetary policy recommendations in these cases will differ accordingly.

Given a fixed exchange rate, changes in terms of trade are asymmetrical for monetary policy. The asymmetry arises from various responses to shocks on the FX market. If terms of trade improve, export earnings and output rise, bolstering domestic demand. Central banks can rein in the strengthening of the domestic currency by intervening to purchase FX for a rather long time. However, such interventions result in the additional issue of domestic currency, driving up inflation. For instance, the 2005–2008 boom on the commodity markets increased inflation in Ukraine, which was not offset by a strengthening of the hryvnia, which would have been the case if the exchange rate had been flexible.

If terms of trade produce a negative shock, export earnings drop. To counteract depreciation pressures, central banks can sell FX but only within the available amount of the international reserves. . Once the reserves are depleted or decreased to a critically low level, a fixed exchange rate leads to a currency crisis and a significant depreciation. This happened in Ukraine in late 2008 (see Figure 1). Therefore, terms of trade shocks are mostly pro-inflationary in the case of a fixed exchange rate.

Figure 1. Terms of trade index (I.18 = 100) and exchange rate



Source: NBU staff estimates.

In contrast, a flexible exchange rate provides the economy with a built-in mechanism for balancing terms of trade changes. But its effect varies depending on the nature of the price shock. The monetary policy response depends on whether or not the price of a given commodity has a direct impact on the CPI. For instance, a change in wheat prices has a direct impact on the price of flour and flour products, while a change in gas prices has a direct influence on utility tariffs.

If there is no direct impact on consumer prices, a change in the exchange rate and aggregate demand becomes the main channel. More specifically, if metal prices rise (see Figure 2), a stronger exchange rate decreases imported inflation. At the same time, larger earnings generated by exporters help boost investment growth and productivity. While accelerating economic growth, this also increases inflation pressures over time, which partly offsets the appreciation effect. Other conditions being equal, a flexible exchange rate stabilizes the economy and decreases inflation.

If the prices of some particular foods (such as grain and oilseeds) rise, central banks also factor in the direct effect of global prices on domestic prices. Direct pro-inflationary effect prevails over the first three quarters (see Figure 2). Once this effect fades away, the effect of a stronger exchange rate intensify. Due to the direct impact of global prices on the CPI, monetary policy is more restrained in the short term than it would be if there were no direct impact, so the positive effect on GDP will be somewhat smaller.

The rapid improvement in terms of trade in 2021 (see Figure 1) resulted not only from higher prices on the global commodity markets, but also from changes in the composition of the trade in commodities that occurred in recent years. The share of exports has risen due to, among other things, gains in crop productivity, while the share of imports has declined, in particular thanks to improved energy efficiency. The ratio of commodity exports to commodity imports[27] grew from 1.2 on average in 2010–2014 to 2.2 in 2015–2021. That is why the rise in commodity prices seen in 2021 rapidly improved terms of trade for Ukraine. This helped strengthen the exchange rate of the hryvnia and curbed inflation. If Ukraine had had a fixed exchange rate, inflation would have been higher and the central bank would have had to respond with a tighter monetary policy.

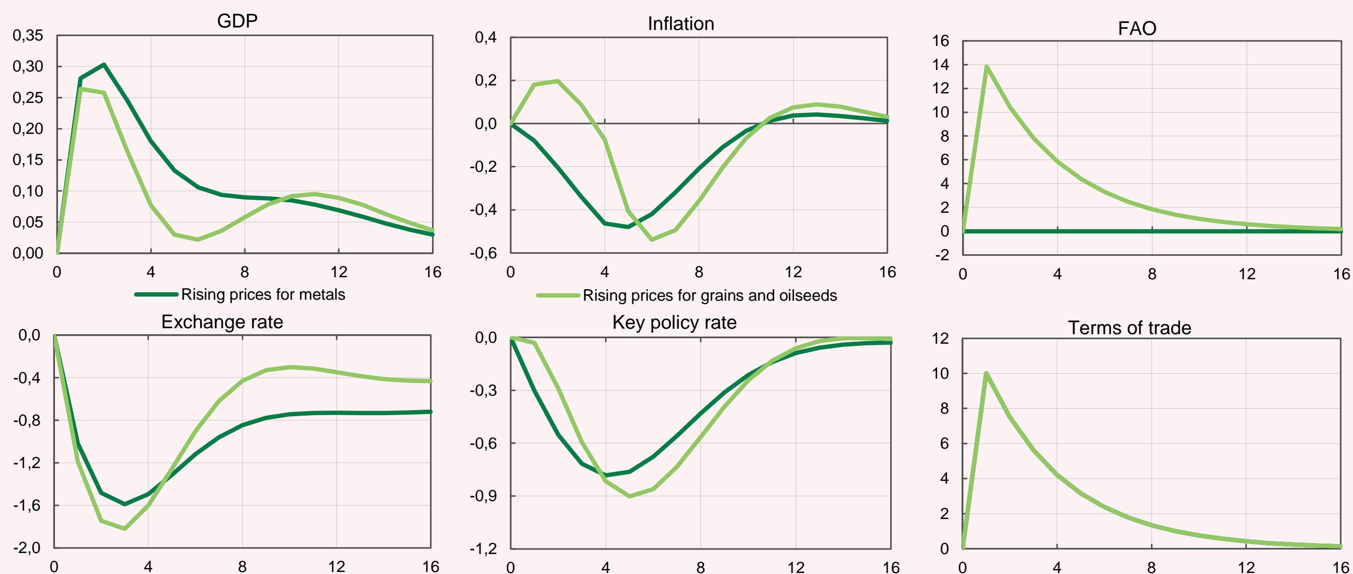
Terms of trade are expected to worsen in 2022 on the back of lower export prices and high energy prices. On the one hand, a drop in export prices, in particular those of food, will ease pressures on domestic prices. On the other hand, pressures from high energy prices will remain, while worsened terms of trade will affect the FX channel. As a result, the NBU will have to tighten its monetary policy. Terms

[26] The terms of trade index, which is calculated using Paasche's method, shows not only changes in prices, but also changes in the structure of external trade. It is calculated on the basis of export prices for grain, sunflower oil, ore, ferrous metals (the four largest subgroups), as well as import prices for coal, oil and petroleum products and natural gas.
[27] Only those commodities that were used to calculate the terms of trade index.

of trade will be little changed in 2023–2024 and will have a neutral impact on monetary policy decisions.

