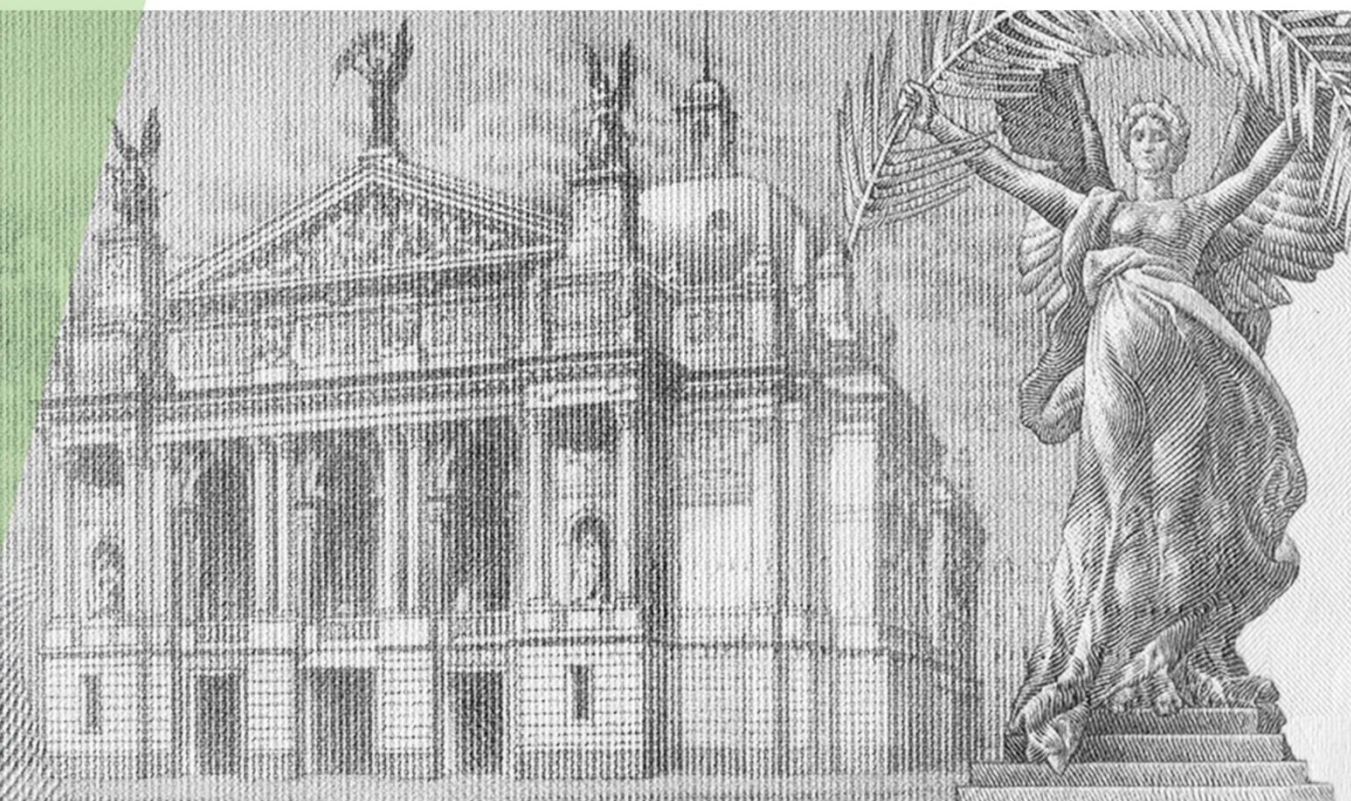




National Bank
of Ukraine

Inflation Report

January 2021



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 28 January 2021.

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 21 January 2021¹.

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. 17-D *On Approval of the Inflation Report* dated 21 January 2021.

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Summary

In 2020, inflation accelerated to 5%, reaching the midpoint of the target range

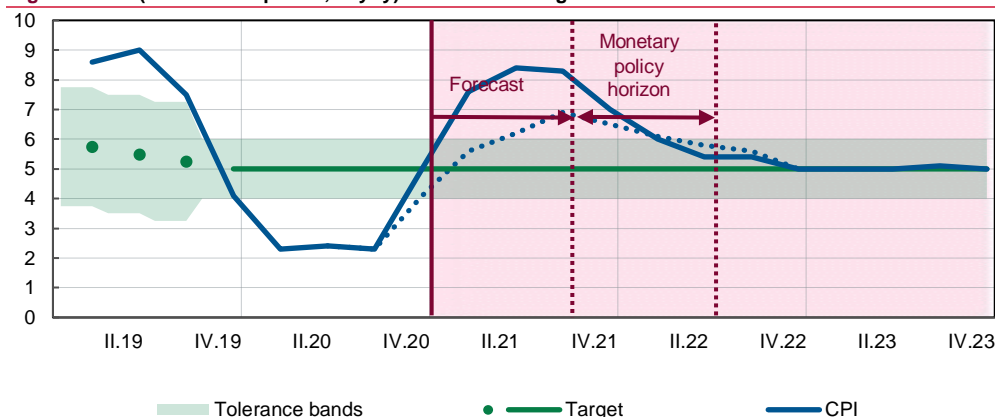
During most of 2020, inflation was below the $5\% \pm 1$ pp target range. Falling global energy prices coupled with declining demand for non-staple goods and services restrained price growth during the pandemic. At the same time, inflation increased as expected at the end of the year. This was due to the rapid global economic recovery, the further strengthening of domestic consumer demand, and increases in prices for energy and certain foods. As a result, inflation in December returned to the target range and reached its midpoint.

Inflation will accelerate in H1 2021, but will slow afterwards, settling in the $5\% \pm 1$ pp target range in H1 2022

The NBU has revised its 2021 inflation forecast up from 6.5% to 7%. Inflation will accelerate in H1 on the back of strong consumer demand, higher energy prices, and last year's lower harvests of agricultural crops. In addition, businesses will face higher production costs, in particular labor costs. Administered prices will continue to grow rapidly due to increases in excise taxes on tobacco products and electricity tariffs.

The impact of pro-inflationary factors will weaken in H2, which will reverse the inflation pattern. Food price inflation will decelerate thanks to an increase in supply from better harvests, and the effect of a low comparison base will vanish for some goods at the end of the year. The NBU's monetary policy will also be aimed at reducing underlying inflationary pressures caused by worsening inflation expectations and robust consumer demand. As a result, core inflation will be 5.9% at the end of 2021, and headline inflation will return to the target range in H1 2022. In 2022–2023, inflation will hover around the medium-term target of 5%.

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



Source: SSSU, NBU estimates.

In 2020, the economy contracted much less than expected at the start of the crisis

Over the whole of 2020, real GDP shrank by an estimated 4.4%, which was much less than expected at the start of the coronavirus crisis (6%). The Ukrainian economy recovered quickly in H2. After the strict lockdown ended, the decline in real GDP slowed to 3.5% yoy in Q3, and according to NBU estimates it continued to decelerate in Q4. The tightening of quarantine measures in November had a limited impact on business activity.

The rapid economic recovery was mainly driven by growth in consumption. Increased wages and social spending from the budget bolstered high consumer demand. Unemployment also started to ebb. Government spending made a significant contribution to the economic recovery due to higher current budget expenditures on infrastructure, especially on road repairs, and on healthcare. On the other hand, companies' investment activity remained sluggish due to uncertainty caused by the pandemic.

Steady foreign demand for food products was reflected in exports declining much less than imports. This tendency weakened closer to the end of the year due to smaller harvests, while

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

the fall in imports slowed on the back of greater domestic demand. Over the full year, however, the contribution of net exports remained positive.

In 2021, the economy will recover rapidly and will almost reach its pre-crisis level

In 2021, the economy will almost recover from the losses inflicted by the coronavirus crisis: Ukraine's GDP will rise by 4.2%. Strong domestic demand will remain the main economic growth driver, underpinned by further increases in real household incomes. Lower uncertainty about the course of the pandemic will favor a recovery in investment activity.

Over the medium term, the Ukrainian economy will grow by around 4%, propped up by growth in real household income, greater investment, robust foreign demand, and a pickup in lending activity.

In order to support households and ensure a more rapid economic recovery, this year the government will once again maintain a sizeable budget deficit (4.5% of GDP). However, the needs for fiscal stimuli will gradually decrease, as the economy will return to steady growth. The deficit is expected to narrow to 3% of GDP in 2022. Having grown to 62% of GDP in 2020, the public and publicly guaranteed debt will further on decline by 2–3 pp per year.

Having recorded a large surplus last year, the current account of the balance of payments will return to deficits again in 2021–2023

The surplus of Ukraine's current account is expected to hit one of its highest levels on record, reaching 4.4% of GDP³. Relatively high commodity prices, sustained global demand for food and IT services, and rapid economic recovery in China supported Ukrainian exports. Volumes of remittances from labor migrants were also close to pre-crisis levels. At the same time, imports dropped considerably. Purchases of natural gas decreased on the back of lower prices throughout most of the year, and due to large inventories. Imports of investment goods declined due to uncertainty about the pandemic. Primary income payments decreased due to negative reinvested earnings. Ukrainians' expenses on foreign travel dropped markedly.

The current account will return to deficits again in 2021–2023. Prices for Ukraine's main exports will remain reasonably high, although terms of trade will deteriorate due to rising energy prices. The economic recovery will also be accompanied by a gradual increase in imports of investment goods. Consumer imports will continue to rise steadily, driven by the expected increase in household income.

The NBU's underlying assumption remains that Ukraine will continue to cooperate with the International Monetary Fund

In 2021, Ukraine expects to receive IMF financing under the current Stand-by Arrangement, as well as related financing from the EU, the World Bank, and other international partners. These funds will enable the country to finance a significant portion of the budget needs in 2021.

Cooperation with the IMF also remains an important signal for international investors. It will noticeably ease the government's access to the international markets, while also decreasing the cost of planned borrowing. Support from the IMF and other partners will enable Ukraine to maintain its international reserves at about USD 30 billion, despite making large repayments on its external debt.

The main risks to the forecast are a tightening of quarantine measures both in Ukraine and globally, and larger foreign capital inflows

Worldwide vaccination is reducing the risk of repeated lockdowns. However, given the slowness of the vaccination process and the emergence of new virus strains, there still is a possibility of local quarantines, which will have negative consequences for economic activity. That said, extremely loose monetary conditions globally, and optimism over vaccinations have

³ Revised estimate based on preliminary data.

significantly boosted the interest of foreign investors in emerging markets, including Ukraine. Large capital inflows could lower inflationary pressures through the exchange rate channel.

Other risks also remain valid. They include:

- an escalation of the military conflict in eastern Ukraine or on the country's borders
- higher inflationary pressures arising from trading partners, and
- heightened volatility of global food prices, driven by global climate change and stronger protectionist measures worldwide.

The NBU stands ready to raise its key policy rate in response to rising inflationary pressures and worsening expectations

The NBU continued to pursue an expansionary monetary policy in Q4 2020. The key policy rate remained at 6%, which is below its neutral level. With low inflation, this contributed to a rapid economic recovery from the coronavirus crisis. Weighted average interest rates on bank loans and deposits in hryvnia continued to decline.

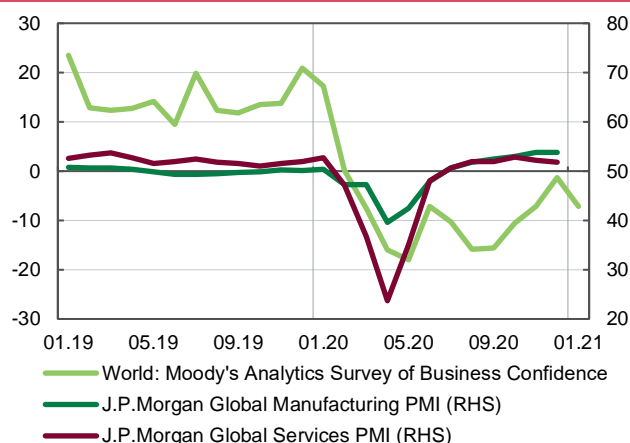
Considering the current balance of risks, the largely temporary nature of the existing pro-inflationary factors, along with weak investment activity and subdued sentiments among businesses on the back of the tightening of quarantine, in January 2021 the NBU Board decided to keep its key policy rate at 6% per annum.

At the same time, the NBU takes into account the worsening of inflation expectations that occurred in late 2020, as well as stronger underlying price pressures arising from consumer demand. If the impact of these factors continues to increase and is not offset by other factors, such as large capital inflows, the NBU will raise its key policy rate. This will enable the central bank to contain the rise in inflation in 2021 and bring inflation back to its 5% target in 2022.

Part 1. External Environment

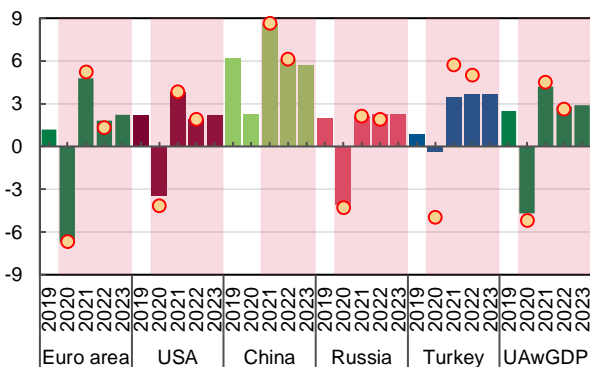
- Large-scale fiscal and monetary measures will boost global economic growth, primarily through faster recovery in industrial production. Increased demand amid extremely loose monetary conditions will lead to a gradual acceleration of global inflation, which will be restrained by a slower recovery of the services sector.
- Global commodity prices will remain high. After correcting in H1 2021, they will stabilize – despite strong demand – thanks to a rapid growth in supply. Energy prices will rise gradually, affecting the terms of trade for Ukraine.
- Investors' interest in EMs will be maintained as conditions on the global financial markets remain loose and high-yielding assets continue to be scarce.

Chart 1.1. Global PMI and World business confidence



Source: IHS Markit, Moody's (as of 22.01.2021).

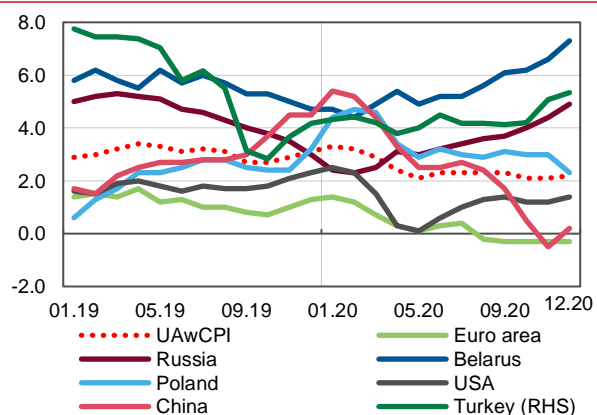
Chart 1.2. Real GDP of selected countries and Weighted Average of annual GDP growth of Ukraine's MTP countries (UAwGDP), % yoy



● - previous forecast of NBU.

Source: National statistical offices, NBU staff estimates.

Chart 1.3. CPI of selected Ukraine's MTP countries and Weighted Average of Ukraine's MTP countries' CPI (UAwCPI), % yoy



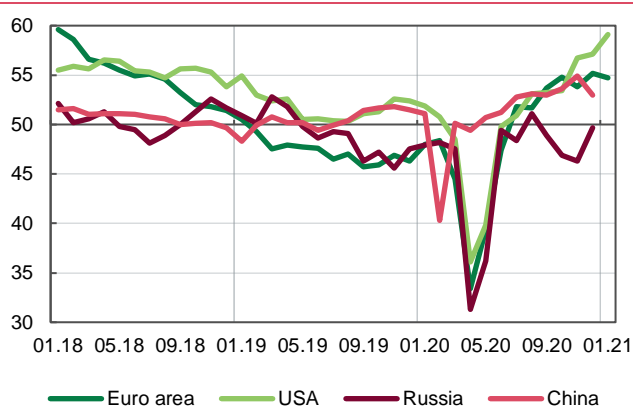
Source: National statistical agencies, NBU staff estimates.

The global economy will recover thanks to stimulus programs and the easing of quarantine.

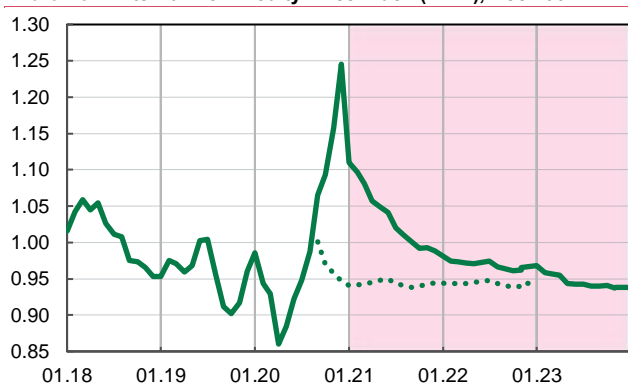
The global economy continued to recover in Q4, despite an overall deterioration in the epidemic situation and the lockdowns introduced in some countries. Performance improved especially in industrial production, whereas the recovery in the services sector, which is more susceptible to social distancing measures, remained weak and unstable. In particular, December was the second month in a row during which growth rates in global [industrial production](#) were the highest in almost ten years. At the year-end, business optimism reached a six-year high thanks to a resumption of trade flows and successful trials of COVID-19 vaccines. According to a [WTO report](#), 39% of that trade restrictions that were introduced at the most serious stage of the pandemic had been cancelled by mid-October, and volumes of global trade in goods grew [by 11.6% qoq](#) in Q3 (following a decline of 12.7% in the previous quarter). On the other hand, [the global trade in services](#) remained sluggish. It is expected to recover in 2021 only if all quarantine restrictions are lifted altogether and vaccination is carried out on a large scale.

The weakness of the global services sector, which accounts for more than half of employed individuals, continues to affect the labor market. [Global unemployment](#) in November was much higher than the pre-pandemic level. Uncertainty about the future epidemic situation is also restraining a recovery in consumer demand. As a result, despite growth in energy prices and higher inflation in some countries, the overall inflationary pressure in Ukraine's main trading partners (MTPs), expressed as UAwCPI, remained weak. The increase in inflationary pressure seen in late 2020 was mainly driven by pass-through effects from currency depreciation in some countries (Russia, Turkey, Belarus). Large-scale monetary and fiscal support is expected to support global economic recovery over the forecast horizon and cause inflation to pick up already in 2021. However, the weakness of the services sector will curb the increase in inflationary pressures from Ukraine's trading partners. Thus inflation will remain below its pre-pandemic level.