Movements in the aggregate terms of trade index can be used to evaluate the impact of global prices on economic activity. However, a full understanding of their effect on inflation and an appropriate monetary policy response requires an analysis of changes in separate index components, together with their direct and second-round effects on inflation. That is why the monetary policy response will vary depending on changes in the prices of certain goods and on whether or not they have a direct or second-round effect on inflation.

Figure 2. Impulse response functions of the main macroeconomic variables to the 10% shock of terms of trade due to rising prices of grain and sunflower oil or metals

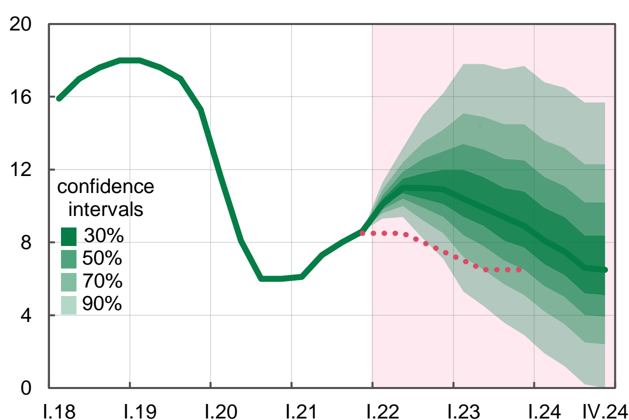


Source: NBU staff estimates.

2.6. Monetary Conditions and Financial Markets

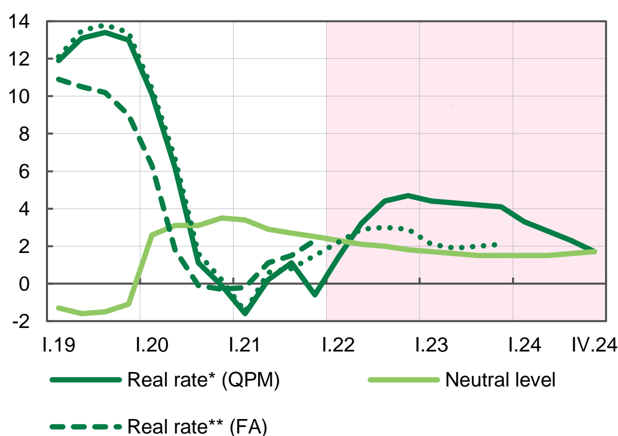
- Pro-inflationary risks that have materialized require the NBU to respond by raising its key policy rate further and to start conducting a tight monetary policy in H1 2022.
- The NBU will begin cutting the key policy rate no sooner than late 2022. But even despite the key policy rate cuts, the monetary policy stance will remain moderately tight over the entire forecast horizon.
- The weakening of the hryvnia's exchange rate in late 2021 resulted mainly from a deterioration in the information environment amid geopolitical tensions. In contrast, the hryvnia's REER strengthened further due to higher inflation in Ukraine and the weakening of the currencies of Ukraine's trading partners. The REER will continue to trend upward, driven by productivity gains, the convergence of wages, and expected capital inflows on the back of a tighter monetary policy and a decrease in risk premiums resulting from the de-escalation of tensions.

Figure 2.6.1. Key policy rate, average, %



Source: NBU staff estimates.

Figure 2.6.2. Real interest rate and its neutral level, %



* Deflated by inflation expectations that are based on the QPM.
** Deflated by 12-month ahead inflation expectations of financial analysts.
Source: NBU staff estimates.

A tighter monetary policy is the NBU's response to greater pro-inflationary challenges

The materialization of certain pro-inflationary risks, such as stronger geopolitical tensions, longer-lasting and higher inflation in Ukraine's partner countries, and a surge in energy prices, forced the NBU to continue its monetary policy tightening cycle. The key policy rate was raised by 0.5 pp in December, to 9.0%. With a view to offsetting materialized and existing pro-inflationary risks, improving inflation expectations, and ensuring that inflation steadily declines to its 5% target, the NBU will have to further tighten its monetary policy in 2022.

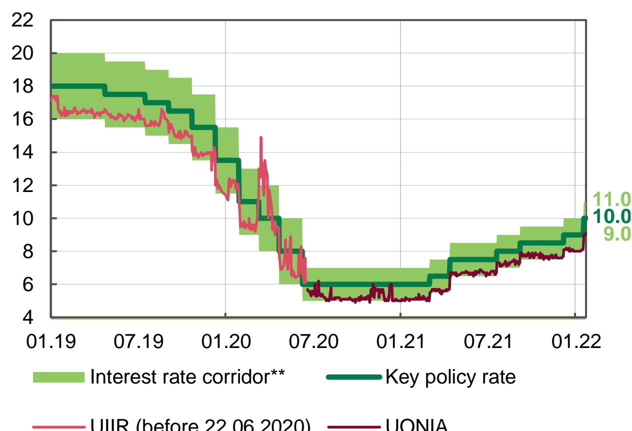
In particular, at its January monetary policy meeting, the NBU Board increased the key policy rate by 1 pp, to 10%. The decision was taken in response to the materialization of many pro-inflationary risks, which required the NBU to tighten its monetary policy. In H1 2022, the central bank is expected to make a transition to moderately tight monetary conditions. The key policy rate will be kept at a high level longer and will be decreased more slowly than projected earlier. According to the current forecast, the NBU will begin cutting the key policy rate no sooner than late 2022. As a result, moderately tight monetary conditions will persist until the middle of 2024.

The tight monetary policy will prevent an inflationary spiral in 2022, while also helping bring inflation back to its 5% target in 2023. It will also partly offset higher risk premium resulting from geopolitical tensions and improve Ukraine's competitive edge over other EMs on the international capital market.

Interest rates on hryvnia loans and deposits will gradually rise, pushed up by the higher key policy rate

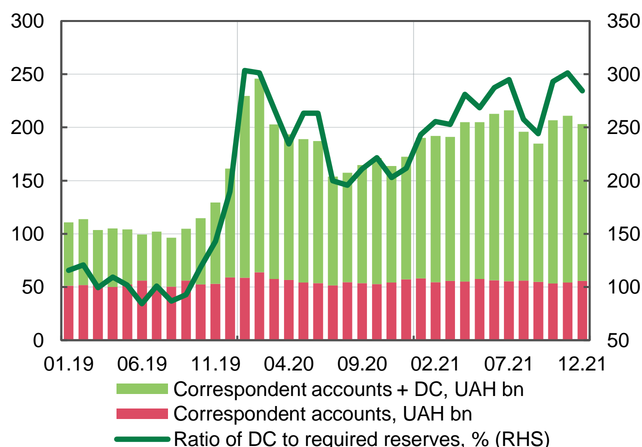
Interest rates on the interbank market increased in 2021, correlating closely with the dynamics of the key policy rate. At the same time, persistently high liquidity in the banking system kept the Ukrainian Overnight Index Average (UONIA) almost at the level of the lower bound of the NBU's interest rate corridor. The NBU updated the approaches to calculating the index, effective from January 2022. Among other things, the new approach helps offset the risk of an excessive potential impact on the indicator that may be caused by small-volume deals of certain banks at rates that substantially differ from the average market ones.

Figure 2.6.3. NBU policy rates and UIIR/UONIA*, %



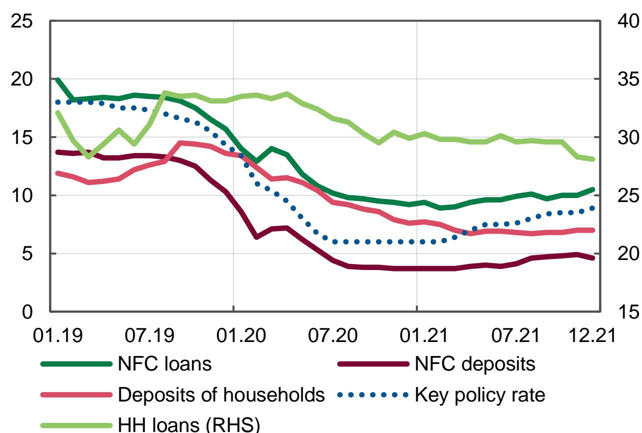
* As of 25.01.2022.
** Upper bound – interest rate on overnight loans, lower bound – overnight CDs.
Source: NBU.

Figure 2.6.4. Liquidity of the banking system, monthly average



Source: NBU.

Figure 2.6.5. Weighted average interest rates on new hryvnia loans and deposits, %



Source: NBU.

The banking system's liquidity expanded in Q4 2021 – the average daily balances of correspondent accounts and certificates of deposit stood at around UAH 207 billion (up from UAH 199 billion in Q3). A spike in government spending, which often occurs at the end of year, was mainly responsible for the liquidity growth. That said, budgetary spending that was deferred practically until the last days of 2021, coupled with the usual rise in demand for cash, created sporadic financing needs for some banks even in early December.

A substantial structural surplus of liquidity in the banking system is weakening the effect of monetary transmission through the interest rate channel. To shore up the interest rate channel of monetary transmission by managing the structural liquidity surplus in the banking system, the NBU in February will raise by 2 pp the required reserve ratio for current accounts denominated in hryvnias and for FX deposits. This will encourage banks to take longer-term deposits, while also maintaining the role of required reserves in dedollarization. The NBU estimates that this increase in required reserves will lock up around another UAH 25 billion of the banks' free liquidity. In March, the central bank will also consider introducing other measures to regulate the banking system's structural liquidity surplus.

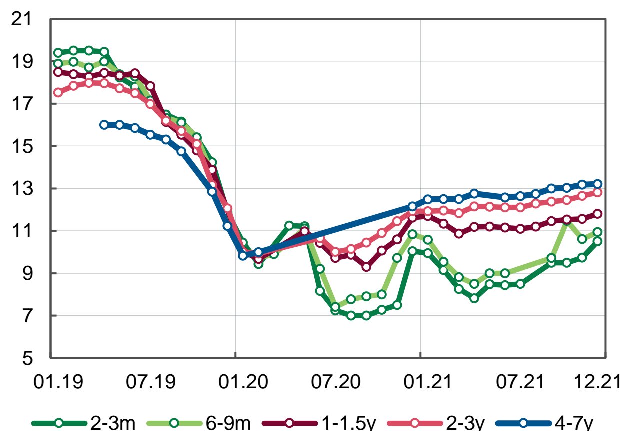
Interest rates on loans and deposits were also gradually responding to the key policy rate hikes. That said, given substantial liquidity in the banking system and a sluggish response from the state-owned banks, the policies of which play a crucial role on the deposit market, interest rates on hryvnia household deposits started to respond to the key policy rate hikes with a significant lag and rather slowly – they increased by 0.25 pp (by 0.6 pp for term deposits) from August through December 2021. Movements in the indicative rate, the Ukrainian Index of Retail Deposit Rates show that this trend persisted into early 2022. Interest rates on deposits from nonfinancial corporations responded somewhat more quickly, by rising by 0.9 pp in 2021. This was attributed to stronger competition for funding, as interest rates on this funding are rather low – significantly lower than those on household deposits.

Interest rates on loans, especially those on short-term ones, to nonfinancial corporations remained sensitive to changes in the key policy rate. The weighted average interest rate on hryvnia loans increased from 9% in March (when the monetary policy tightening cycle started) to 10.5% in December. Interest rates on household loans continued to be mainly driven by market conditions. More specifically, special offers made by some large banks and people making active use of the grace periods during sales and holidays resulted in a noticeable decrease in the weighted average rate in November–December.