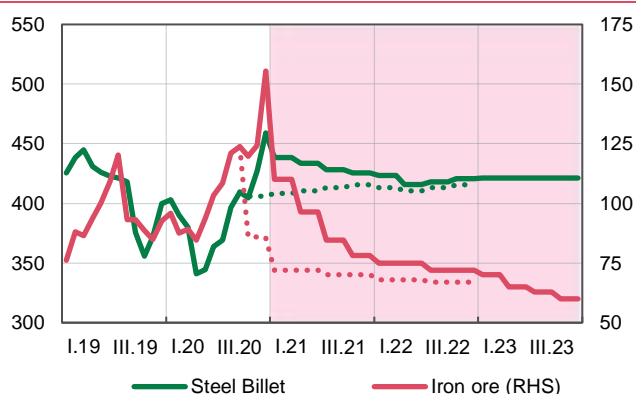
In the United States, the economy continued to recover at a relatively steady pace, and the labor market strengthened further. However, the economy is still growing more slowly than before the pandemic, and savings are at a record high. Thus, inflation remains low (1.4% yoy in December), despite the implementation of large-scale financial support programs. The greatest effect from extended financial support under

Chart 1.4. Manufacturing PMI of selected countries

Source: IHS Markit.

Chart 1.5¹. External Commodity Price Index (ECPI), Dec 2004 = 1

Source: World bank, NBU staff estimates.

Chart 1.6. 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.

conditions of considerable monetary stimulus is expected to be seen in 2021–2022, which will make the country's GDP exceed its [potential level](#).

Economic activity in the euro area is also slowly recovering. However, the recovery is uneven across sectors and countries, as some of them were hit more badly by the COVID-19 pandemic. Consumer sentiment remains downbeat due to the sluggishness of the labor market, which was reflected in a decrease in [potential GDP](#). Thus, consumer demand remains weak, and inflation is far below the ECB's target. Moreover, inflation will stay below its target for the next two years. At the same time, expansionary fiscal and monetary policies will support further economic growth.

The economies of trading partner EMs continue to recover thanks to a pickup in global trade and large-scale state support programs. Relatively steady economic growth is expected in these countries amid loose financial conditions and increased investor interest.

Global commodity prices will stabilize at a relatively high level, but the terms of trade will worsen as energy prices rise.

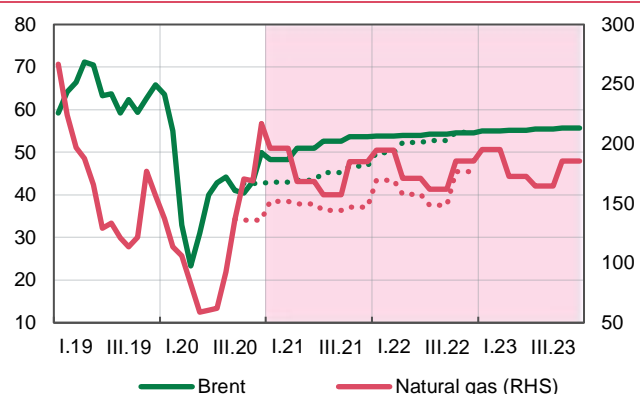
The global economic recovery, which fueled demand (especially from manufacturing sectors), has led to an increase in global commodity prices. The External Commodity Price Index (ECPI) was on the rise until the end of 2020, exceeding expectations greatly. Over the forecast horizon, after a correction in H1 2021, increasing supply will restrain further price growth, despite high demand. However, energy prices will continue to grow moderately, causing a deterioration in the terms of trade for Ukraine.

Global steel prices grew at the end of 2020 on higher demand in the EU, the United States, India, and Turkey – primarily from producers of cars, home appliances, and sports equipment. An important reason for this was the underutilization of production capacity, despite gradual output growth. High demand for steel and a limited supply resulted in a steep rise in iron ore prices. Further recovery in economic activity is expected to keep demand for steel high. However, due to output growth, prices will stabilize around their current high levels. On the other hand, iron ore prices will gradually decline as production volumes grow in Australia and Brazil, although supply will grow more slowly than expected (Brazil's Vale, the world's largest iron-ore company, has revised its production forecast downwards for the coming years due to repairs and the partial replacement of technical equipment).

Global grain prices also grew sharply at the end of 2020 despite the seasonal increase in supply. These dynamics were driven by higher demand from China, Brazil, and the Middle East, fueled by expectations of poorer harvests. Despite downward revisions of forecasts by the United States Department of Agriculture (USDA) and the Food and Agriculture Organization (FAO), the global harvest of wheat and corn in the 2020/2021 marketing year is expected to be close to last year's bumper crop levels. This will satisfy the expected high demand for grain. As a result, after a correction in H1 2021, prices will fluctuate within a relatively narrow range, while trending slightly upwards.

¹ Dotted line in charts refers to previous forecast unless otherwise stated.

Chart 1.7. World crude oil prices (USD/bbl) and German Hub natural gas prices (USD/kcm), quarterly average



Source: Refinitiv Datastream, NBU staff estimates.

Global crude oil and natural gas prices grew due to a rise in optimistic expectations of an increase in demand as some countries launched mass COVID-19 vaccination programs. Additional factors were the implementation of the OPEC+ agreement and a recovery in economic activity on the back of higher seasonal demand. A pickup in economic activity is expected to support growth in energy prices in 2021–2023. However, energy prices will grow moderately due to an increase in shale production and large inventories.

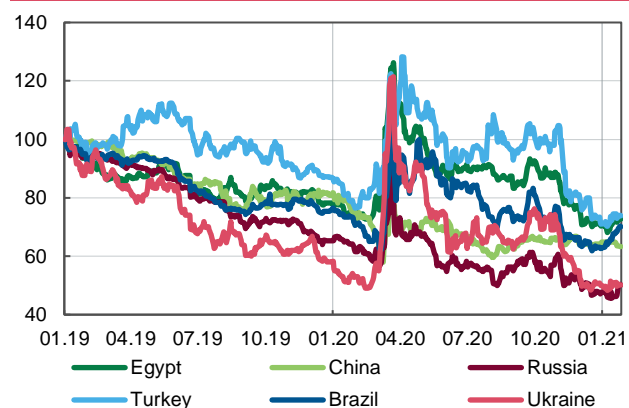
Investors will continue to show interest in EMs as conditions on global financial markets remain extremely loose.

With liquidity surging on global financial markets thanks to large-scale QE and additional lending programs (primarily implemented by the Fed and the ECB), and with interest rates close to zero, growth in investor demand for risky assets was stimulated. The optimistic mood on the market rose with the news about successful trials of COVID-19 vaccines and the start of vaccination campaigns, as well as with the end of the election process and announcement of new fiscal stimuli in the United States. As a result, the quarterly capital inflow to EMs was at a record high in Q4 (USD 180 billion) according to preliminary estimates by the Institute of International Finance (IIF).

Risk premiums on EM assets decreased, and the domestic currencies of the majority of these countries strengthened against the US dollar. In such conditions, most EM central banks continued to conduct loose monetary policy against the backdrop of moderate inflationary pressure. Turkey was an exception, as its central bank had to respond firmly to return to a disinflationary path. At the same time, an acceleration in food inflation in India, Russia, Brazil, and South Africa provided less room for further rate cuts in Q4 2020.

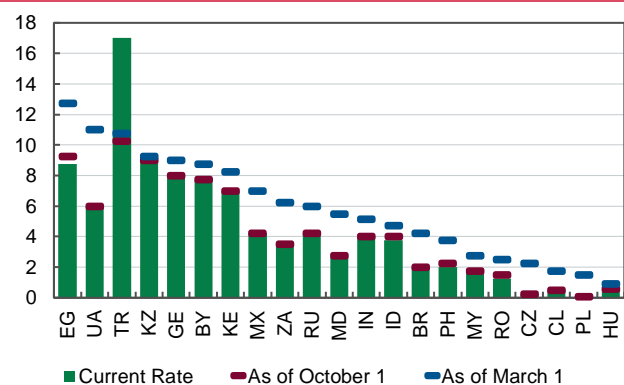
The leading central banks will continue to pursue expansionary monetary policies and keep their key rates unchanged for another two years. Given the scarcity of high-yielding financial assets (highly liquid securities with negative interest rates alone account for 25% of global investment-grade debt), investor interest in EM assets will be maintained.

Chart 1.8. J.P.Morgan EMBI+, 01 Jan 2019 = 100



Source: Bloomberg, as of 27.01.2021.

Chart 1.9. Key Policy Rates in Selected EM Countries*, %



*As of 27.01.2021.

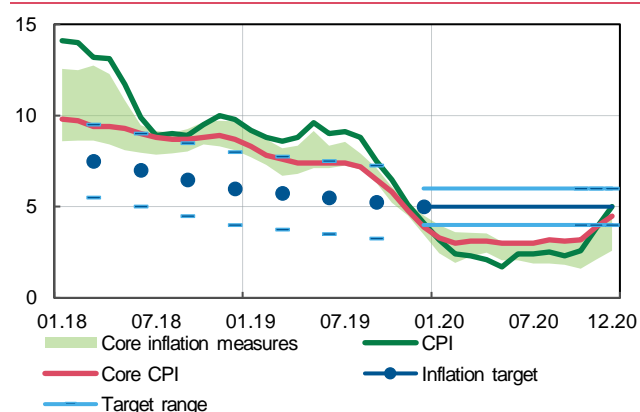
Source: official web-pages of central banks.

Part 2. Economy of Ukraine: Current Trends

2.1. Inflation Developments

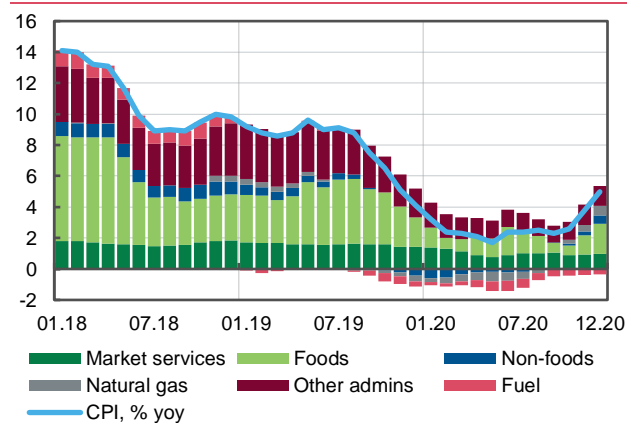
- Consumer inflation accelerated in Q4 2020 and reached the midpoint of its 5% ± 1 pp target range in December. The inflation target was thus met in December for the second year running.
- Inflationary pressures came from the faster-than-expected economic recovery in Ukraine and globally, further strengthening of consumer demand, higher energy prices, and the limited supply of some foods. Core inflation also accelerated.
- Inflation was restrained by lasting effects from changes in consumer preferences and businesses adapting to new working conditions.

Figure 2.1.1. Underlying inflation trends*, % yoy



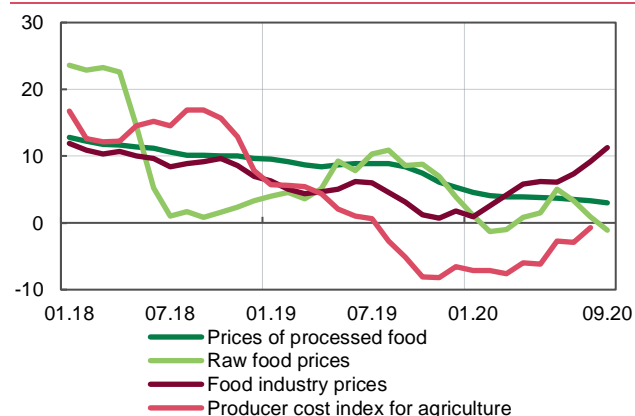
* Read more in the [January 2017 Inflation Report](#) (pages 20–21).
Source: NBU staff estimates.

Figure 2.1.2. Contributions to the annual change in the CPI, pp



Source: SSSU, NBU staff estimates.

Figure 2.1.3. Raw and processed food prices in food industry and agricultural production, % yoy



Source: SSSU, NBU staff estimates.

Consumer inflation accelerated and reached the midpoint of its 5% ± 1 pp target range.

In Q4 2020, consumer inflation accelerated (to 5.0% yoy from 2.3% yoy in September), reaching the midpoint of its 5% ± 1 pp target range. The inflation target was met in December for the second year running (read more in Box 7 *Fullfilment of the Inflation Target* on page 40). However, actual consumer inflation exceeded the projected trajectory published in the NBU's [October 2020 Inflation Report](#).

Inflation accelerated primarily as a result of stronger pressures from food prices. Low sunflower yields and growing export prices drove sunflower oil prices higher. With rising global prices and smaller harvests of sugar beet and wheat, prices for sugar and flour returned to growth. Together with an increase in energy prices, this impacted subsequent links in the food industry production chain: prices grew more rapidly for mayonnaise, margarine and spreads, baked goods, and pasta.

Smaller harvests of the majority of agricultural crops boosted growth in the aggregate production costs index of agricultural products. Egg prices rose considerably and meat prices declined more slowly as a result of the stronger pressures from production costs, in particular more expensive feed, coupled with production cuts.

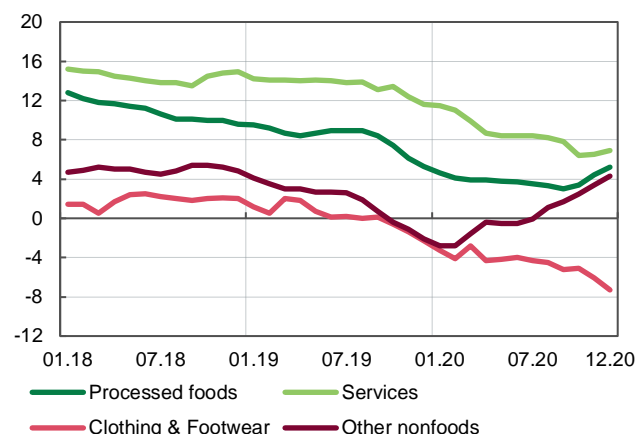
The fall in prices for vegetables, especially those used in cooking borshch, also decelerated due to a decrease in the supply of cheap produce of lower quality. However, the growth in food prices was restrained by an increase in the imported supply of some foods (dairy products and some fruit).

Tobacco product prices grew more rapidly as imported raw materials rose in price. At the same time, prices for alcoholic beverages remained unchanged from a year ago, as excise taxes and minimum retail prices for these products did not increase in 2020.

Core inflation accelerated, as the hryvnia had depreciated in previous periods and consumer demand was strong – despite continuing effects from changes in some consumer preferences

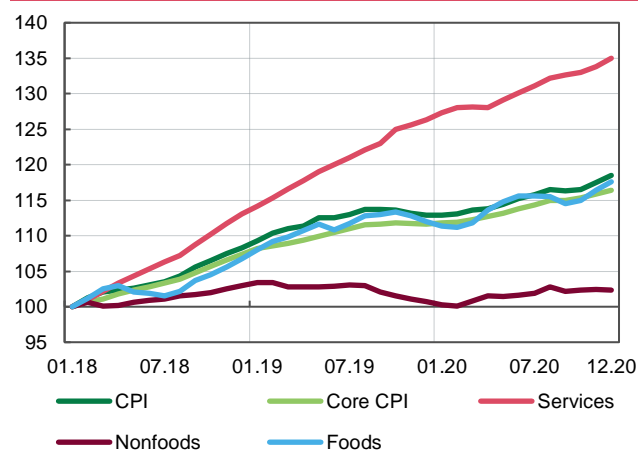
Core inflation came in at 4.5% yoy, up from 3.1% yoy in September, which was slightly above the forecast published in the [October 2020 Inflation Report](#).

Figure 2.1.4. Main components of core CPI, % yoy



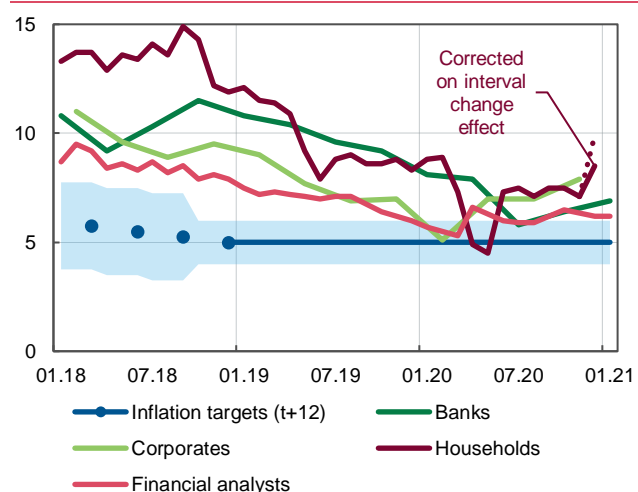
Source: SSSU, NBU staff estimates.

Figure 2.1.5. Price indices, sa, 01.2018 = 100



Source: SSSU, NBU staff estimates.

Figure 2.1.6. 12-month-ahead inflation expectations, %



Source: NBU, GfK Ukraine, Info Sapiens.

Pressures from pro-inflationary factors increased during the quarter. Alongside price increases for processed foods, prices of nonfood products also grew more rapidly (excluding prices for clothing and footwear). This was mainly driven by the depreciation of the hryvnia in previous periods and at the start of the quarter, and by strong consumer demand. In particular, prices for furniture, pharmaceuticals, and cars continued to rise, prices of home appliances and personal care products returned to growth, and the decline in prices of electronic devices slowed.

Meantime, the fall in prices for clothing and footwear sped up (to 7.3% yoy). This can be explained by changes in the consumer behavior of households, as they had the option to [study and work remotely](#) (read more about assessments of the impact of changes in consumption structure on inflation in Box 1 *Covid Inflation in Ukraine* on page 13), the pricing policy of retailers ahead of tighter quarantine restrictions introduced in January 2021, and cheaper global prices for fabrics amid a decline in demand.

The growth in services prices decelerated to 6.9% yoy in December, down from 7.8% yoy in September. This trend was expected, as high-comparison-base effects waned for some services – in particular for telecommunication services (some operators raised prices for mobile communication services in late 2019 on the back of higher costs, in particular investment expenditures and wages). Moreover, the growth in the number of COVID-19 cases and new quarantine restrictions likely created an additional impact. In particular, slower price growth was seen for the services provided by restaurants, hotels, cinemas, beauty salons, and language schools, and for housing rent. At the same time, prices for travel services and driving courses increased amid rising demand and production costs.

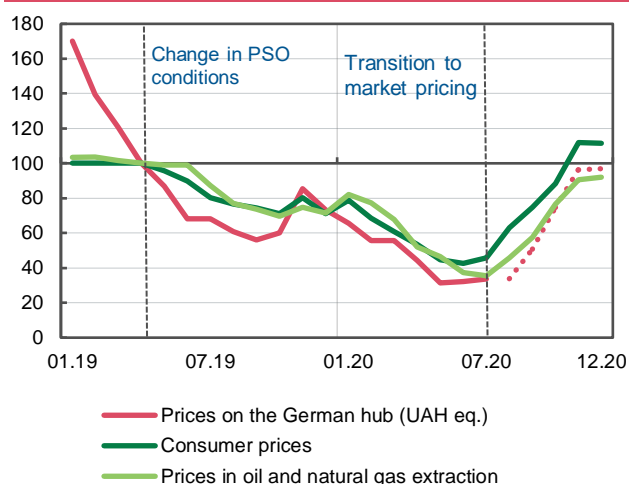
Persisting inflationary pressures were also evidenced by changes in inflation expectations, which rose at the end of the quarter, reacting to the faster growth in prices of goods consumed every day (increases in utility rates and food products). In addition, the [business outlook survey](#) revealed an increased influence on prices from the hryvnia exchange rate, energy prices, and raw material prices. As a result, the number of companies which expected prices for their products to increase grew in Q4 2020 (to 60.5%, up from 55.0% in Q3).