The government's high financing needs pushed up yields on hryvnia domestic government debt securities, while also reviving this segment of the market

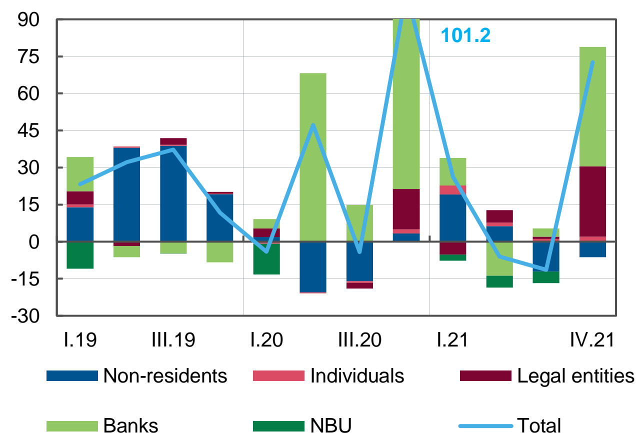
Yields on domestic government debt securities have been gradually rising for all maturities since September, driven by

Figure 2.6.6. The primary market yields on hryvnia domestic government debt securities, monthly weighted average, % per annum



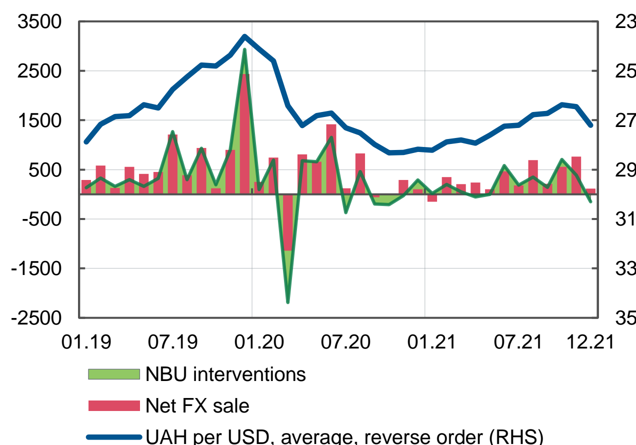
Source: NBU.

Figure 2.6.7. Change of outstanding hryvnia domestic government debt securities in circulation by holders, UAH bn



Source: NBU.

Figure 2.6.8. Net FX cash and non-cash* sale by bank clients, USD m



* Tod, Tom, Spot.
Source: NBU.

the government's high financing needs. Higher yields on longer maturities most likely resulted from worsening inflation expectations. Domestic investors remained the main buyers of hryvnia domestic government debt securities in Q4 2021. With the unfavorable information environment persisting, foreign investors are not expected to show interest in hryvnia domestic government debt securities in the near future. If the security situation de-escalates gradually, capital inflows could resume in H2, however even then the inflows will be rather restrained due to expectations of high risk premium.

Considerable financing needs forced the government to place large amounts of domestic government debt securities for short periods (up to six months), increasing the debt burden in H1 2022. Tighter monetary conditions, both globally and in Ukraine, are expected to further push up yields on government securities.

A deteriorating information environment and geopolitical tensions negatively affected the FX market in late 2021

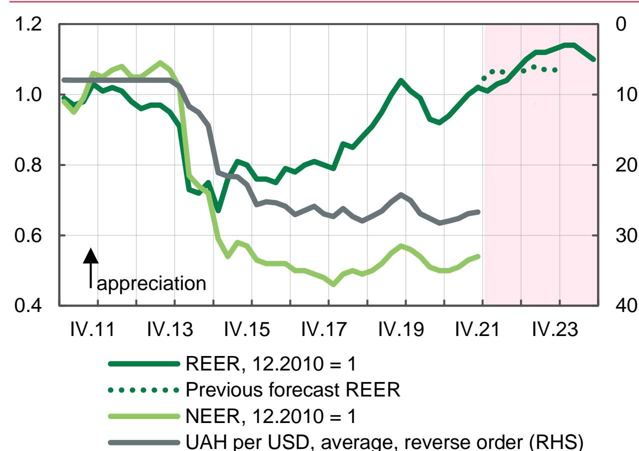
In Q4 2021, the FX market experienced alternating periods of appreciation and depreciation, which increased the volatility of the UAH/USD exchange rate. The NBU intervened in the market both to purchase and sell FX. In Q4 2021, the NBU was a net buyer of USD 0.9 billion, mainly thanks to favorable conditions in October and the first half of November. Media reports' amplifying messages about the possibility of military aggression have significantly reduced the risk appetite for Ukrainian assets, while also putting depreciation pressures on the hryvnia. Under such conditions, the NBU decided to refrain, in the coming quarters, from scheduled daily interventions to purchase FX with a view to replenishing reserves.

In Q4 2021, the main sellers of foreign currency were agricultural businesses, the metals-and-mining sector, and large state-owned companies. Earnings from IT services exports and growth in migrants' remittances also generated the supply of foreign currency. At the same time, there was an increase in purchases of foreign currency for dividend repatriations.

The official UAH/USD exchange rate dropped by 2.6% in Q4 2021. In spite of that, the exchange rate remained stronger in annual terms. The hryvnia's REER also strengthened due to inflation in Ukraine being higher than that in its trading partners.

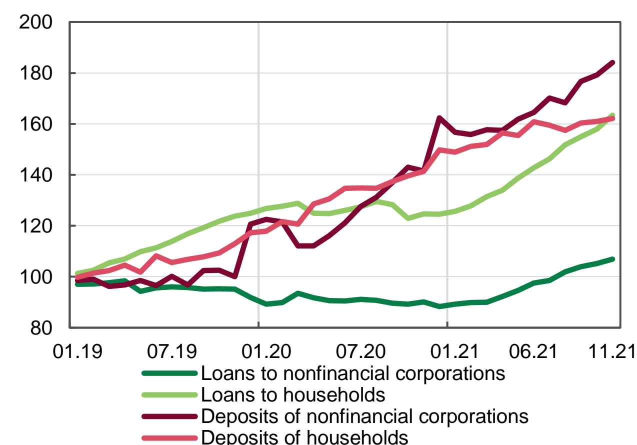
The REER will continue to trend upward in 2022–2023, driven by productivity gains in the economy, the convergence of wages on the back of labor migration, and capital inflows generated by a tighter monetary policy and lower risk premiums. The NBU estimates that the hryvnia's REER was close to its equilibrium level in late 2021. However, it will strengthen over the forecast horizon, generating additional disinflationary pressures. In 2024, the REER will weaken somewhat amid low inflation and an eased monetary policy, coming close to its equilibrium level again. This trajectory of the hryvnia's REER in 2022 will stimulate a moderate widening of the current account deficit, which was slightly below its equilibrium level in 2021. As a result, the current account will return to equilibrium again on