The impact of rising global energy prices on inflation in Ukraine has increased.

Natural gas prices for Ukrainian households grew rapidly (up to 56.3% yoy) fueled by higher global energy prices. In addition, the rise in natural gas prices slowed the decline in prices for hot water supplies and heating.

The fall in fuel prices also decelerated (to 10.5% yoy at the year-end). This was due to higher global oil prices and sustained robust demand from the public, who opted to use cars over public transport amid the pandemic (fuel sales at gas stations rose by 15.9% yoy in the first 11 months of 2020).

Figure 2.1.7. Natural gas prices, 04.2019 = 100



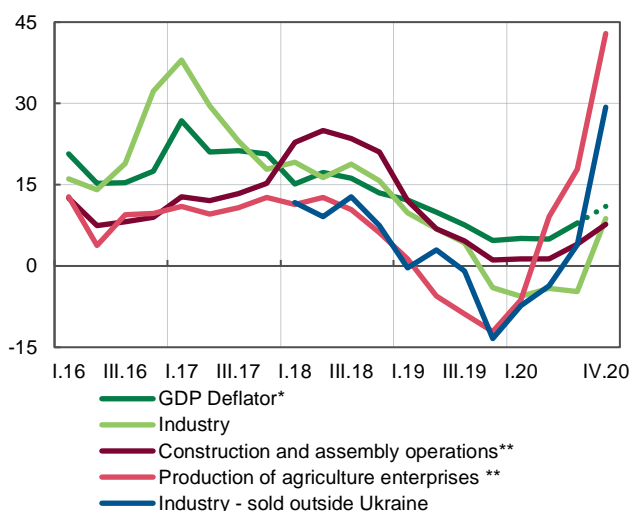
Source: SSSU, Refinitiv Datastream, NBU staff estimates.

Prices in the production of coke and petroleum products grew on the back of higher energy prices. Together with higher global prices for fertilizers and strong foreign demand, this led to faster growth in the prices of chemicals. Prices also resumed growing in the production of coke and petroleum products, as well as in the supply of electricity, gas, steam, and conditioned air, which was supported by stronger demand for electricity from non-household consumers.

The NBU expects the GDP deflator to rise sharply in Q4 2020, reflecting stronger inflationary pressures in most economic sectors.

In addition to faster growth in consumer prices, there was a stronger impact from upward inflation trends on the global commodity markets in H2. In particular, industrial producer prices returned to growth, and selling prices in agriculture and the food industry grew considerably more rapidly, among other things on the back of high global prices for grain and oil crops.

Figure 2.1.8. Other inflation measures, quarterly averages, % yoy



* Data for Q4 2020 represent the NBU staff estimates.

** Data for Q4 2020 cover two months.

Source: SSSU.

In addition, the faster-than-expected recovery in the Ukrainian and global economies bolstered the inflationary pressure. Price growth accelerated in the construction sector, driven by higher budget spending on road infrastructure.

On the other hand, growth in the deflator was restrained by a slower rise in prices for telecommunication services provided to businesses and unchanged prices for railway cargo transportation.

Box 1. Covid Inflation in Ukraine

Households' consumer behavior has changed markedly with the onset of the COVID-19 pandemic and the quarantine restrictions imposed in response. In particular, the structure of consumer spending was impacted by the physical restrictions on the consumption of some goods and services, changes in demand on the back of the spread of remote working and studying, and high uncertainty over the course of the pandemic. As a result, this may have impacted the value of the consumer basket. "Covid" inflation, which was calculated taking into account changes in consumption, exceeded the official inflation rate. However, the difference was small, 0.2–0.6 pp, which corresponds to similar estimates in other countries. This indicator is only an analytical tool that provides useful additional information about consumer behavior, the perception of prices, and inflation expectations. Price movements expressed as the official consumer price index are the basis for monetary policy decisions.

Some goods and services were not consumed [during the tight lockdown](#), as selling them was prohibited or restricted. For example, households cut spending on eating out, travelling, and hair salon services. In addition, demand for clothing and footwear and transport services dropped as opportunities to work and study remotely widened greatly for many Ukrainians. On the other hand, the decline in the consumption of food products was slower, while usage of communication services, especially postal services, and purchases of home goods actually increased. After the tight quarantine was over, sales of the goods and services that had been subject to restrictions resumed, although sales of some of these goods and services were still below pre-lockdown levels. These factors influenced the price pressure during the strict phase of lockdown, and were also likely to have played a role when the economy and consumer demand started to recover. In this case the focus should be on broader inflation concepts, including ones that take into account changes in consumption.

The impact of changes in consumption on the value of the consumer basket drew the attention of many countries, some international organizations ([the ECB](#), [the Bank of Canada](#), [the IMF](#), and [the Central Bank of Ireland](#)), and certain researchers ([Seiler, P 2020](#), [Cavallo, A. 2020](#)). [Cavallo, A. \(2020\)](#) developed Covid inflation indices for the United States and 17 other countries. According to these indices, inflation was above the CPI in 13 countries (including the United States) and below in five other countries. The deviation of Covid indices from the CPI ranged between +1.4 p and -0.35 pp. There is evidence that higher Covid inflation is driven by an increase in households' spending on food products, which mainly grew more expensive, and a decrease in the role of transport expenses, which mainly got cheaper. Countries in which Covid indices grew more slowly had sectoral peculiarities that explained the deviations⁴.

According to the [Consumer Price Index Manual: Theory and Practice](#), it is important to preserve the stability of the weight structure when calculating the CPI. Firstly, this is required under the standard practice of using the Laspeyres chain

index. Secondly, a base period used for calculating the weight structure must be long enough to cover the seasonal cycle. This period is usually one year, including for Ukraine.

Thus, alternative indices are calculated for analytical purposes only and cannot replace official inflation indicators. Such calculations are aimed at monitoring the influence of changes in economic conditions on price trends, inflation expectations, and the perception of inflation.

National accounts are the main source of data for calculating the CPI weight structure. As a result, in calculations of Covid inflation that took into account changes in consumer behavior, the CPI weight structure was adjusted for the real change in volumes of final consumption by purpose. To this end, the official weights used to calculate the CPI by group are multiplied by the annual change in final consumption by purpose in real terms, and are then normalized. After that, the adjusted CPI is calculated as usual – as a weighted average index. However, this method has several drawbacks: the publication of consumer spending data (as with national accounts data as a whole) has a lag of almost three months; these data are published once a quarter, which means that using them for monthly calculations may make the estimates less accurate.

According to this method, Covid inflation in March was somewhat lower than the official rate. In contrast, a shift in the consumption structure in the subsequent months caused the adjusted index to exceed official inflation. The easing of quarantine restrictions brought Covid inflation closer to the official reading in Q3 2020.

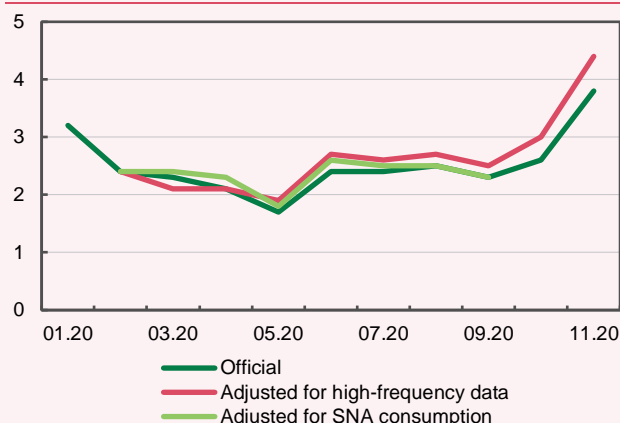
Estimates can be improved by using high-frequency data on consumption. Thus, researchers used data on volumes of sales recorded on cash registers⁵. However, this information covers only around 75% of the consumer basket. Therefore, other sources of information were used for other components: data about registration of cars, passenger turnover, tax payments, Ministry of Justice data on notary activities, and so on. It was assumed that the pandemic had no impact on

⁴ Household spending on food grew practically worldwide. However, the proportions of spending on food and, for example, on utilities differ by country. Therefore, in some countries a decrease in expenses on utility services, driven by a fall in energy prices, outweighed the growth in spending on food products.

⁵ The data are available according to types of economic activity (according to the Classification of Main Economic Activities). Such data can be compared to CPI components only on the basis of general types of goods. For example, grocery stores can be compared to the category Food Products and Non-alcoholic Beverages, but not broken down into meat products, cereals, vegetables, and so on. Stores offering a wide range of food and nonfood products represent another problem in using such data. However, considering the large share of food products in these stores, their sales were included into the group Food Products and Non-alcoholic Beverages. Another drawback of the cash register data lies in the fact that they may not fully reflect changes in consumer habits, as cash registers are becoming more widely used.

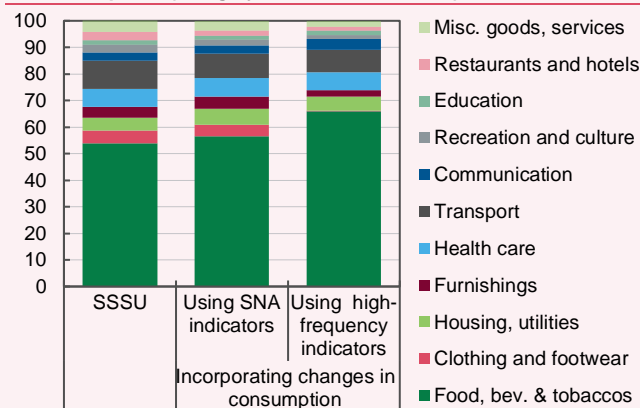
household consumption of some services, such as public utility services.

Figure 1. Official and adjusted on consumption change consumption price indexes, % yoy



Source: STSU, Eurocontrol, SSSU, Ministry of justice, NBU staff estimates.

Figure 2. CPI weight composition, official and adjusted for change in consumption (using dynamical calculations), %



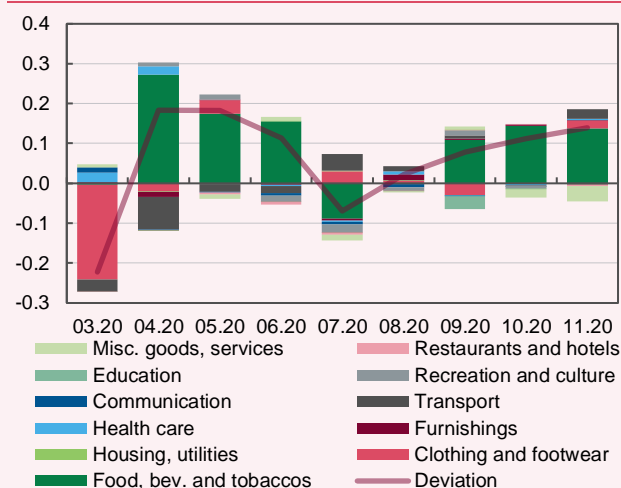
Source: SSSU, NBU staff estimates.

The relative values obtained were applied to the CPI weight structure. The calculations used annual change in order to eliminate seasonal effects. The adjustment of the weight structure followed the same principle as in the previous method. However, changes in consumption were first converted into real values. The new weight structure was used to calculate monthly price changes, and then annual ones.

The adjusted inflation calculated on the basis of the new method shows dynamics that are similar to the previous method: it was below the official rate in March and exceeded it in subsequent months. This reflected an increase in

spending on food products and on medical goods and services. In addition, actual expenses on transportation were lower, as its prices declined in April–May. Conversely, estimates based on national accounts and those based on high-frequency data slightly diverged in Q3. This was explained by the fact that the high-frequency data had a more detailed breakdown, rendering the second method more sensitive to structural changes.

Figure 3. Contributions to deviations of inflation calculated using high-frequency consumption indicators from official monthly inflation, pp



Source: NBU staff estimates based on STSU, Eurocontrol, SSSU, Ministry of justice.

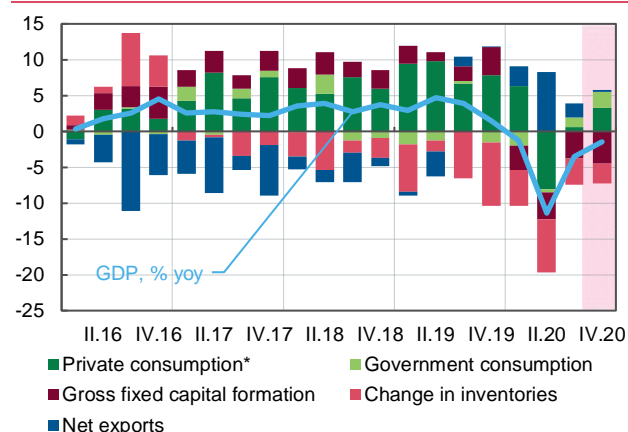
Overall, adjusted inflation exceeded the official inflation rate by only 0.2–0.6 pp. That said, the deviation accumulates over time. This level corresponds in general to the results obtained by other countries.

Requirements for the calculation of official indices are quite strict and standardized, which makes them comparable in time and across countries. Revising the weight structure of the consumer basket too often can also distort perceptions and reduce trust both in statistical agencies and in the public authorities that use the inflation rate in their work. At the same time, calculating alternative indicators, such as Covid inflation, can provide useful additional information about consumer behavior and the perception of prices, as well as reveal hidden inflation trends. Moreover, the calculation results can explain the dynamics of households' inflation expectations, as consumers' expectations of future inflation are based on their own consumption experience. In turn, understanding the factors that go into forming inflation expectations is key for central banks that pursue an inflation targeting policy.

2.2. Demand and Output

- The economy recovered faster than expected in H2 2020 thanks to consumption. Despite the worsening of the epidemic situation and the implementation of the weekend quarantine in November, real GDP estimates were revised upward to -1.5% yoy in Q4 and -4.4% yoy in the full year 2020.
- In contrast to previous crises, government consumption made a sizeable contribution to economic recovery alongside private consumption. Investment dynamics remained weak due to the influence of uncertainty about the epidemic on businesses' investment activity and this year's specifics of statistical recording.

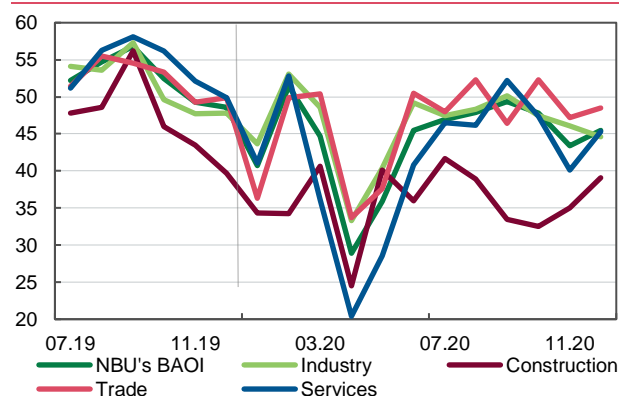
Figure 2.2.1. Contributions to annual GDP growth by final use, pp



* Including non-profit institutions serving households.

Source: SSSU, NBU staff estimates.

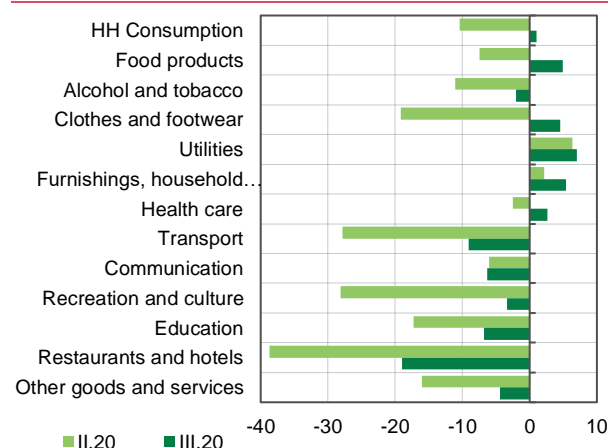
Figure 2.2.2. NBU's business activity outlook index, p.



A level above 50 indicates an expansion or growth, a reading below 50 signals a contraction.

Source: NBU.

Figure 2.2.3. HH final consumption expenditures by purposes, % yoy



Source: SSSU.

The Ukrainian economy recovered quickly after the strict phase of lockdown

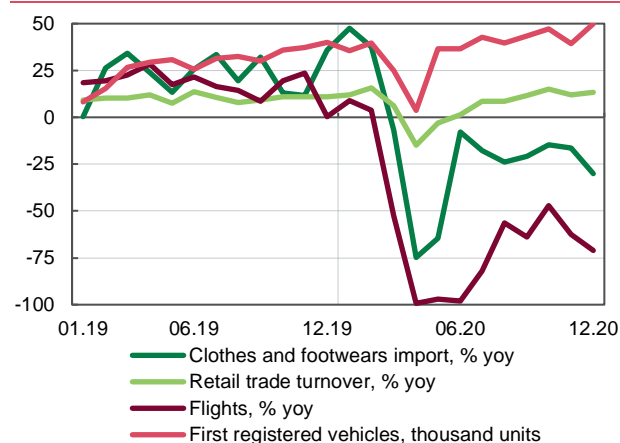
From May, the economy of Ukraine began to recover after quarantine restrictions were eased: the fall in GDP slowed markedly, to -3.5% yoy in Q3 and, according to the NBU's estimates, to -1.5% yoy in Q4. The economy recovered faster than the NBU projected in its [October 2020 Inflation Report](#). The deviation of actual Q3 indicators from the estimates was mainly driven by rapid growth in private consumption fueled by rising household income (read more in the section *Labor Market and Household Income* on page 20). The contribution of net exports remained positive as exports were stable and imports contracted sharply (read more in the section *Balance of Payments* on page 28). On the other hand, investment demand was still weak.

However, the increase in COVID-19 cases and the tightening of quarantine restrictions restrained economic recovery. This was primarily due to uncertainty over the future course of the pandemic and the likelihood of the imposition of new quarantine restrictions. In this way, the impact from the introduction of the "weekend quarantine" in November on annual GDP was estimated at around -0.2 pp. Moreover, at the end of Q4 the government announced its plans to tighten the quarantine (for the period from 8 through 24 January; which also would have an impact of -0.2 pp on annual GDP in Q1 2021). The uncertainty affected business expectations and consumer sentiment. However, the impact of the restrictions was less strong compared to the tight lockdown introduced last spring, both because the restrictions were less strict, and because households and businesses have adapted to a certain extent to these conditions.

Consumer demand is recovering rapidly, in particular household demand for those goods and services that were the most limited during the lockdown

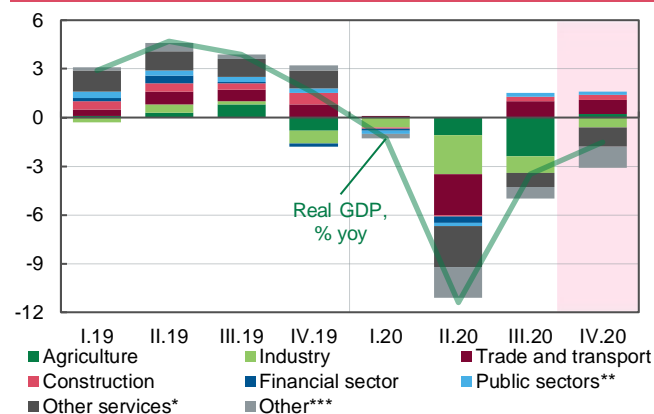
Consumption of the goods and services that had fallen under the strictest quarantine restrictions recovered in Q3. First of all, the fall in the consumption of various services (transportation, education, recreation, sports and culture, restaurant and hotel services, and other) slowed noticeably. However, those restrictions that remained in place (the number of visitors and operating hours of businesses, restrictions on foreign travel) were still a restraining factor, together with the self-limitation of consumption in view of the epidemic. An increase in cases of the disease, in turn, led to growth in healthcare consumption.

Figure 2.2.4. Selected indicators of private consumption



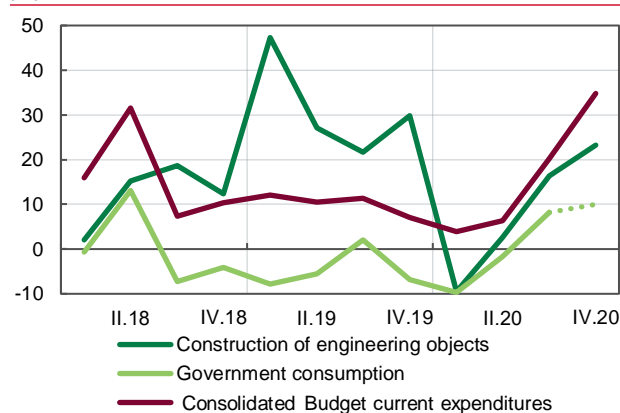
* New and used ones, excluding cars imported with violation of customs regulations.
Source: SSSU, SCS, Ukravtoprom, NBU staff estimates.

Figure 2.2.5. Contributions to annual GDP growth from GVAs of individual sectors, pp



* Other services include temporary accommodation and catering; information and telecommunications; real estate transactions; professional, scientific and technical activities; activities in the field of administrative and support services; arts, sports, entertainment and recreation; other types of services. ** Budget sectors include public administration and defense; education; health care and social assistance. *** Others include product taxes; subsidies on products.
Source: SSSU, NBU staff estimates.

Figure 2.2.6. Government consumption, consolidated budget current expenditures and construction of engineering objects, % yoy



* Quarterly average. Q4 2020 – for October and November.
Source: SSSU, Treasure.

Household consumption continued to grow in Q4, as evidenced by rapid growth in retail trade turnover, and a steep increase in car purchases (both new and used), [home appliances](#) and [electronic devices](#). The growth in private consumption was bolstered by further wage increases and social support programs for households and businesses. Changes in consumer behavior also played a role: a large share of consumers turned to the domestic market as foreign travel was limited; more opportunities to work and study remotely (read more in Box 3 *Labor Market Developments in the Wake of the Pandemic* on page 22) fueled consumption of home goods and IT products, while limiting growth in consumption of clothing and footwear. Such changes in consumer behavior corresponded to [international experience](#): consumption of some goods (especially clothing and footwear) and services (travel, recreation, and entertainment) declined due to fear of infection, the desire to save money, and the realization that one can do without some goods and services⁶.

The growth in consumption, in its turn, supported certain sectors: trade and transportation, temporary accommodation and catering (hotels, restaurants), art, sports and entertainment, real estate transactions, and the IT sector.

One notable feature of this crisis is a large contribution of the public sector to economic recovery

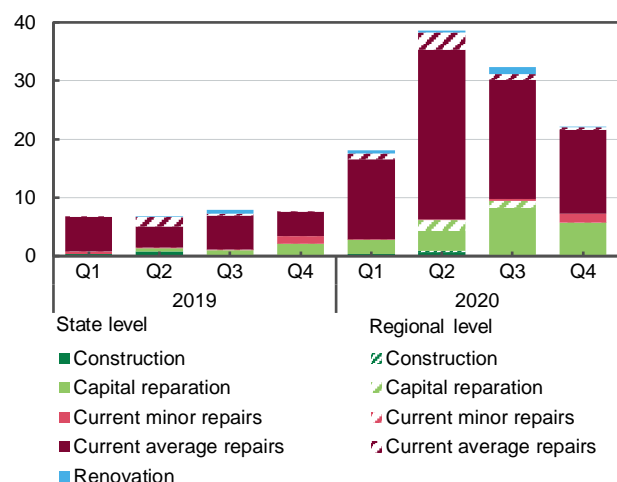
Large budget allocations to road infrastructure and healthcare were primarily sourced from increased current budget expenditures. This, in turn, led to a sharp rise in general government consumption in Q3, which continued in Q4. As a result, the performance of budget-financed sectors improved: the GVA increased in public administration and defense, and also in healthcare, while declining more slowly in education.

In 2020, budget expenditures on road infrastructure became a priority and grew sharply⁷. An analysis of bidding documents shows that most roads were to undergo light and medium maintenance, meaning that growth in these expenditures was largely reflected as growth in public consumption but not as gross fixed capital formation. The rise in budget expenditures on infrastructure projects was reflected in construction growth, namely in construction volumes of engineering structures (including transport infrastructure: railways, roads, airport runways, bridges, overpasses, pipelines and communications, and dams). However, the construction sector consumes the products of other industries (mining industry, rubber, plastic, and other nonmetal goods, cargo transportation services⁸). The impact of the increase in government spending on road infrastructure

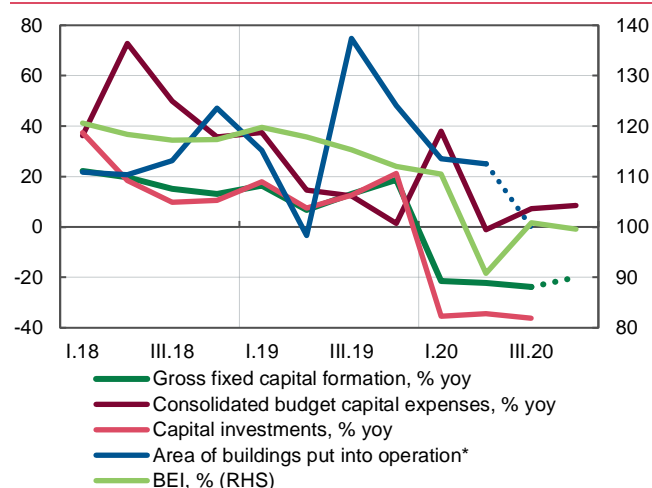
⁶ A survey held after the tight lockdown was eased in a number of countries ([CEPR #59, 2020](#)) showed that the response “I won’t miss that” was the second most popular reason for lower consumption of some services (visiting cafes and restaurants and going to hair and beauty salons) even after the lockdown.

⁷ In 2020, budget expenditure on road infrastructure almost doubled compared to 2019.

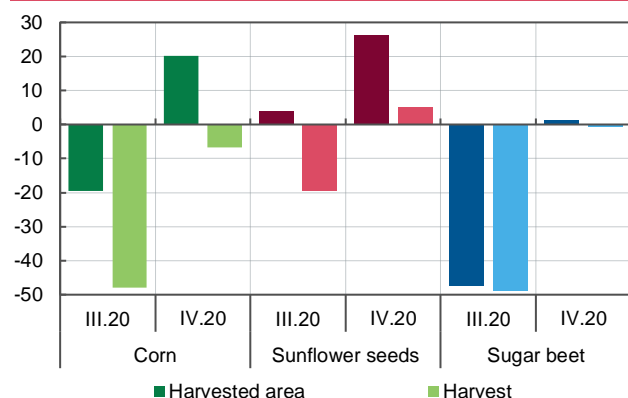
⁸ In the output structure of the construction sector, intermediate consumption (i.e., consumption of products of other sectors) exceeds 80%.

Figure 2.2.7. Total cost of tenders for road infrastructure*, UAH bn

* Except bridges, interchanges, detours and overpasses.
Source: Prozorro, NBU staff estimates.

Figure 2.2.8. Selected indicators of investment demand

* Includes residential and non-residential buildings, net quarter.
Source: SSSU, Treasury, NBU.

Figure 2.2.9. Harvested area and harvest of some late agriculture crops, % yoy

Source: SSSU, agro.me.gov.ua, NBU staff estimates.

in 2020 had on GDP (taking into account the indirect impact on other sectors) was estimated at 1.4–1.5 pp⁹.

Investment demand remained weak due to uncertainty about the epidemic, although investment dynamics were influenced by the specifics of the statistics

Gross fixed capital formation fell deeper in Q3, by 23.8% yoy. The fall was estimated to have slowed in Q4. Apart from the increase in the number of COVID-19 cases and uncertainty about the course of the pandemic, which was reflected in low business expectations, investment was also affected by some unresolved issues in the alternative energy sector. As a result, in Q3 there was a massive decline in investment across almost all sectors, despite the improved financial results of companies¹⁰. Only the postal and courier services sector showed significant growth in capital investment, thanks to the development of delivery services and online trading. An additional factor to the decline in investment in Q3 was the [lack of information about the commissioning of residential and nonresidential buildings](#) related to the reform of the permits system in construction and delays in launching the electronic construction statistics system.

Agriculture performed better in Q4 2020 thanks to harvesting picking up pace

Despite an increase in the pace of harvesting of late and industrial crops in Q4, in the 2019/2020 marketing year as a whole, the harvest was considerably smaller than the previous year's due to lower crop yields caused by unfavorable weather. The performance of animal farming also remained weak. However, the recovery in industrial production sped up on the back of a lower comparison base late in the previous year, benign external conditions, faster growth in budget spending and the weather being colder than last year. This supported metallurgy and metal ore mining, the machine building industry, and the energy sector.

Lower grain and oilseed harvests limited food exports. Nevertheless, the decline in imports also remained significant, despite a pickup in consumer goods imports, among other things due to still weak investment activity and large inventories of energy resources (read more in the section *Balance of Payments* on page 28). As a result, the contribution of net exports to the change in GDP is estimated to be close to zero.

⁹ Estimates were based on two methods. The first method envisaged the calculation of an output multiplier and the GVA effect from an increase in final demand as a result of higher expenditures on road infrastructure, based on input-output tables. The second method used a structural VAR-model with four lags. According to the first method, the output multiplier of the construction sector was estimated at 3.5, and the GVA effect at 0.96. As per the second method, real GDP responded to the expenditure shock positively and reached its peak in the second quarter after the shock occurred. The maximum elasticity of GDP was not high (0.03% in response to the 1% shock of expenditure) but still statistically significant, which means it can impact GDP considerably if shocks are large. According to both methods, the impact of the increase in budget spending on road infrastructure in 2020 on GDP was estimated at 1.4–1.5 pp.

¹⁰ In the first nine months of 2020, net profits increased to UAH 93.3 billion, as the share of loss-making companies decreased to 34.8%.

Box 2. Heat Map of Economic Activity in Ukraine

A heat map is a popular method of visualizing the dynamics of a varied set of economic indicators on one chart. It provides a visualization of the aggregate direction of economic trends. Moreover, a heat map is used in nowcasting changes in real GDP. The heat map of economic activity in Ukraine generally corresponds to economic trends and confirms the forecasts of rapid economic recovery in Q3 and Q4 2020.

A heat map is a graphical representation of a dataset, which represents the values of individual indicators with colors¹¹. The colors show the direction of change in an indicator, and the color intensity represents the strength of its impact.

Building heat maps for economic indicators is gaining popularity across the globe. For example, heat maps are used to monitor economic cycles (e.g., in [Latvia](#), [Estonia](#), and the [United States](#)), [economic activity](#), [inflationary pressures](#), and so on. [The central bank of Turkey](#) developed a heat map of economic activity that is based on 85 indicators and visualizes and explains the trends and directions of change in economic activity. In addition, the same indicators are used to nowcast GDP and its components [using Bridge equations](#).

A similar approach was applied to build a heat map of economic activity in Ukraine. The heat map uses those economic activity indicators that best reflect the GDP structure of Ukraine and that are the most precise. For example, the calculation uses sales of industrial goods by type of industrial activity instead of the industrial production index. This provides a more accurate reflection of economic trends, as some industrial sectors may show the opposite performance results due to various factors, and, if aggregated, they would offset and neutralize each other.

The color indicators of the economic activity heat map represent standardized z-scores of annual changes in actual performance indicators. A z-score is a statistical indicator used to compare values of different dimensionality or scale change. This reduces the impact of excessively volatile components. Such approach is generally accepted for building similar heat maps. Annual changes were selected in order to eliminate the effect of seasonal fluctuations on the indicators.

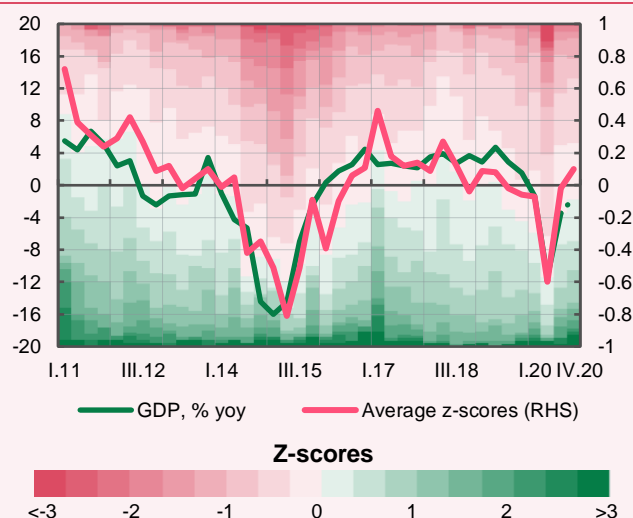
All indicators chosen for the heat map are published before GDP data are issued. This retains the forecasting capability of this approach. Since many economic sectors are not covered by high-frequency official statistics, the heat map was supplemented with indicators that indirectly cover this gap (e.g., the consumer sentiment index, first registration of a car, and budget indicators). All indicators are calculated in real terms¹². The heat map was built on a quarterly basis to provide a comparison with changes in GDP. The majority of indicators cover the period starting from 2011, although a significant portion of the data start from later periods.

Table 1. Indicators used to build the heat map

Industry/indicator	Quantity
Industrial production	33
Crop farming, animal farming	27
Construction	3
Real estate and land transactions	2
Passenger turnover, freight turnover	2
Public utility services	1
Retail/wholesale trade turnover	2
First registration of a car	1
Loans to households and nonfinancial corporations	8
Payments	1
Income/expenses of deposit-taking corporations	4
Exports/imports	4
Budget revenues	10
Budget expenditures	17
Number of sole proprietors	3
Consumer sentiment index	1
Total	119

Source: State Statistics Service of Ukraine (SSSU), NBU estimates, State Fiscal Service of Ukraine (SFSU), UkrAutoprom, Info Sapiens, Openstatbot, Ministry of Justice.

Figure 1. Heat map of Ukraine's economic activity



Source: SSSU, NBU staff estimates.

The colors on the heat map show whether an economic activity is contracting (red) or growing (green), the color saturation indicates the degree of contraction or growth, and cell size reflects the share of indicators with corresponding z-scores.

Due to different dates of data publication, the appearance of the heat map may change considerably depending on when it is built. As can be expected, the larger is the dataset, the more accurate is the visualization. The correlation between the real change in GDP and the mean z-score on the last day

¹¹ In heat maps of economic activity, columns usually stand for time periods, and rows for individual elements or indicators. Colors represent a certain digital indicator.

¹² Respectively, indicators available in nominal terms were deflated using the relevant price indices, including the CPI, the PPI, their components, the hryvnia exchange rate, the ECPI, and the UAwCPI.

of a quarter exceeds 70%, and reaches 80% if a complete dataset is available¹³.

Overall, heat map data visually correspond to economic trends. The share of negative (red) z-scores on the heat map grew markedly in periods of weaker economic activity. That was reflected in indicators of real GDP change. On the other hand, an increase in the share of positive (green) z-scores signals an improvement in real GDP indicators. GDP dynamics closely tracked an increase in the share of red sectors during the crisis of 2014. The subsequent increase in

green sectors on the heat map was accompanied by economic recovery.

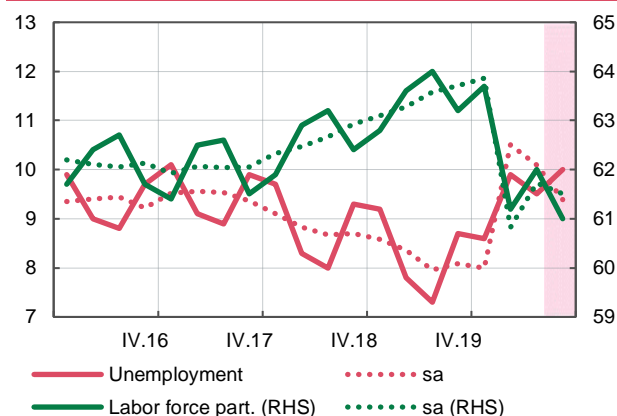
The decline in economic activity in Q2 2020, which was caused by large-scale quarantine restrictions and crisis phenomena, a decrease in foreign trade (especially imports), and the late start of the harvesting campaign were reflected not only in a larger share of red sectors, but also in their saturation. The mean value of z-scores was close to the rate of decline in real GDP. On the other hand, the economy recovered rather quickly in Q3 and Q4 2020. The heat map results were used to make estimates of real GDP in Q4.

¹³ Most data for the last month of a quarter are already published in the first month of the following quarter, but some data (e.g., for construction) are issued on the first few days of the second month of the quarter following the reporting quarter.

2.3. Labor Market and Household Income

- The labor market situation has improved, but more slowly than the economy has been recovering. Unemployment is declining (in seasonally adjusted terms), but remains at its highest since 2014. Businesses are wary of hiring workers, as are people of looking for work, because of negative expectations about new waves of the pandemic and related restrictions.
- Income growth resumed, both due to the acceleration of wage growth – especially in healthcare, where physicians received wage supplements – and thanks to social support from the government. Businesses reopened in the services sector, which has a significant concentration of entrepreneurs. This also helped incomes return to growth.

Figure 2.3.1. ILO unemployment* and labor force participation rate, %**

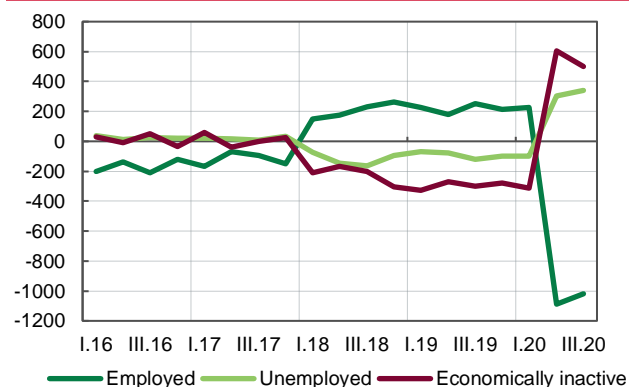


* As a % of population aged 15–70 in the labor force.