Figure 2.6.9. Official exchange rate, hryvnia REER and NEER indices



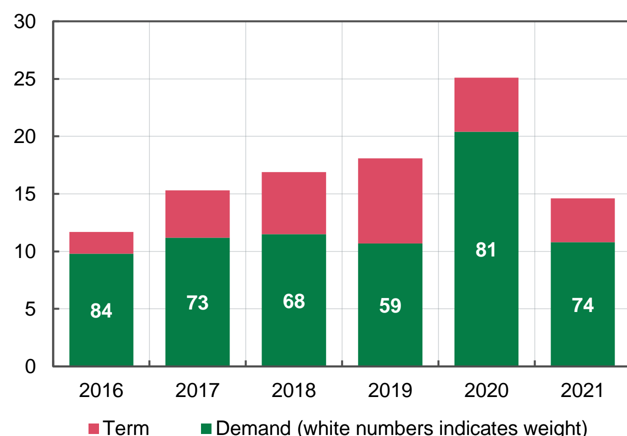
Source: IFS, NBU staff estimates.

Figure 2.6.10. Hryvnia deposits and loans, 12.2018 = 100



Source: NBU.

Figure 2.6.11. Growth of householder's deposits in domestic currency, % yoy*



* November to November of the corresponding year.
Source: NBU.

the forecast horizon (read more in Section 2.5 "Balance of Payments").

In continuing to liberalize capital movements, the NBU raised the limits on banks' long and short open currency positions from 10% to 15% of their regulatory capital, effective from 1 December 2021. This will boost their ability to conduct transactions within their FX positions. The NBU has also updated approaches to calculating and publishing the hryvnia's official and reference exchange rates, from 4 January 2022.

Bank lending is on the rise

The banks' lending activity continues to rebound rapidly. According to the November 2021 Banking Sector Review, loan growth rates in the corporate and mortgage segments were the highest in the last 10 years. Outstanding hryvnia loans issued to nonfinancial corporations grew by 21.2% in the first 11 months of 2021. In October–November 2021, the largest growth was generated by hryvnia loans to manufacturing companies and to wholesale and retail trade companies.

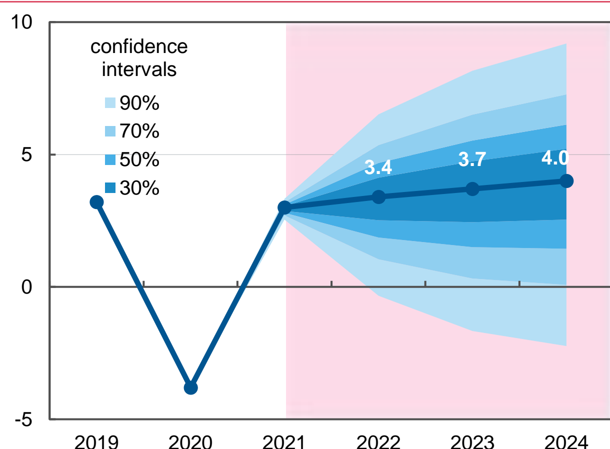
Outstanding hryvnia loans to households have risen by almost one third since the start of the year. Consumer loans grew by 28.3% yoy in November, including car loans, which rose by 35.8% yoy. Loans for real estate purchases, construction, and renovation grew by 45.9% yoy. The banks continue to report positive lending expectations, while also planning to ease their lending standards for both mortgage and consumer loans.

In the autumn of 2021, hryvnia deposits from nonfinancial corporations continued to rise at a fast pace. Household deposits returned to growth, but the growth remained restrained. This is due to the gradual depletion of the potential of current deposit yields, which are lower than households' inflation expectations. Under such conditions, incentives to seek alternative investment instruments or spend more on consumer goods and services have increased. Domestic government debt securities are seen as an alternative investment instrument, as their yields are higher than those of deposits. In 2021, households increased their holdings of hryvnia domestic government debt securities by UAH 8.1 billion, which is a significant amount compared to term deposit growth. As a result, in spite of an increase in the relative contribution of term deposits compared to last year, demand deposits continued to make the largest contribution to the growth of hryvnia household deposits in 2021.

Part 3. Risks to the Forecast

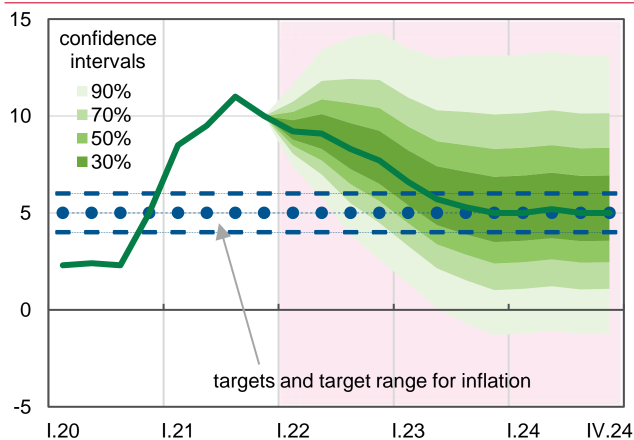
- As before, the underlying assumption of the macroeconomic forecast is that Ukraine will continue to cooperate with the IMF, which is becoming increasingly important as geopolitical risks rise.
- Key risks to the forecast are still posed by an escalation of the military conflict by Russia and a longer and more pronounced global price surge than expected earlier.
- The NBU assesses the balance of risks for its baseline scenario for inflation and the key policy rate to have shifted upward.

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 forecast is given in a fan chart. This chart type is used to illustrate uncertainty with regard to predicted future values. For instance, the probability that the inflation rate will be in the range of the darkest shaded area in the chart (around the central line) is 30%. The same applies to other chart areas, implying the 90% probability that the inflation rate will be in the range of the lightest shaded area.