** As a % of total population aged 15–70.

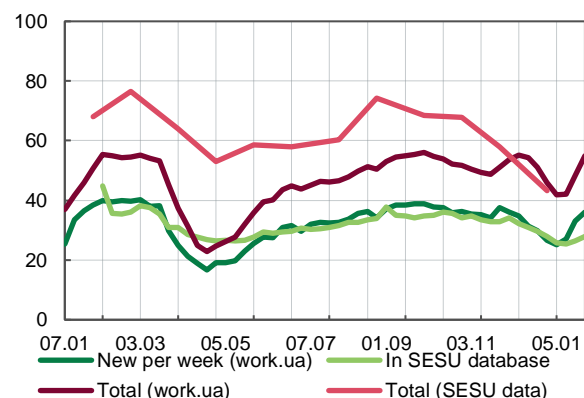
Source: SSSU, NBU staff estimates.

Figure 2.3.2. Unemployed, employed, economically inactive, thousand persons, y-o-y



Source: SSSU, NBU staff estimates.

Figure 2.3.3. Labor demand indicators: number of vacancies, thousand



Source: SESU, NBU staff estimates.

Unemployment is declining, but remains high due to economically inactive individuals resuming their search for jobs.

The easing of quarantine restrictions in May and seasonal growth in employment (particularly in agriculture, tourism, and construction) led to a decrease in the unemployment rate in Q3 2020 to 9.5% (down from 9.9% in Q2). The seasonally adjusted unemployment rate also declined (to 10.1%, from 10.5% in Q2), but remained high (the highest since 2014). This shows that although economic recovery has been rapid, the labor market is still weak.

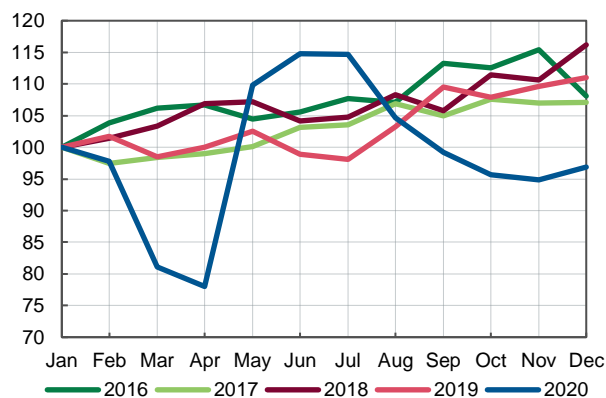
The number of employees in Q3 2020 increased in seasonally adjusted terms compared to Q2. In particular, the reopening of regular transport supported efforts by rural residents to find work, generating a restrained increase in employment in rural areas, from where a significant number of people commuted to jobs in cities.

However, because of the crisis, especially the significant decline in the services sector and the worsening performance of agriculture and residential construction, the overall increase in jobs in the economy last year fell short of making up for the number of individuals rejoining the workforce. As a result, the number of unemployed continued to grow in annual terms, while the unemployment rate remained high. In particular, youth unemployment (ages 15–24) rose, which was partly due to the completion of education by graduates and their entry into the labor market. With the number of vacancies shrinking during the crisis, it is likely that a smaller proportion of graduates found work last year than in previous years.

As the prevalence of disease increased in the fall and the authorities imposed new quarantine measures, the unemployment rate in Q4 was 10% (9.4% sa), the NBU estimates. High-frequency indicators show that labor demand declined at the end of the year, in part due to seasonality and in part because of businesses' reluctance to hire as they learned of the government's plans to tighten the quarantine. [According to business outlook surveys](#), the vast majority of companies in all sectors (except trade) in H2 2020 expected to lay off workers over the next 12 months.

However, labor supply also fell. Specifically, although economically inactive individuals were rejoining the workforce in Q3, this process was slow, there being 500,000 more people outside the workforce than a year before. Negative expectations about new waves of the pandemic and the associated quarantine restrictions could be a disincentive for jobseekers, especially those aged 40 to 60. Ukraine is not unique in that regard. Poland, for one, has also been

Figure 2.3.4. Job search index (index, January of each year = 100), sa*



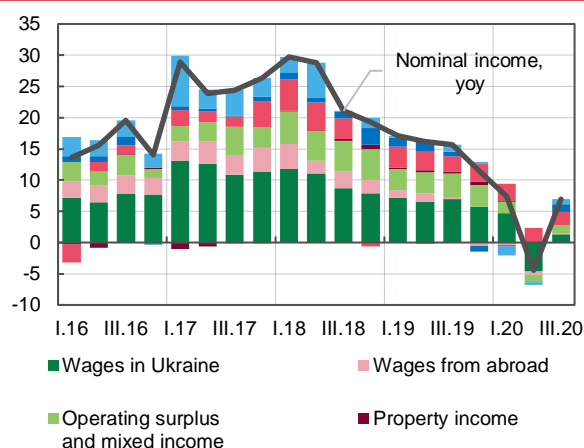
Source: work.ua, SESU.

experiencing an increase in the economically inactive working age population, which remains high. Going forward, the recovery in employment will depend on whether uncertainty around quarantines eases.

As expected, household incomes returned to growth in Q3 2020. The main components of income grew in Q4

In Q3, both real disposable incomes and nominal incomes of households increased (by 3.2% yoy and 7% yoy, respectively). Wages were the main driver of nominal income growth. After taking a pause in April–May, the growth in nominal wages in annual terms resumed in almost every sector, except for restaurants and hotels. Wage revisions in healthcare and education made a sizable contribution to wage growth in H2 2020, but sharp increases in wages were also seen in other sectors.

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

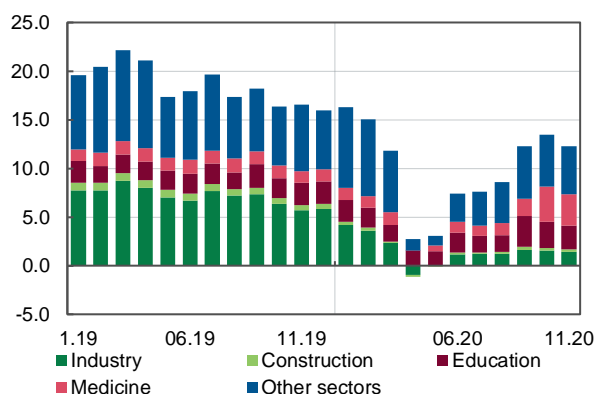


Source: SSSU, NBU staff estimates.

Social security benefits and transfers were significant contributors to income growth, as were profits and mixed income. This indicates that the financial standing of entrepreneurs improved after quarantine restrictions were lifted. Social benefits increased through the indexation of pensions, a revision of the minimum wage and related payments, as well as through government programs to support retirees and entrepreneurs. The effects of these factors also persisted over the course of Q4. The reopening of borders and strong demand for labor in neighboring countries ensured a sustained inflow of migrant worker remittances. Moreover, these remittances increased in Q3 in annual terms.

The tightening of quarantine measures in the fall of last year in response to the rise in the prevalence of disease was not as significant as in the spring. What is more, businesses partially adapted to quarantine restrictions, which, along with more support from the government, contributed to the growth in household incomes in Q4.

Figure 2.3.6. Contributions to annual change of monthly wages by sectors, pp



Source: SSSU, NBU staff estimates.

In particular, to support the public during the crisis caused by the spread of COVID-19, [a number of laws](#) were passed in early December. As part of this legislative initiative, workers and sole proprietors who lost part of their income due to the lockdown will receive one-off UAH 8,000 coronavirus relief payments from the government. By the end of 2020, these stimulus payments had been sent to [355,000 persons](#). The authorities also introduced a series of temporary tax benefits for sole proprietors, and wrote off some of their debts. These measures will result in an increase in social benefits as a share of household incomes in Q4

Box 3. Pandemic-Induced Changes in the Labor Market

Remote work gained popularity long before the pandemic, but it has never been so relevant as now. Lockdowns prompted many people in developed countries to work from home. However, even in those countries more than half of the jobs are unsuitable for teleworking. Moreover, questions have been raised about the efficiency of this mode of employment. On the one hand, remote work provides a more flexible schedule and reduces transportation costs (and thus emissions and air pollution). On the other hand, a lack of self-organization, the cost of arranging a workplace at home, and the absence of face-to-face interaction also can reduce productivity. The best option may be so-called hybrid work, where employees work from home only part of the time.

Before the COVID-19 pandemic broke out, the proportion of people working remotely was gradually increasing, especially in developed countries. Specifically, between 2000 to 2019, the number of Americans who chose this mode of employment increased to 5.7% from 3.3% of the workforce, according to a U.S. Census Bureau report. A number of studies highlighted the benefits of remote work, both in terms of [increasing productivity](#) and [reducing costs](#).

A [study based on the work of a travel agency call center](#) showed that the number of successful calls (those resulting in services being ordered) increased by 13.5% after some of the employees started working from home. In effect, this brought the firm another weekday's worth of profitable performance. Two-thirds of this gain came from an increase in the number of minutes worked (fewer breaks and medical leaves), while the rest came from a higher number of calls per minute (probably due to a calmer working environment). In fact, the increase in productivity was an unintended effect of the main goal, which was to reduce the cost of office equipment (this also was accomplished).

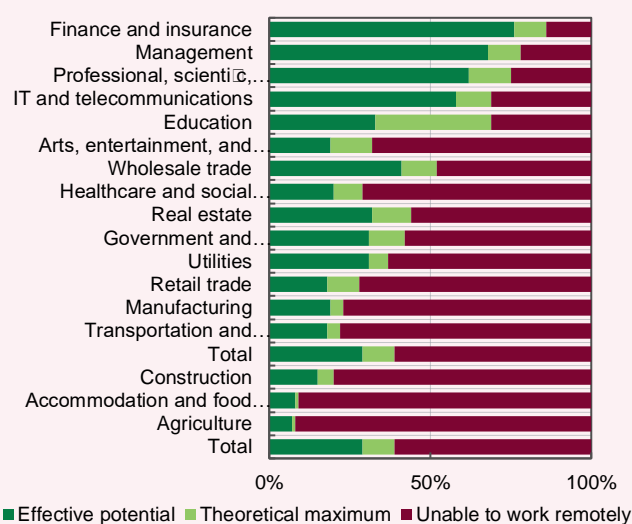
Research conducted in 2020 [raised questions about potential issues with working remotely](#), from the adequate provision of unemployment benefits to safety and quality of the workplace outside the office. Data for Italy show that wages have trended higher to reward the growth in productivity since people started working from home. However, these benefits have been distributed unevenly. Most of the benefits have gone to men, seniors, those with a higher education, and those holding high-paying jobs. That is, the spread of remote work practices has the potential to increase inequality.

[According to other researchers](#), the question is not whether work is more efficient at home or in the office, but rather how to distribute work between two or more workplaces so that the satisfaction of both employees and employers is ¹⁴ could not currently be replaced with full-time or part-time remote work. Some of the jobs require specialized equipment, from machines to X-ray rooms. Other jobs involve face-to-face contact or can only be performed at a specific location (e.g. jobs in border control).

Opportunities for remote work are concentrated in several sectors that involve workers with significant skills and education, such as IT. The greater weight of agriculture and industry in EMs (where the services sector is smaller than in

maximized. Quarantine restrictions in different countries have significantly increased the number of remote workers, for now at least. As the first wave of the pandemic peaked in the United States, 51% of respondents in a Gallup survey said they were working from home. As of September, this figure shrank to [33%](#), but since then it has still remained higher than the pre-crisis level. Other countries for which data are available have also experienced an upsurge in remote working.

Figure 1. Potential share of time that may be spent working remotely by sector in the United States, %



Source: [McKinsey Global Institute](#).

Despite these changes, the modern economy still needs a significant number of people working on site. A [McKinsey Global Institute study](#), among others, showed that at least half of the jobs in the sample countries

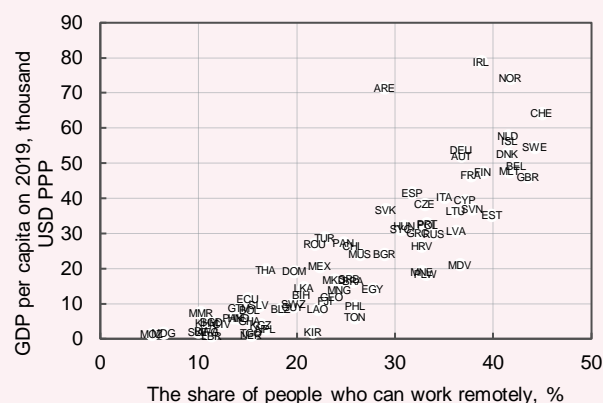
developed economies), as well as a less educated workforce, means that these countries have far fewer opportunities for remote employment.

In addition, there are a number of jobs that can be performed remotely, but are traditionally perceived as more productive when performed on site. This applies to physical exams and doctor appointments, which [in some parts of the 1950's Australia](#), for example, were carried out by radio, settlements being located at considerable distances from each other.

¹⁴ China, France, Germany, India, Japan, Mexico, Spain, the UK, and the United States.

Other developed countries had the same technical capabilities, but chose to use more effective methods. During the COVID-19 pandemic in Ukraine, family doctors have also been providing consultations by phone or online, and a [remote medical advice center](#) has actually been established, which has not only accelerated the exchange of information, but also reduced the risk of infection. This counseling practice is likely to continue.

Figure 2. Dependence between the share of people who can work remotely and country GDP per capita (PPP basis)



¹⁵ has shown that in April 2020, 40.4% of respondents worked from home part-time or full-time, while 24.8% did not work, because they did not have a job or took paid or unpaid leaves. Respondents in education and research were more likely to work remotely. The more educated and the higher up the management hierarchy a person was, the more likely they were to work from home.

The theoretical cap on those who can work from home is 38% for high-income economies and only 13% for low-income ones, a [2020 study by Dingel and Neiman](#) showed. Some [studies](#) use these data as a basis for more accurate estimates, such as those taking into account internet access (vital for most jobs done remotely). Ukraine was left out of the sample, but assuming that there is a linear relationship between the share of people who can work from home and the country's GDP at PPP (see Figure 2), this share for Ukraine will stand at about 20%.

[The World Economic Forum's *The Future of Jobs Report 2020*](#) segments workers during and after the pandemic into three main categories:

- “essential workers,” who must continue to work on site, such as delivery personnel, carers and health workers, food shop workers, agricultural workers and manufacturers of medical goods
- “remote workers,” who can work remotely and are likely to keep their jobs during the pandemic, such as those working in IT and finance
- “displaced workers,” who have been displaced from their jobs during the pandemic and potentially in the future,

Source: Dingel and Neiman [How Many Jobs Can be Done at Home?](#)

According to the study [Consequences of the COVID-19 Epidemic and Quarantine Measures for the Leading Sectors of Ukraine's Economy](#), the remote employment situation in Ukraine has been similar to that in other countries. Businesses in the services sector, such as IT firms and financial institutions, were able to put some of their staff to work from home relatively quickly. In contrast, transport and agriculture have been unable to do so due to the nature of the technology involved, while businesses providing courier delivery services during the quarantine have actually hired more people who cannot work remotely.

A [survey by KSE](#)

and who primarily fall into the sectors hit hardest by the pandemic, including hospitality, retail, services, and travel and tourism.

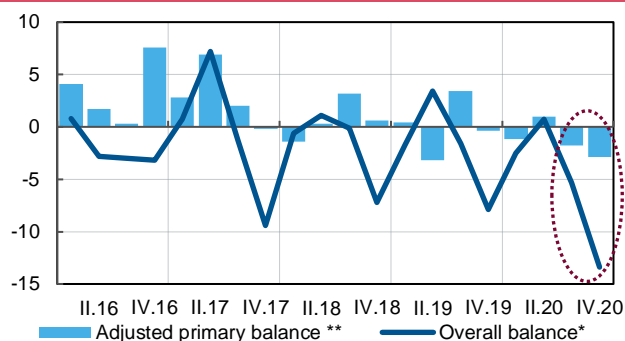
The [current trend towards robotization](#) will also have a significant impact on the future of the labor market. On the one hand, robots could take over [85 million jobs worldwide](#). For instance, trucking is expected to be carried out by unmanned vehicles, meaning that in the U.S. alone, [1.8 million truckers](#) will have to be laid off. Low-paid [work like flipping burgers could also be robotized](#). [On the other hand, robotization will create 97 million new jobs in 2020–2025, according to the IMF](#). Demand for specialists in green energy, AI, information security, etc. will increase. This process will affect not only developed economies, but also countries like Ukraine. This means that going forward, people should start to acquire skills that will be in demand in the labor market.

¹⁵ The survey was carried out using a mobile app and does not reflect the situation in small towns and rural areas.

2.4. Fiscal Sector

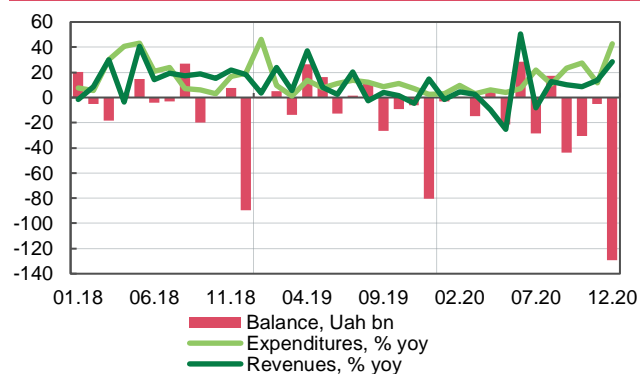
- Fiscal policy eased markedly in late 2020, as the government caught up on the backlog of expenditure financing (for both priority and other areas), thus supporting economic recovery.
- Tax revenue growth sped up, propelled by economic factors (mainly the rapid recovery of domestic demand) and administrative factors (an improvement in the administration of some taxes and tax payments by certain state companies to the budget).
- Q4 saw record-high borrowing on the domestic market. Together with external financing, this allowed the government not only finance its current needs but also accumulate a sizeable amount of funds to support the economy and finance expenditures in early 2021. On the flip side, this increased public debt as a share of GDP.

Figure 2.4.1. Fiscal balance, % of GDP* and % of potential GDP**



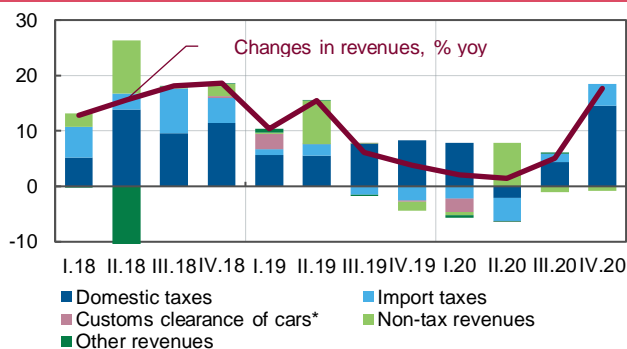
* Overall balance (% of GDP) is the consolidated budget balance, taking into account loans to the Pension Fund from the STA; ** Cyclically adjusted primary fiscal balance (CAPB) of the general government (% of potential GDP). CAPB is the difference between sa revenues, in the structure of which tax revenues are adjusted for cyclical changes in GDP, and sa primary expenditures. One-off proceeds (such as unplanned funds from special confiscation and effects of the Stockholm Arbitration Court's ruling) are subtracted from revenues. A positive value indicates tight fiscal policy, negative – expansionary fiscal policy. Source: STSU, NBU staff estimates.

Figure 2.4.2. The main indicators of the consolidated budget



Source: STSU, NBU staff estimates.

Figure 2.4.3. Contributions to annual changes in revenues of the consolidated budget, pp



Source: STSU, NBU staff estimates.

¹⁶ The tax breaks included not levying the personal income tax on one-off benefits payable to those who have lost their income because of a ban on their activity; exempting category I sole proprietors from the unified tax and the SSC for the period from 1 December 2020 until 1 May 2021, with the period of exemption added to their pensionable service record; [and addressing tax debt](#).

¹⁷ Planned amounts for the general fund of the state budget.

Fiscal policy eased markedly, especially at the end of the year, driven by significant borrowing

In Q4, the consolidated budget deficit hit almost UAH 165 billion, while the cyclically adjusted primary deficit widened (indicating a loose policy). The loose fiscal policy was reflected in a significant rise in expenditures to finance priority areas and to catch up on a backlog of expenditures on other areas mainly at the end of the year. This supported domestic demand and the labor market. The spike in expenditures became possible primarily through large-scale borrowing. The tax breaks¹⁶ for micro- and small businesses introduced in late 2020 and partly [implemented](#) in December also propped up the activity and financial standings of some entrepreneurs.

Although being smaller than expected, the 2020 consolidated budget deficit was still substantial – almost UAH 224 billion, or 5.5% of GDP. The temporary widening in the fiscal deficit to support the economy during the crisis was justified and was made possible by some fiscal space achieved in previous years.

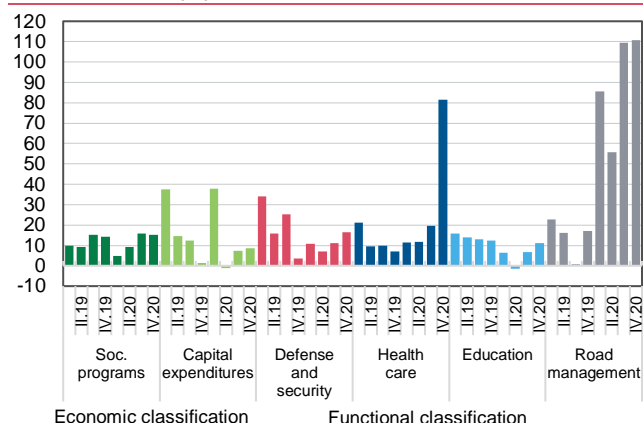
Tax revenue growth accelerated, buoyed by economic and administrative factors

The rapid recovery of economic activity and consumer demand bolstered tax revenue growth. Despite the crisis, state budget revenues exceeded the planned amount by 2.2%¹⁷, mainly due to domestic taxes, which exceeded the planned amount by UAH 48 billion, or 12.4%¹⁷.

Personal income and consumption tax revenues (domestic VAT and excise taxes) grew, driven by an increase in household income resulting, among other things, from higher wages. The slower decline in exports and the weakening in the nominal effective rate of the hryvnia also contributed to the tax revenue growth. Proceeds from royalties also increased on the back of higher energy prices.

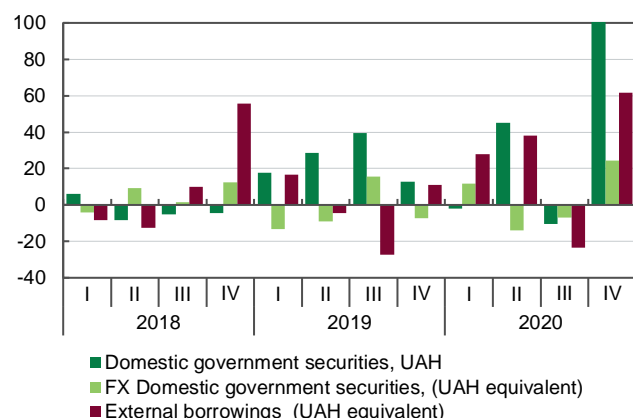
Apart from economic factors, tax revenues were affected by administrative factors. In particular, a substantial increase in proceeds from domestic VAT was the result of, among other things, the better [administration](#) of the tax. The completion of [debt settlements](#) between the government, Naftogaz and Ukrnafta also generated significant one-off additional tax revenues. At the same time, corporate income tax proceeds

Figure 2.4.4. Growth in consolidated budget expenditures by selected areas, % yoy*



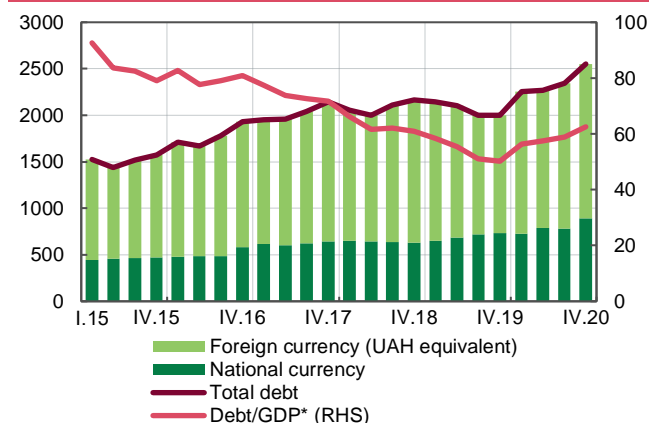
Social programs include wages and social care. Defense and security includes defense and public order, security and the judiciary.
Source: STSU, NBU staff estimates.

Figure 2.4.5. State budget net borrowings*, UAH billion



* Q3 2020 borrowings do not include government bonds issued to increase banks' authorized capital and Ukraine's GDP-linked Securities.
Source: STSU, NBU staff estimates.

Figure 2.4.6. Public and publicly guaranteed debt (by repayment currency*), UAH bn and % of GDP**



* In the absence of detailed information on debt repayment by currency as of September 30, 2015 and September 30, 2016, the currency structure was approximated based on data for October 31, 2015 and August 31, 2016, respectively.
** GDP for 2020 - NBU estimates.
Source: MFU, SSSU, NBU staff estimates.

were practically at the previous year's level due to companies' poorer financial health on the back of the crisis.

The government sought to catch up on the backlog of expenditures on most areas, propping up economic recovery

As in previous periods, social protection programs were financed on a priority basis: social security funds received support, categories I and II of sole proprietors operating under the simplified taxation system received additional childcare support payments, and [one-off support payments](#) were introduced for those who have lost their income because of a ban on their activity imposed during stricter quarantine measures. Expenditures on wages grew, driven by an increase in the minimum wage and wage supplements for certain categories of workers involved in the eradication of COVID-19. Priority expenditures continued to include collective services, such as healthcare, defense and security. Large expenditures on road infrastructure and defense promoted construction growth (mainly engineering constructions), while also supporting mechanical engineering.

Debt servicing costs were smaller than planned. This enabled the government to re-allocate funds to other areas. The government caught up significantly on the backlog of expenditures on education, art and culture, tourism and sports in Q4. This provided additional impetus to the recovery of the services sector.

Record-high domestic borrowing, together with external financing, increased debt, while also allowing the government to accumulate significant funds to finance expenditures in early 2021

The widened deficit was mainly financed out of borrowed funds. The rebound in demand for domestic debt government securities starting in mid-December led to record-high domestic borrowing. December also saw the arrival of external financing from official partners and commercial borrowing. The large-scale borrowing enabled the government to catch up on the backlog of expenditures in 2020 and accumulate significant funds to finance expenditures in early 2021.

With substantial net borrowings and guarantees for the development of road infrastructure and for loans that aim to decrease the debt of electricity market participants (read more in Box 8 *Electricity Market Debts* on page 50), public and publicly guaranteed debt increased in Q4 both in absolute terms and relative to GDP. Although having little impact on the amount of debt in Q4, the exchange rate factor significantly affected debt growth compared to the start of the year – the NBU estimates that over half of the debt growth resulted from exchange rate revaluations.

Box 4. Ukraine's 2021 state budget in figures

The Law On State Budget for 2021 was passed with a deficit of UAH 246.6 billion, or 5.5% of GDP¹⁸. Although the planned budget deficit for 2021 narrowed relative to the target for 2020 (UAH 298.4 billion and 7.5% of GDP), it is wider than the actual deficit seen in 2020. At the same time, the negative primary balance is projected to decline to 2% of GDP, indicating a moderate fiscal consolidation as early as this year. Macroeconomic parameters in the current environment indicate that risks for the collection of tax revenues are balanced. As with the previous year, the main risks lie in debt financing. Large borrowings on the domestic market will require high interest rates to be maintained on domestic government debt securities as competition for bank resources with businesses intensifies. In addition, this poses a risk of lending being crowded out.

According to the approved indicators, both revenues and expenditures of the state budget are expected to increase rather moderately in 2021 (by 0.8% and 2.5%, respectively) compared to the actual¹⁹ values seen in 2020. Macroeconomic parameters in the current environment indicate that risks to the collection of tax revenues are balanced. Specifically, backcasting shows that the exchange rate assumptions used in budgeting have not materialized for several years running (2017–2020). However, higher nominal GDP and slightly higher imports, according to the NBU forecast, may offset potential losses of tax revenues should exchange rate risk materialize. At the same time, budget revenues are still at risk from noneconomic factors. In particular, the amount of NBU profit that the government expects the NBU to transfer to the state budget exceeds the NBU's own forecast, while proceeds from gambling licenses depend on the terms on which this market is launched.

Table 1. The main macroeconomic parameters

Indicator	2021	
	CMU	NBU
Nominal GDP, UAH billion	4505.9	4580
Real GDP, %	4.6	4.2
Consumer price index, % (Dec /Dec)	7.3	7
Exports of goods and services (USD billion)	60.2	64
Imports of goods and services (USD billion)	70.6	73.1
Exchange rate, UAH/USD (average)	29.1	-
Nominal average wage, % yoy	21.1	16.6

Source: CMU, NBU staff estimates.

The social focus of expenditures has been prioritized this year as well, with the minimum wage being raised (to UAH 6,000 from 1 January 2021, and to UAH 6,500 from 1 December 2021). Wage increases for healthcare workers and educators have been announced, expenditures for various types of benefits have been increased, and assistance to pensioners over the age of 75 has been introduced. This support for households will fuel consumer demand.

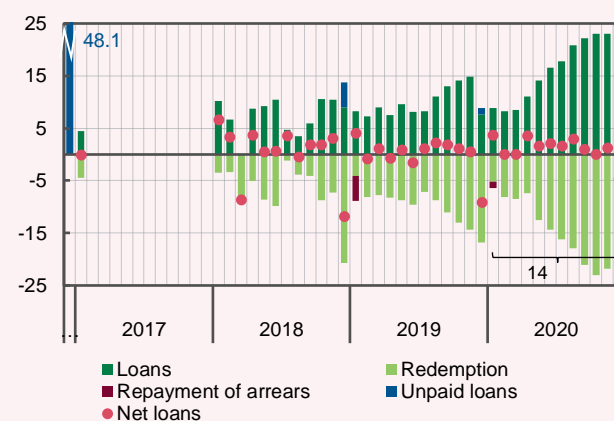
Expenditures on humanitarian and cultural affairs, education, and health care have also increased. Expenditures to develop road infrastructure and to support a number of regional programs have been planned. All of these efforts aim to support economic activity.

In 2021, no direct expenditures have been planned for the Anti-COVID-19 Fund, but there will be spending on health insurance programs, vaccination, and COVID-19 prevention in schools. Funds will go immediately to key managers, which

is a more transparent and understandable approach to resource allocation than in 2020.

Support for the Pension Fund is slightly lower compared to the previous year due to higher expected revenues from the SSC. In previous years, however, the Pension Fund needed regular support from the STA to cover liquidity gaps during the year. In 2020, the outstanding amount of such loans amounted to UAH 14 billion.

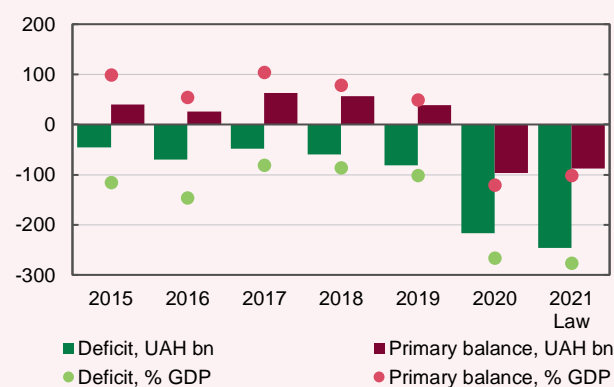
Figure 1. Pension Fund loans from the STA, UAH billion



Source: STSU, NBU staff estimates.

To finance planned expenditures, the state budget deficit was set at UAH 246.6 billion (5.5% of GDP). This is less than was planned for 2020, which is undoubtedly a positive signal for the market and investors, but it exceeds the actual deficit seen in 2020.

Figure 2. State budget balance*



* Functional classification was used to calculate the primary balance of 2015 - 2020.

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

¹⁸ The GDP data used here and further were taken from the Cabinet of Ministers forecast on which the 2021 state budget is based.

¹⁹ Based on a debt settlement between the government, Naftogaz, and Ukrnafta.

A temporary increase in the deficit during the crisis is a viable measure. However, a prolonged high deficit depresses economic development and aggravates the risk of private investment being crowded out. The projected narrowing of the negative primary balance indicates the beginning of fiscal ²⁰.

The planned deficit and debt commitments are to be financed almost entirely by borrowing (which is estimated at more than 15.6% of GDP). Domestic borrowing dominates (UAH 497 billion, or 11% of GDP). A significant amount of domestic borrowing will require high yields to be maintained on domestic government debt securities²¹ due to increased competition with the real sector for banking resources.

The government expects that the bulk of external borrowing will come from Ukraine's official partners (the IMF, World Bank, and European Commission). The cost of this borrowing is much lower than that of market instruments, but the

consolidation. This will stabilize the debt to GDP ratio, and bring it back on a downward trajectory. In 2021, the level of public and publicly guaranteed debt is expected to decline, although it will remain above 60% of GDP

financing under the World Bank and European Commission programs is closely tied to the implementation of the IMF program. Should talks with the IMF stall, the burden on the domestic debt market will rise. In addition, proceeds from privatization seem ambitious. If they were to come in lower than expected, borrowing needs would also increase.

Given the risks discussed above, the NBU expects a budget deficit of 4.5% of GDP. However, it will remain significant, allowing the authorities to support households and the economy as the country fights the pandemic (for details, see Section 3.2 on page 42).

Table 2. The main parameters of the state budget

	2020	2021	2020	2021	2020	2021
	Fact	Law	% yoy		% GDP*	
Revenues, total	1076.0	1084.0	7.8	0.7	26.4	24.1
Tax revenues	851.1	929.5	6.4	9.2	20.9	20.6
PIT	117.3	137.6	6.7	17.3	2.9	3.1
CIT	108.7	107.7	1.5	-0.9	2.7	2.4
Royalties	52.5	40.6	12.3	-22.7	1.3	0.9
Excise tax	138.3	138.8	12.1	0.4	3.4	3.1
Domestic excise tax	80.4	83.1	15.1	3.3	2.0	1.8
VAT	400.6	468.5	5.8	16.9	9.8	10.4
Domestic VAT, incl. refund	126.5	136.0	42.2	7.5	3.1	3.0
Imported VAT	274.1	332.5	-5.4	21.3	6.7	7.4
Non-tax revenues, other revenues	224.9	154.6	13.3	-31.3	5.5	3.4
Expenditures	1288.0	1320.2	19.8	2.5	31.6	29.3
Net lending	5.1	10.5	20.9	106.4	0.1	0.2
Balance (- deficit)	-217.1	-246.6	-	-	-5.3	-5.5

* GDP for 2020 - NBU estimates, GDP for 2021 - CMU forecast.

Source: STSU, VRU, NBU staff estimates.

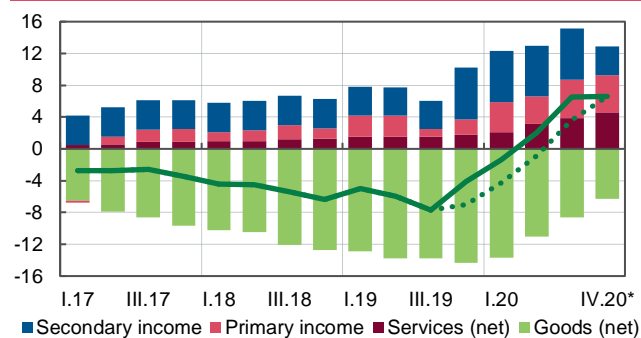
²⁰ A debt-to-GDP ratio of 60% is considered one of the key convergence criteria (known as the Maastricht criteria).

²¹ According to the explanatory note to the draft Law of Ukraine *On the State Budget of Ukraine for 2021*, now pending second reading in parliament, the weighted average rate for domestic debt instruments has been raised by 0.6 pp.

2.5. Balance of Payments

- The surplus of Ukraine's current account hit one of its highest levels in history. The surplus resulted from a significant drop in imports of goods and services, lower primary income payments, and the relative resilience of exports of goods and remittances.
- The optimism of investors on the global financial markets helped the government sector borrow substantially at the end of 2020, which somewhat offset capital outflows recorded in previous periods.
- Despite the crisis and large repayments of external debt, gross international reserves grew in 2020, while the crisis once again demonstrated the importance of international support and a prudent macroeconomic policy.

Figure 2.5.1. Current account balance, 12-m rolling, USD bn



* Preliminary data for December 2020.

Dotted line – without compensation paid by Gazprom.

Source: NBU.

Figure 2.5.2. Annual change in commodity trade balance* due to price effects and commodity terms of trade index

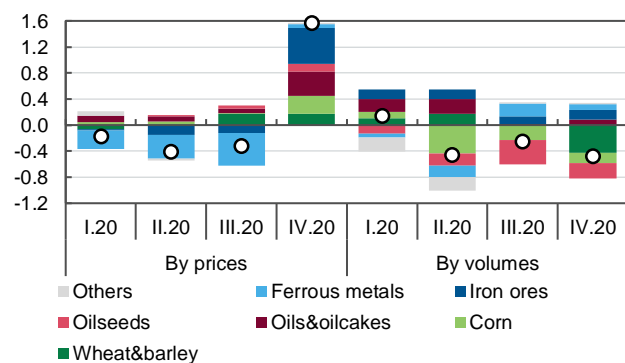


* 67% and 16% in exports and imports in 2020 respectively.

** Preliminary data for December 2020.

Source: NBU staff estimates.

Figure 2.5.3. Annual change in volumes and prices of selected export goods*, USD bn



* 79% of goods exports.

Source: SCSU, NBU staff estimates.

Robust external demand for food mitigated the decline in exports of goods during the crisis, while higher prices spurred export growth at the end of the year

The large share of food in the composition of Ukrainian exports proved to be an advantage during the current crisis. Global demand for food remained rather strong, thanks to the non-economic nature of the crisis and smaller income elasticity of food demand. In addition, export restrictions imposed by some countries increased sales opportunities for Ukrainian producers of goods. The rapid recovery of the Chinese economy was also favorable for domestic producers, including in Q2 2020 – the hardest period. In Q4, exports rebounded in terms of value (by 9% yoy), driven by material increases in the prices of Ukraine's main exports. Over the whole of 2020, exports declined by only 2%.