Further progress in cooperation with the IMF will be one of the main drivers of more stable economic development. IMF financing provided significant support to the Ukrainian economy in 2020–2021. Cooperation with the IMF stands to be at least as important in the years ahead, especially against a deteriorating information backdrop as geopolitical tensions loom large and competition for foreign capital intensifies between EMs, amid tighter monetary policy regimes being pursued around the globe. In particular, cooperation with the IMF will be proof that Ukraine is continuing consistent macroeconomic policies and reforms, which will reduce the cost of market and private financing. A suspension of the program could lead to a sharp rise in the cost of external financing or limit access to its sources, while borrowing large amounts of money from the domestic market would make these borrowings more expensive and increase the competition between the government and businesses for banks' funds. This would pose a risk to the full-fledged resumption of lending due to fiscal crowding out, which would slow economic recovery. Inflation and depreciation expectations might worsen significantly as well. This would force the NBU to tighten its monetary policy more than envisaged in the baseline scenario of the macroeconomic forecast.

The greatest risk for the Ukrainian economy, and hence for the macroeconomic forecast, lies in a further rise in geopolitical tensions and the potential escalation of the military conflict in Ukraine. The stoking of tensions in the media regarding the possibility of military aggression by Russia has already decreased the value of Ukrainian assets and increased depreciation pressures. In the baseline scenario, the NBU assumes a slow but gradual decline in the risk premium as a result of a de-escalation, after it peaks in Q1. More prolonged geopolitical tensions could have a very negative impact on the expectations of households, businesses, and investors. This would significantly hamper investment into the economy, while also making it difficult to raise external financing. If the information environment deteriorates further, expectations of all economic agents would also worsen, raising depreciation pressures on the hryvnia, which would then be passed on to the inflation rate. In this case, the NBU could resort to raising the key policy rate faster and increasing its interventions to sell foreign currency.

The ongoing global spike in inflation, due, among other things, to persistently high energy and food prices, also remains an important risk. In some countries, including Ukraine's trading partners, inflation is only approaching its

peak. Looking ahead, global price movements will strongly depend on how quickly leading central banks respond to inflation challenges. Any delays would push up external price pressures. Conversely, leading central banks tightening their monetary policies too quickly would pose the risk of there being substantial capital outflows from EMs. Under this scenario, the NBU would conduct a tighter monetary policy in order to keep hryvnia assets attractive.

Degree of impact on the baseline scenario	Probability that a risk will materialize: Low <15%	Medium 15%–25%	High 25%–50%
Weak		Accumulation of financial imbalances in the energy sector	
Moderate		Smaller harvest of main agricultural crops Tightening of quarantine measures	Intensifying of labor migration and rising wage costs of businesses
Strong	Rapid (one-off) adjustment of energy tariffs to market levels	Delays in cooperation with the IMF Global stagflation	Escalation of the geopolitical tensions Deterioration in the terms of trade Capital outflows from EM

Risks persist that new coronavirus variants may appear and spread, potentially requiring new strict quarantine restrictions even despite the growing vaccination rate. The current baseline scenario of the macroeconomic forecast does not envisage any tightening of quarantine measures and is based on the assumption of the further success of the vaccination campaign in Ukraine. That said, the emergence of new coronavirus variants, coupled with the still low vaccination rate in Ukraine, poses the risk of additional economic losses in 2022, and creates the need for fiscal stimuli. New outbreaks of the pandemic would more likely dampen business activity than reduce consumer demand. This would be accompanied by rising inflationary pressures, requiring a tighter monetary policy.

A rapid deterioration in the terms of trade is another external risk. If global prices of Ukraine's main exports fall from their current high levels or energy prices remain high for a long time, depreciation pressures on the hryvnia exchange rate will rise. The NBU would then be prompted to conduct a tighter monetary policy in order to eliminate inflationary pressures.

The baseline scenario of this macroeconomic forecast is based on the assumption that there will be no major food supply shocks. Therefore, large decreases in grain, oilseed, and fruit harvests in Ukraine due to adverse weather conditions or fertilizer shortages are another risk. In this case, the rise in food inflation would be greater, and economic growth would slow because of lower output in agriculture. A decrease in grain exports and agricultural producers' FX revenues would put depreciation pressure on the hryvnia exchange rate and spur inflation. The monetary policy response would then balance the need to reduce inflationary pressures against the need to minimize economic losses.

Intensifying labor migration, on the back of the gradually waning pandemic, could increase mismatches on the domestic labor market and lead to a larger increase in wage costs, which will also affect consumer prices over time. This would require a tighter monetary policy in order to bring inflation to its target.

Administrative decisions to set energy prices for households (especially, the prices of natural gas, heating, and electricity) generate additional uncertainty for the baseline scenario of the macroeconomic forecast. A rapid adjustment of utility prices toward the market levels would remove imbalances in the energy sector, but might create significant inflationary pressures and worsen expectations. Under this scenario, the contribution of administered prices to consumer inflation

could be larger than in the baseline scenario. On the other hand, postponing decisions to raise utility tariffs would lead to a further buildup of quasi-fiscal imbalances in the energy sector: energy companies (primarily state-owned ones) would suffer large losses that will be covered by the budget. Moreover, this would cause an accumulation of deferred price pressures that would be realized later. The NBU's next monetary policy decisions will take account of all new information about the government's plans for changes to household tariffs.