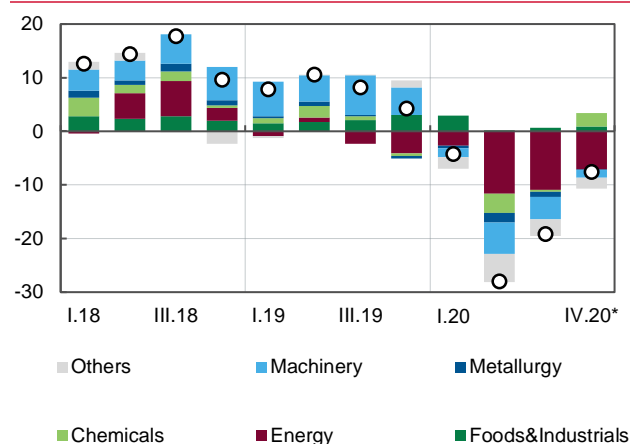
More specifically, total food exports in 2020 remained at last year's level, thanks to the recovery seen in Q4. High grain and oilseed prices partly offset the effect of the poorer harvest compared to that of last year, while last year's bumper harvest of sunflowers ensured record-high exports of sunflower oil. The revival of the global economy seen at the end of 2020 fueled growth in metallurgical exports in Q4, both due to both prices and volumes. Iron ore exports reached an all-time high, buoyed by larger exports to China and a rise in global prices resulting from a drop in exports from Australia and Brazil. Exports of mineral fertilizers grew further, propelled by low gas prices. Machinery exports were little changed over the year, as a decrease in orders for railway wagons and spare parts for them was offset by exports of turbojet engines.

Despite there being some recovery of domestic demand in Q4, imports of goods shrank significantly over the year

Imports of goods dropped more pronouncedly in 2020 compared to exports. Although the gradual revival in domestic demand slowed the decline in imports in Q4, to 7.5% yoy, in 2020 as a whole imports contracted by 14.7%. The decline was mainly attributed to a slump in energy imports, due to lower energy prices and lower imports resulting from the build-up of large inventories in 2019. Therefore, the rise in energy prices seen in late 2020 had a minimal effect on the performance of energy imports.

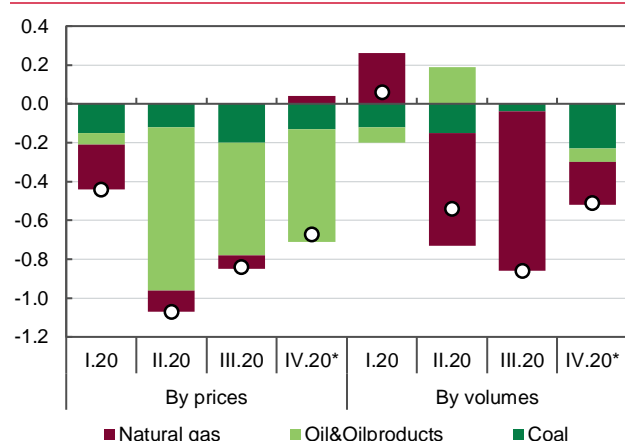
Investment demand, which remained depressed throughout the year, showed signs of a gradual revival at the end of the

Figure 2.5.4. Contributions to annual change in merchandise imports, pp



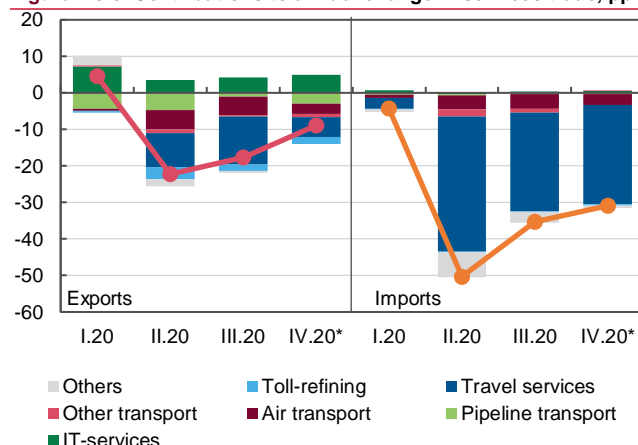
* Preliminary data for December 2020.
Source: NBU staff estimates.

Figure 2.5.5. Absolute annual change in energy imports, USD bn



* Preliminary data for December 2020.
Source: SCSU, NBU staff estimates.

Figure 2.5.6. Contributions to annual change in services trade, pp



* Preliminary data for December 2020.
Source: NBU staff estimates.

year. Despite some improvement in companies' business expectations in late 2020, the increase in imports of motor vehicles in Q4 failed to offset the slump in these imports seen in earlier periods. Imports of alternative energy equipment also continued to decrease because of legislative uncertainty affecting the sector. As a result, machinery imports fell by 4.1% yoy in Q4 or by 10.1% in 2020 as a whole. At the same time, the substantial rebound in consumer demand in H2 spurred growth in imports of food and household appliances. Conversely, industrial imports dropped, due to, among other things, a change in consumer behavior brought about by the widespread introduction of remote working. In addition, the slump in informal imports persisted on the back of more stringent border crossing rules.

Higher morbidity and quarantine measures affected imports of medical goods. More specifically, Q4 saw a noticeable increase in imports of medical instruments and appliances, mainly oxygen therapy apparatus. Increased demand for pharmaceuticals, in particular vitamins, was reflected in the more rapid growth of chemical imports.

The current account surplus was also generated by a large surplus in the trade in services and a record-high primary income account surplus

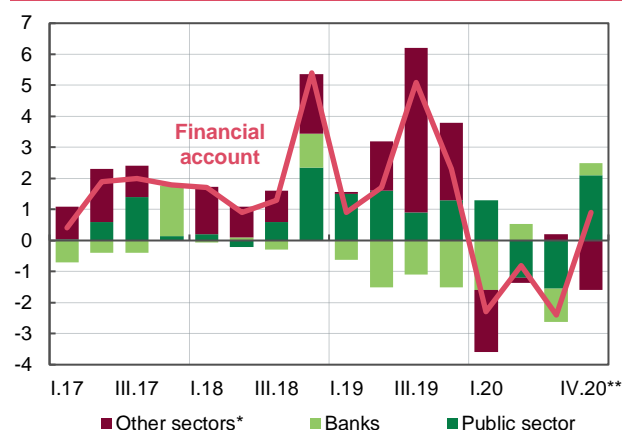
The halt in tourism had a more pronounced effect on imports of services compared to exports, as the share of travel services in imports is considerably larger than it is in exports. Exports of IT services grew at a steady pace, while Gazprom's use of additional gas transit facilities in Q4 somewhat mitigated the decline in exports of pipeline transportation services on the back of last year's high comparison base. This resulted in a large surplus in the trade in services.

The primary income account surplus hit a record high in 2020. Despite the borders being closed, remittances increased in 2020 due to persisting high demand for labor migrants (such as IT specialists) from the main host countries, and labor migrants actively returning to other countries after the first wave of lockdowns. Reinvested earnings entered negative terrain in the wake of the lower financial results of companies with foreign investment. This in turn decreased primary income payments, in spite of larger amounts of dividends being repatriated.

Capital outflow from the financial account ceased in late 2020, thanks to investors' optimism

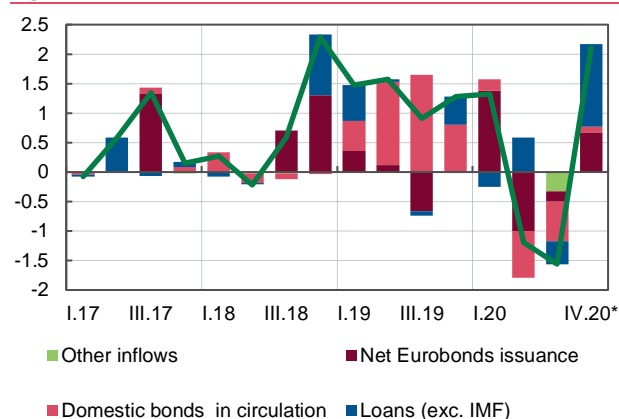
Ukraine, like all other EMs, faced capital outflows during the crisis periods in 2020. More specifically, the capital flows of the government sector were affected by a moderate decrease in nonresident holdings of government securities. In addition, the government made substantial external debt repayments, which were only partially covered by new borrowing. Nevertheless, positive developments in late 2020 reversed these trends (read more in Box 5 *The Capital Markets in 2020: Fear and Greed* on page 31), resulting in a halt to the

Figure 2.5.7. Financial account: net external liabilities, USD bn



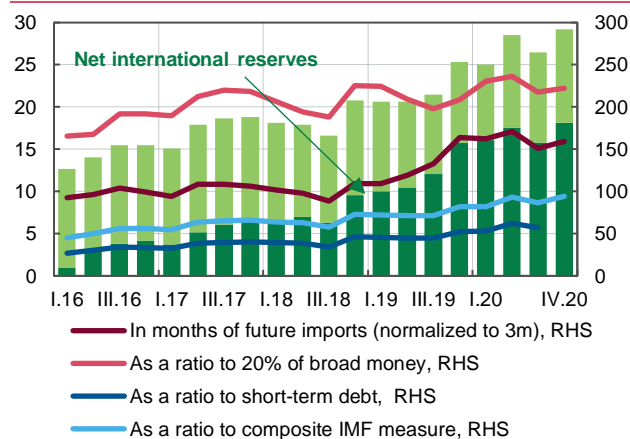
* Including net errors and omissions.
 ** Preliminary data for December 2020.
 Source: NBU.

Figure 2.5.8. Public sector: net external liabilities, USD bn



* Preliminary data for December 2020.
 Source: NBU.

Figure 2.5.9. Gross international reserves and adequacy criteria



Source: NBU staff calculations.

capital outflows in Q4. Nonresidents renewed their interest in government securities, while the government [issued additional Eurobonds](#). Moreover, Ukraine received a macro-financial assistance package from the EU and cooperated with private creditors. As a result, government borrowing in Q4 offset the outflows that occurred during the crisis and the peak repayments of public debt. Over 2020 as a whole, the government sector posted an inflow of USD 0.7 billion.

In contrast, the private sector recorded capital outflows throughout the year, which hit a total of USD 5.3 billion. Capital outflows from the banking sector were mainly caused by domestic factors: banking sector assets grew mainly due to the government’s net repayments of foreign currency domestic government debt securities. Real sector capital flows were influenced by the effects of the global lockdown: the amount of foreign cash outside the banking system expanded because of a decrease in financing for informal trade and international travel, while lower financial results of enterprises resulted in negative reinvested earnings and, consequently, FDI outflows.

Ukraine has come through the crisis successfully, thanks to the safety margin it built up in previous periods and support from international financial institutions

The large current account surplus, coupled with cooperation with international investors, reduced the need for external financing, supported Ukraine’s external sustainability, and increased international reserves. Despite the crisis and peak repayments of external debt, reserves hit an eight-year high – USD 29.1 billion or 4.8 months of future imports. This improved all reserve adequacy criteria. In particular, according to the IMF ARA metric reserves have hit almost 95% of the required minimum.

Despite Ukraine coming successfully through 2020, challenges to the country’s external sustainability remain substantial. This is primarily due to rising external debt and large payments to be made in 2021 amid uncertainty as to how the pandemic will develop.

Box 5. The Capital Markets in 2020: Fear and Greed

2020 was a year of upheaval. It saw the rapid unfolding of the pandemic, unprecedented quarantine restrictions, deep crises, and large-scale fiscal and monetary stimulus provided in response. However, quite unexpectedly, the financial markets ended the year with a tremendous rise. Optimism in the markets was fueled by news of successful clinical trials of the COVID-19 vaccine and the start of vaccination campaigns in some countries. The end of the elections in the United States was an additional factor. The general euphoria was also felt in Ukraine – December witnessed a placement of Eurobonds and the renewal of nonresidents’ interest in government securities. This enabled the country to finance its budget deficit and increase international reserves to [an eight-year high](#), while also preventing the build-up of significant pressures on inflation and the exchange rate. However, despite there being optimism in the international capital markets, such borrowing was possible thanks to international support and the macrofinancial stability attained in previous years.

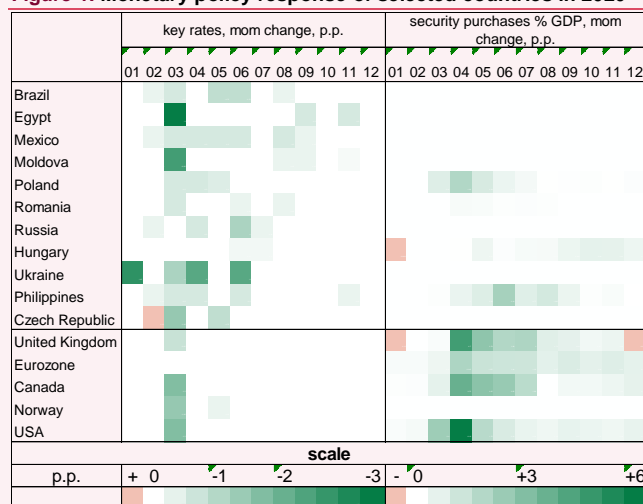
Factors that determine capital flows during crises Any global economic crisis increases risks and causes investors to look for safe havens ([Duca, 2012](#)). So-called push factors come into play. These are mainly external factors that determine the global supply of liquidity: expectations of global risk, prices on the global commodity markets, and the level of economic activity in advanced economies. As a result, negative expectations usually lead to capital outflows – mainly from EMs, which are more risky than advanced economies. However, when economic turmoil subsides, investors mainly regain their interest in these capital markets, as pull factors come into play. It is pull factors that determine the volume and pace of capital return to different countries. They include the quality of domestic institutions, a country’s risk, domestic macroeconomic stability, and anti-crisis measures. This time, the extremely soft monetary conditions in advanced economies and the return of risk appetite after the successful clinical trials of COVID-19 vaccines also led to record capital inflows in EMs in late 2020.

An analysis of global capital flows in 2020. Despite the world’s experience in overcoming previous crises, 2020 was distinctive for its capital volatility. The primary cause of the coronavirus crisis was purely external, and unrelated to internal economic or financial imbalances. It was strict quarantine measures and uncertainty about the duration of the pandemic that caused a global shock, both from the supply side and the demand side. This resulted in a significant drop in economic performance indicators. Compared to previous crises, the capital outflows from EMs were more rapid and massive, mainly driven by the flight of portfolio investment (USD 83 billion in March alone according to [IIF data](#)). As is always the case during crises, FDI was more resilient. The decrease in FDI, in particular in EMs, was mainly attributed to negative reinvested earnings resulting from companies’ financial losses of enterprises ([OECD, 2020](#)). Moreover, FDI in EMs fell less compared to that in advanced economies, due to the greater share of greenfield investments ([UNCTAD, 2020](#)).

The large-scale crisis required unprecedented support measures. With key policy rates close to zero, or sometimes even negative, the monetary toolkit of advanced economies was largely exhausted. That is why these

countries had to resort to unconventional tools, such as quantitative easing and additional lending. Over the first several months of the year alone, the Fed’s securities purchases were [double](#) the amount purchased under similar programs in 2008 – 2010. Conversely, most EMs had sufficient room for cutting their key policy rates, and so used unconventional tools only occasionally. Rapid and large-scale anti-crisis measures created extremely loose conditions on the international capital markets.

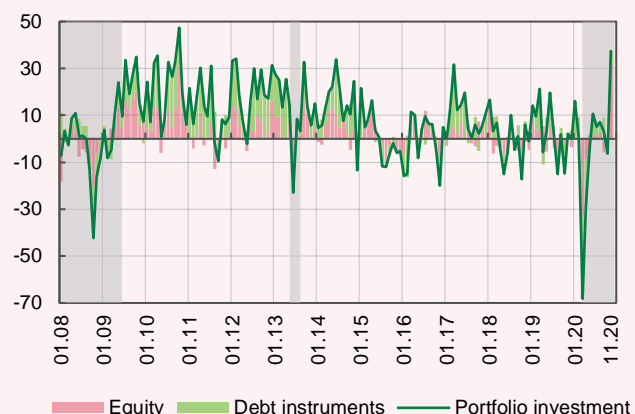
Figure 1. Monetary policy response of selected countries in 2020



Source: official web-pages of central banks.

Successful clinical trials of COVID-19 vaccines and the end of the presidential elections in the United States increased investors’ risk appetite at the end of 2020. The provision of [additional fiscal stimulus by the U.S. government](#) was another factor that fueled investors’ appetite. The capital was invested in the debt instruments of EMs, which offered attractive yields and wished to raise funds because of their accumulated financing needs and the current drop in risk premiums. According to IIF data, emerging markets received USD 76 billion in portfolio investment in November alone. In Q4, this investment totaled USD 180 billion. The last such rapid inflows of investment were recorded in 2014. Favorable conditions on the international financial markets for emerging markets are expected to persist into 2021.

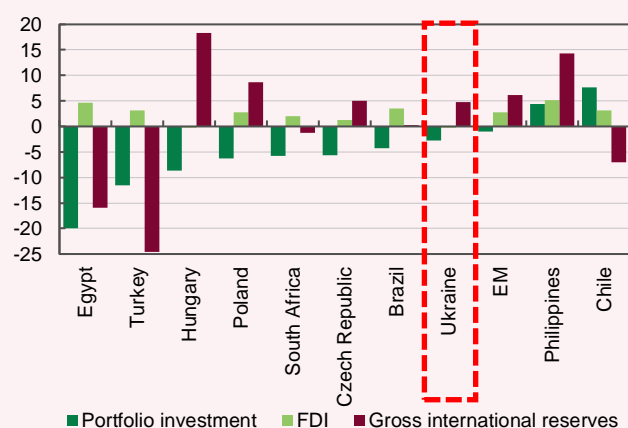
Figure 2. EM: portfolio flows, USD bn



* Includes a group of 18 countries: Brazil, Bulgaria, Chile, Czech Republic, Hungary, India, Korea, Lithuania, Lebanon, Mexico, Pakistan, Philippines, Poland, Romania, South Africa, Thailand, Turkey, Ukraine.
Source: NBU, official web-pages of central banks.

Performance of the Ukrainian capital market. Although the country has experienced many crises before, it entered the current crisis with a substantial safety margin virtually for the first time. More specifically, the prudent monetary and fiscal policies pursued in recent years, structural reforms and the adoption of an inflation targeting regime ensured macroeconomic stability and created a safety cushion of large reserves. The flexible exchange rate once again acted as a built-in stabilizer during the crisis. As a result, despite general capital flight from EM's and large repayments of external debt, capital outflows from Ukraine were relatively moderate. Gross international reserves continued to grow, thanks to Ukraine's active cooperation with international financial institutions and the large current account surplus, which was generated by the considerable resilience of Ukrainian exports amid a substantial fall in imports.

Figure 2. Stock of direct and portfolio investments, gross international reserves, change over first 9 months of 2020, %



Source: IMF, National statistical offices, NBU.

The outflow of portfolio investment resulted from a moderate decrease in nonresidents' portfolio of hryvnia domestic government debt securities and scheduled repayments of external debt, which were somewhat offset by the placement of Eurobonds in July. In turn, FDI outflows were caused by negative reinvested earnings due to companies' poorer financial performance.