Forecast assumptions

Indicators		2019*	2020*	2021		2022		2023		2024
				actual	previous	current	previous	current	previous	current
Real GDP of Ukraine's MTP (UAwGDP)	% yoy	2,5	-3,9	5.8***	5,6	3,9	3,5	3,1	3,2	2,8
Foreign CPI (UAwCPI)	% yoy	2,9	2,1	7,0	5,2	4,8	3,0	3,4	2,9	3,0
World prices:**										
Steel price, Steel Billet Exp FOB Ukraine	USD/t	411	389,4	615,0	614,1	562,1	562,1	509,9	509,9	497,4
	% yoy	-17,2	-5,2	57,9	57,7	-8,6	-8,5	-9,3	-9,3	-2,5
Iron ore price, China import Iron Ore Fines 62% FE	USD/t	93,8	108,9	161,1	169,4	111,3	128,8	94,2	95,0	83,9
	% yoy	34,6	16,1	47,9	55,6	-30,9	-24,0	-15,4	-26,2	-10,9
Steel price, No.1 Hard Red Winter, ordinary protein, Kansas City	USD/t	164	186,2	263,5	255,3	277,5	260,0	261,6	254,1	256,6
	% yoy	-11,7	13,3	41,5	37,1	5,3	1,8	-5,7	-2,3	-1,9
Corn price, Yellow #2 Delivery USA Gulf	USD/t	170	165,4	263,1	258,3	228,9	219,6	205,4	195,4	205,4
	% yoy	3,5	-2,8	59,1	56,2	-13,0	-15,0	-10,3	-11,0	0,0
Oil price, Brent	USD/bbl	64,2	42,3	70,5	69,4	74,3	67,1	68,9	62,4	67,4
	% yoy	-9,6	-34,1	66,7	64,1	5,4	-3,3	-7,3	-7,0	-2,2
Natural gas price, Netherlands TTF	USD/bcm	161	115,0	569,4	540,2	856,3	475,1	420,2	253,6	266,1
	% yoy	-43,5	-28,7	395,1	369,7	50,4	-12,1	-50,9	-46,6	-36,7
Gas transit	bcm	89,6	55,8	41,6	45,0	40,0	40,0	40,0	40,0	40,0
Grain and leguminous harvest	m t	75,1	64,9	84,6	81,0	76,5	75,0	76,5	75,0	76,5
Minimum wage**	uah	4173	4815	6042	6042	6550	6550	7176	7176	7665

** Actual data.*
*** Year average.*
*** Попередня оцінка НБУ

Macroeconomic forecast (January 2022)

Indicators	2018	2019	2020	2021 I	2021 II	2021 III	2021 IV	2021 current forecast	2021 forecast 10.2021	2022 I	2022 II	2022 III	2022 IV	2022 current forecast	2022 forecast 10.2021	2023 I	2023 II	2023 III	2023 IV	2023 current forecast	2023 forecast 10.2021	2024 I	2024 II	2024 III	2024 IV	2024 current forecast
REAL ECONOMY, % yoy, unless otherwise stated																										
Nominal GDP, UAH bn	**3560**	**3977**	**4222**	1009	1169	1498	1724	**5400**	5190	1260	1406	1693	1841	**6200**	5750	1359	1536	1863	2043	**6800**	6300	1501	1689	2038	2223	**7450**
Real GDP	**3.5**	**3.2**	**-3.8**	-2.2	5.7	2.7	5.0	**3.0**	3.1	5.5	6.1	2.6	0.6	**3.4**	3.8	1.8	3.0	4.2	5.2	**3.7**	4.0	4.8	4.3	3.8	3.3	**4.0**
GDP Deflator	15.4	8.2	10.3	20.7	26.4	25.5	24.5	24.2	20.1	18.4	13.4	9.8	6.2	11.0	6.7	6.0	6.0	5.7	5.5	5.8	5.4	5.4	5.4	5.3	5.3	5.3
Consumer prices (period average)	10.9	7.9	2.7	-	-	-	-	9.4	9.3	-	-	-	-	8.7	6.7	-	-	-	-	5.8	4.6	-	-	-	-	5.1
Consumer prices (end of period)	**9.8**	**4.1**	**5.0**	8.5	9.5	11.0	10.0	**10.0**	9.6	9.2	9.1	8.3	7.7	**7.7**	5.0	6.6	5.7	5.3	5.0	**5.0**	5.0	5.0	5.2	5.0	5.0	**5.0**
Core inflation (end of period)	8.7	3.9	4.5	5.9	7.3	7.4	7.9	7.9	7.1	8.1	7.2	6.8	5.9	5.9	3.3	4.9	4.3	4.2	3.8	3.8	4.0	3.5	3.8	3.8	3.8	3.8
Non-core inflation (end of period)	10.7	4.8	5.9	12.4	12.6	16.6	13.5	13.5	13.1	10.7	11.6	10.2	10.1	10.1	7.4	8.9	7.4	6.7	6.3	6.3	6.2	6.7	6.6	6.3	6.3	6.3
raw foods (end of period)	3.3	3.9	4.1	11.8	5.1	14.2	11.8	11.8	9.8	8.7	8.7	5.9	5.2	5.2	3.4	4.3	4.1	3.7	3.9	3.9	3.7	4.5	4.3	3.5	3.5	3.5
administrative prices (end of period)	18.0	8.6	9.9	13.0	18.0	17.1	13.6	13.6	14.6	12.2	14.1	14.1	14.7	14.7	11.3	13.7	10.7	9.5	8.7	8.7	8.3	8.8	8.7	8.7	8.6	8.6
Producer prices (end of period)	**14.2**	**-7.4**	**14.5**	26.3	39.1	45.1	62.2	**62.2**	37.0	44.4	34.6	23.2	2.0	**2.0**	5.0	0.3	0.8	1.6	2.5	**2.5**	5.0	3.6	4.1	4.3	4.5	**4.5**
Nominal wages (period average)	24.8	18.4	10.4	16.6	27.1	20.8	16.3	20.0	19.2	16.2	16.8	14.9	13.3	15.2	12.9	11.8	10.8	9.5	9.0	10.2	8.8	9.1	8.9	8.9	8.9	8.9
Real wages (period average)	12.5	9.8	7.4	8.6	16.5	9.4	5.4	9.8	9.1	6.2	7.4	5.8	5.1	6.1	5.9	4.5	4.3	4.0	3.8	4.1	4.0	3.9	3.7	3.7	3.7	3.7
Unemployment (ILO, period average)	8.8	8.2	9.5	-	-	-	-	9.8	9.4	-	-	-	-	9.1	8.6	-	-	-	-	8.9	8.6	-	-	-	-	8.7
FISCAL SECTOR																										
Consolidated budget balance, UAH bn	**-67.8**	**-87.3**	**-224**	-	-	-	-	**-187**	-209	-	-	-	-	**-200**	-203	-	-	-	-	**-206**	-190	-	-	-	-	**-203**
% of GDP	-1.9	-2.2	-5.3	-	-	-	-	-3.5	-4.0	-	-	-	-	-3.2	-3.5	-	-	-	-	-3.0	-3.0	-	-	-	-	-2.7
Public sector fiscal balance (IMF methodology), UAH bn	**-75.4**	**-89.2**	**-243**	-	-	-	-	**-195**	-209	-	-	-	-	**-201**	-203	-	-	-	-	**-207**	-192	-	-	-	-	**-204**
% of GDP	-2.1	-2.2	-5.8	-	-	-	-	-3.6	-4.0	-	-	-	-	-3.2	-3.5	-	-	-	-	-3.0	-3.0	-	-	-	-	-2.7
BALANCE OF PAYMENTS (NBU methodology)																										
Current account balance, USD bn	-6.4	-4.1	5.3	-0.6	0.5	-0.9	-1.3	-2.3	-1.9	-0.8	-1.7	-3.5	-1.7	-7.6	-5.7	-1.5	-2.4	-3.5	-1.9	-9.3	-9.5	-1.5	-2.1	-3.6	-2.2	-9.3
Exports of goods and services, USD bn	59.2	63.6	60.7	16.3	19.2	21.9	24.1	81.5	80.3	21.5	20.5	20.1	21.5	83.5	79.6	18.7	18.6	19.7	21.4	78.4	75.4	19.1	19.1	20.3	22.1	80.5
Imports of goods and services, USD bn	70.6	76.1	63.1	17.2	18.8	22.9	25.6	84.5	82.9	22.7	24.2	25.4	25.8	98.1	90.6	22.1	23.5	25.3	26.2	97.0	91.4	22.6	24.3	26.2	27.4	100.5
Remittances in Ukraine, USD bn	11.1	11.9	12.0	3.4	3.8	4.0	3.9	15.0	14.3	3.7	4.1	4.1	4.4	16.2	15.0	3.8	4.3	4.3	4.6	17.0	15.7	4.0	4.5	4.5	4.8	17.8
Financial account, USD bn	-9.3	-10.1	3.3	0.4	-0.8	0.7	-3.1	-2.7	-2.3	0.1	-1.2	-3.2	-1.4	-5.7	-4.9	-3.4	-1.7	-4.1	-1.7	-10.9	-11.5	-3.3	-2.8	-4.1	-2.1	-12.3
BOP overall balance, USD bn	**2.9**	**6.0**	**2.0**	**-1.0**	**1.3**	**-1.6**	**1.8**	**0.5**	0.4	**-0.8**	**-0.5**	**-0.3**	**-0.3**	**-1.9**	-0.9	**1.8**	**-0.8**	**0.7**	**-0.2**	**1.5**	2.0	**1.8**	**0.7**	**0.5**	**-0.1**	**3.0**
Gross reserves, USD bn	**20.8**	**25.3**	**29.1**	**27.0**	**28.4**	**28.7**	**30.9**	**30.9**	31.1	**30.0**	**30.8**	**29.7**	**29.2**	**29.2**	30.2	**30.3**	**29.3**	**28.9**	**28.2**	**28.2**	29.6	**29.1**	**29.4**	**29.1**	**28.7**	**28.7**
Months of future imports	3.3	4.8	4.1	3.6	3.6	3.5	3.8	3.8	4.1	3.7	3.8	3.7	3.6	3.6	4.0	3.7	3.6	3.5	3.4	3.4	3.7	3.4	3.4	3.4	3.3	3.3
MONETARY ACCOUNTS (Cumulative since the beginning of the year)																										
Monetary base, %	**9.2**	**9.6**	**24.8**	2.1	8.2	8.1	11.2	**11.2**	14.4	4.0	9.0	9.9	13.5	**13.5**	8.2	-1.3	2.7	3.4	7.0	**7.0**	6.4	-2.0	2.0	2.5	5.9	**5.9**
Broad money, %	**5.7**	**12.6**	**28.6**	0.1	3.4	4.1	12.0	**12.0**	10.7	1.2	4.6	5.8	11.7	**11.7**	12.5	0.6	3.9	5.7	11.6	**11.6**	10.9	0.3	4.1	5.9	11.9	**11.9**
Velocity of broad money (end of year)	**2.8**	**2.8**	**2.3**	-	-	-	-	**2.6**	2.5	-	-	-	-	**2.7**	2.5	-	-	-	-	**2.6**	2.5	-	-	-	-	**2.6**

Terms and Abbreviations

GDP	Gross domestic product
GVA	Gross value added
STSU	State Treasury Service of Ukraine
SCSU	State Customs Service of Ukraine
CD	Certificate of deposit
SESU	State Employment Service of Ukraine
SSSU	State Statistics Service of Ukraine
STA	Single Treasury Account
EU	European Union
ECB	European Central Bank
CPI	Consumer Price Index
BAOI	Business Activity Outlook Index
QPM	Quarterly Projections Model
IMF	International Monetary Fund
ILO	International Labour Organization
MFU	Ministry of Finance of Ukraine
NBU	National Bank of Ukraine
NEER	Nominal effective exchange rate
OPEC	Organization of the Petroleum Exporting Countries
MTP	Main trading partner
VAT	Value-added tax
PIT	Personal income tax
FDI	Foreign direct investment
REER	Real effective exchange rate
SDR	Special drawing rights
U.S.	United States of America
Fed	Federal Reserve System
ECPI	External Commodity Price Index
EM	Emerging markets
PMI	Purchasing Managers' Index
UAwCPI	Weighted average of the CPI in Ukraine's MTP countries
UAwGDP	Weighted average of economic growth in Ukraine's MTP countries
UIIR	Ukrainian Index of Interbank Rates

m	million
bn	billion
UAH	Ukrainian hryvnia
USD	US dollar
p	point
bp	basis point
pp	percentage point
bbl	barrel
yoy	in annual terms; year-on-year change
qoq	in quarterly terms; quarter-on-quarter change
sa	seasonally adjusted
mom	in monthly terms; month-on-month change month-on-month
RHS	Right-hand scale