Extremely loose monetary conditions globally and lower risk premiums for EMs enabled Ukraine to [raise long-term financing by issuing bonds](#) with the lowest yields in its history. Moreover, nonresidents renewed their interest in Ukraine's hryvnia domestic government debt securities. Following a protracted period of outflows, the portfolio of hryvnia domestic government debt securities held by nonresidents increased by USD 350 million in December, with the total portfolio investment inflows hitting over USD 1 billion in December alone.

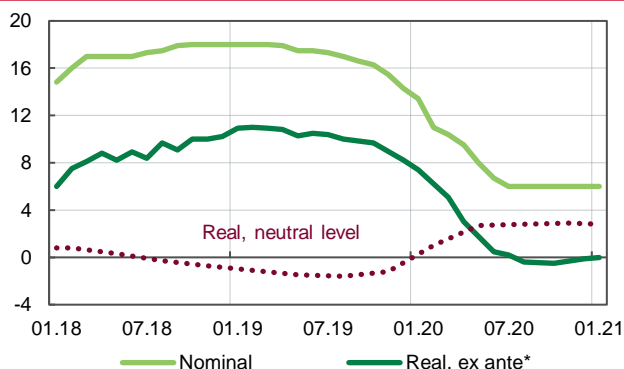
These funds, together with other external financing, enabled Ukraine to finance its budget deficit and build up reserves. Despite the crisis, in 2020, gross international reserves hit an eight-year high of USD 29.1 billion, closely approaching the required minimum according to the IMF ARA metric.

The role of support from international financial institutions. The experience of previous crises, which forced most countries to transition to inflation targeting and prudent strategies for addressing debt burdens, enabled EMs, including Ukraine, to mitigate the negative impact of the pandemic. In contrast to previous crises, Ukraine entered the current one with a cooperation program with the IMF, which despite some delays in cooperation, was one of the most important factors in mitigating the repercussions of the crisis. Cooperation with the IMF maintained Ukraine's access to cheap financing from international financial institutions compared to commercial borrowing, while also giving a positive signal to investors. More specifically, information about Ukraine and the IMF agreeing on key budget figures in late 2020 was welcomed by the financial markets, becoming one of the most important factors in the resumption of capital inflows into Ukraine.

2.6. Monetary Conditions and Financial Markets

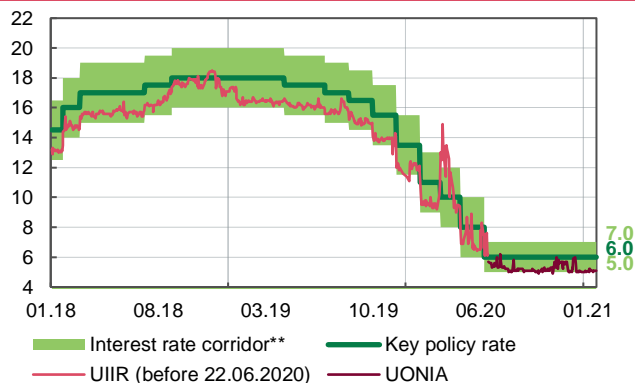
- In Q4 2020 and in early 2021, the NBU continued to pursue an accommodative monetary policy to support further economic recovery. The real key policy rate remained below its neutral level.
- Interest rates on hryvnia instruments moved in opposite directions. The banks continued to cut interest rates on most hryvnia loans and deposits. In contrast, the yields of domestic debt government securities rose somewhat in late 2020 on the back of the government's strong financing needs.
- The FX market trend reversed – the larger supply of foreign currency compared to demand in late 2020 helped strengthen the average monthly exchange rate in December. With the flexible exchange rate regime, the volatility of the hryvnia exchange rate remained moderate, and the NBU has been a net currency buyer for five years running.

Figure 2.6.1. Key Policy Rates, average, %



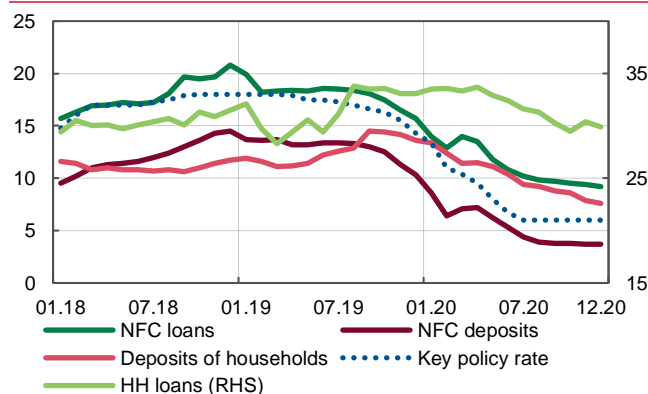
* Deflated by 12-month ahead inflation expectations of financial analysts (median). Source: NBU staff estimates.

Figure 2.6.2. NBU policy rates and UIIR/UONIA*, %



* As of 27.01.2021; ** Upper bound – interest rate on overnight loans, lower bound – overnight CDs. Source: NBU.

Figure 2.6.3. Weighted average interest rates on new hryvnia loans and deposits, %



Source: NBU.

Despite the key policy rate being unchanged, monetary policy was accommodative

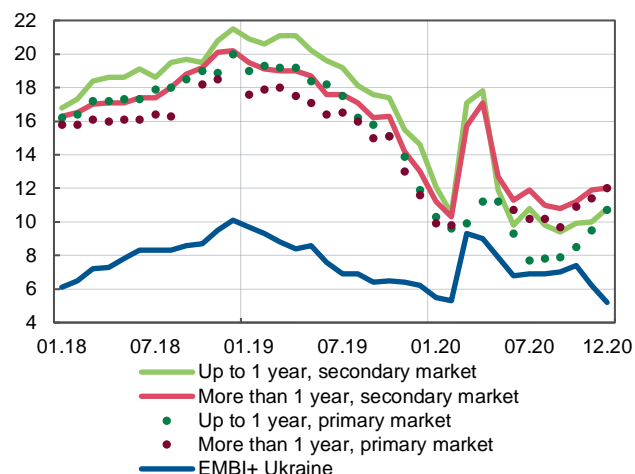
In Q4 2020 and [in January 2021](#), the NBU kept the key policy rate unchanged, at 6% per annum. The decision to keep the key policy rate unchanged resulted from the gradual increase in inflationary pressures amid great uncertainty over what impact the pandemic and fiscal impulse will have on consumer demand, business activity and expectations. A temporary cut in the key policy rate, together with the possibility of it rising again in the short-term, could have given market participants the wrong signal and have eroded trust in monetary policy. In addition, worsened inflation expectations, a significant shift in preferences in favor of more liquid assets, and pressures from rising yields on domestic debt government securities prevented the banks from actively decreasing deposit and loan rates. It is thus very unlikely that any further cuts in the key policy rate would have been transmitted to market rates. Therefore, the impetus for economic activity from looser monetary conditions would have been significantly limited. Despite the key policy rate being unchanged, monetary policy was accommodative, which is important for economic revival. The rapid cuts in the key policy rate in H1 2020 brought the rate to almost zero in real terms. Since August, the key policy rate has been in negative territory and far below its neutral level.

The higher volatility of interest rates on the interbank market in late 2020 reflected the market's low depth amid a slight narrowing in liquidity

Throughout most of Q4 2020, the [UONIA](#), the indicator of interest rates in the interbank market, hovered within a narrow range just above the lower bound of the NBU's interest rate corridor. The temporary rise in interbank rates seen in November – December resulted from the relatively low depth of the interbank market, and its segmentation. This was especially apparent during periods of narrower liquidity, in particular when quarterly tax and other payments were made to the budget.

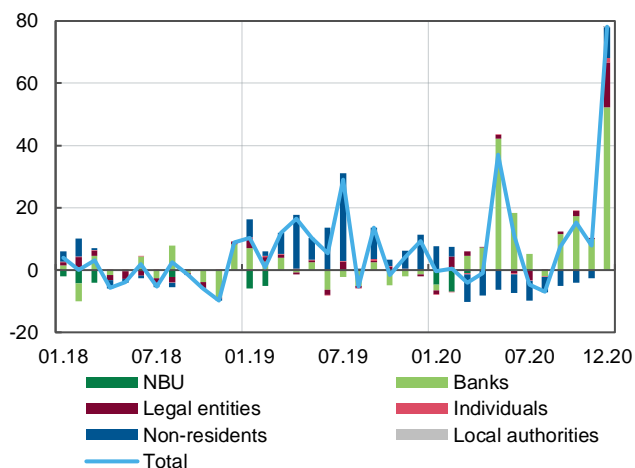
Although the overall structural liquidity surplus persisted in the banking system, there was an increase in the number of banks that required additional funds in some periods. This markedly boosted demand for refinancing loans in Q4 2020, making the loan channel the main source of banking system liquidity for the first time since the 2014 – 2015 crisis. The

Figure 2.6.4. Yields on hryvnia-denominated government debt securities by maturity and yields on Ukraine's eurobonds (EMBI+), %



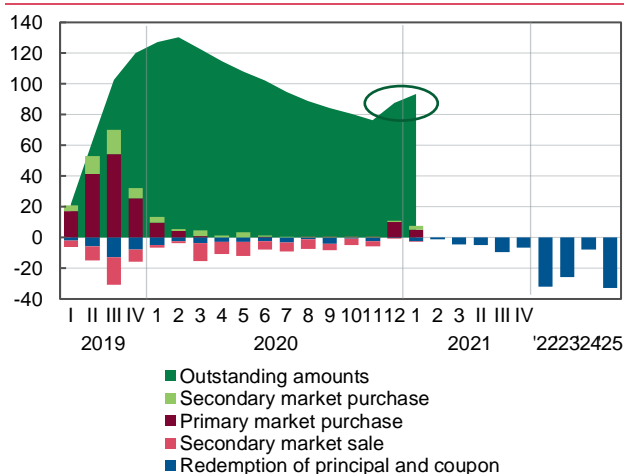
Source: Bloomberg, NBU.

Figure 2.6.5. Change in outstanding hryvnia-denominated government debt securities in circulation by holders, UAH bn



Source: NBU.

Figure 2.6.6. Transactions with hryvnia-denominated government debt securities by non-residents and their scheduled redemptions*, bn UAH



* As of 21.01.2021.
Source: NBU.

rising demand for refinancing loans resulted from some narrowing in liquidity (mainly due to an increase in cash) and the banks using these funds more actively to take on new exposures.

In Q4 2020, the banks continued to cut their weighted average interest rates on hryvnia loans and deposits, albeit more slowly. There were several reasons for this. First, interest rates on some products had already hit record lows. Second, interest rates on time deposits closely matched households' inflation expectations. Third, on the back of narrowing liquidity, some banks competed for depositors more aggressively by offering higher interest rates. Rising yields on government debt securities put additional pressure on interest rates, including interbank ones.

The government's large financing needs pushed up yields on hryvnia-denominated government debt securities

Yields on hryvnia-denominated government debt securities have been gradually rising for all maturities since September, driven by the government's large fiscal needs. Domestic investors continued to increase their investments, while nonresidents' demand for hryvnia-denominated government debt securities recovered in late 2020. All of these factors led to a record-large placement of government securities in Q4, and mainly in December, 2020. Large-scale borrowing affected the maturity composition of domestic debt government securities – 80% of the securities placed in Q4 were short-term (maturing within one year).

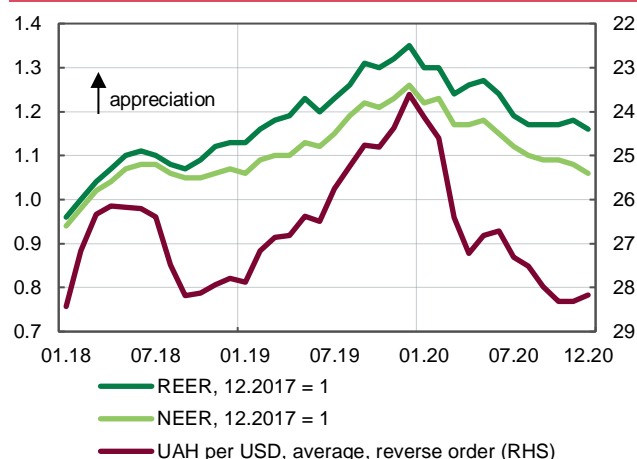
Domestic investors remained the main buyers of hryvnia-denominated government debt securities in Q4 2020. At the same time, in December, for the first time since February 2020, nonresidents markedly increased their portfolio of hryvnia-denominated government debt securities, purchasing securities worth UAH 10 billion net. The rise in purchases was due to the global upward trend in investors' interest in emerging market assets and a drop in sovereign risk premium for Ukraine, which most nonresidents use to guide their investment decisions.

Developments in the FX market trend reversed in late Q4 – the hryvnia strengthened thanks to the supply of foreign currency being slightly higher than demand

Developments in the FX market reversed in Q4 2020 – the larger supply of foreign currency compared to demand helped strengthen the average monthly UAH/USD exchange rate in December. On average, however, the UAH/USD exchange rate weakened both in Q4 2020 and over 2020 as a whole, while the currencies of most of Ukraine's main trading partners strengthened. As a result, as of late 2020 (December to December), the hryvnia NEER and REER weakened by 15.8% yoy and 13.8% yoy respectively.

In Q4 2020, the exchange rate was affected by divergent factors, which despite cancelling each other out most of the

Figure 2.6.7. Official exchange rate, hryvnia REER and NEER indices



Source: IFS, NBU staff estimates.

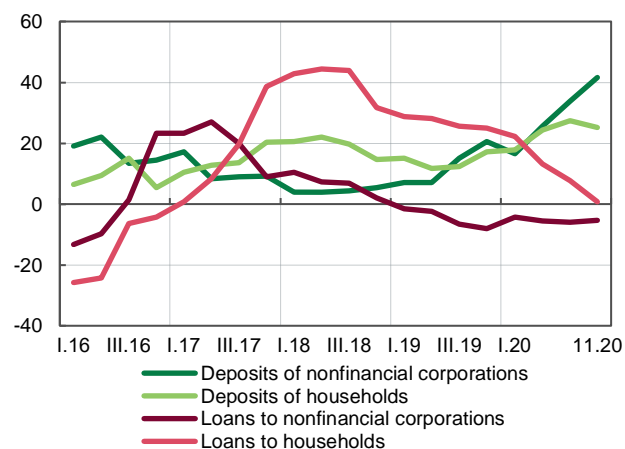
Figure 2.6.8. Official exchange rate UAH/USD and its volatility



* Volatility in inflation targeting countries is usually in the range of 2-15%.

Source: NBU staff estimates.

Figure 2.6.9. Hryvnia deposits and loans, % yoy



Source: NBU.

time, at times increased exchange rate volatility. On the one hand, a benign price environment for Ukrainian exports, a drop in energy imports on the back of large inventories, and nonresident capital inflows strengthened the hryvnia on the FX market. On the other hand, there was a significant demand from importers of plant protection products and household appliances. Demand for foreign currency cash also grew. However, at the end of 2020, supply slightly exceeded demand, with the hryvnia exchange rate strengthening somewhat. Although increasing somewhat in late 2020, over the last four years, even during the period of strictest quarantine restrictions, overall hryvnia volatility has remained within the range that is typical for EMs with floating exchange rate regimes (2–15%).

In Q4 2020, the NBU intervened in the FX market both to purchase and sell foreign currency. While over Q4 the NBU bought only slightly more foreign currency than it sold, since the start of 2020 the NBU has purchased about USD 1 billion net. Consequently, the NBU has been a net currency buyer for five years running.

In late 2020, the NBU approved a revised [FX intervention strategy](#), which retains and updates the main principles set out in the previous strategy. Among other things, the new strategy gives priority to price stability and has no time limit. What is more, it stresses that the NBU sets no target either for a certain value or a range of the hryvnia exchange rate. The strategy also sets forth that FX interventions can be carried out through transactions with derivatives.

The banks continued to register large deposit inflows. Outstanding loans decreased due to the banks working actively to reduce NPLs

Q4 2020 continued to witness growth in hryvnia deposits in the banking system, which sped up to 31.3% yoy in November. A substantial rise in deposits from nonfinancial corporations was driven by an improvement in the financial performance of companies. Growth in household deposits was spurred by higher household income, including due to the government’s social support measures.

After the decline seen in Q2, bank lending gradually revived. In December, the volume of new loans to households and nonfinancial corporations exceeded that in December 2019. A decrease in outstanding gross loans in statistics resulted from the banks’ active efforts to reduce their NPLs.

Box 6. Outstanding Loans: developments over the last few years

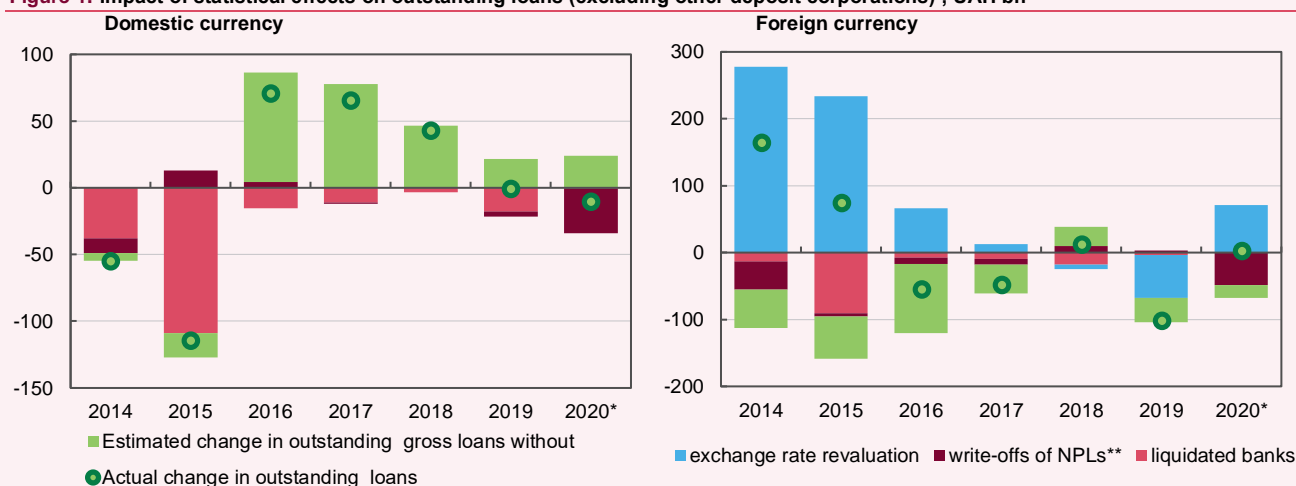
In order to revive lending and support economic recovery, the NBU remained committed to an accommodative monetary policy and implemented new instruments, such as long-term refinancing and interest rate swaps, and actively worked with banks to improve corporate governance. As a result, in 2020, apart from the period of strict quarantine restrictions, the banks stepped up their hryvnia lending. That said, [NBU monetary statistics](#) showed that 2020 was the second year in a row that there was a drop in outstanding bank loans. It may seem that the effect of expansionary measures was outweighed by opposing factors: rising uncertainty in the wake of the coronavirus crisis, risks that borrowers' solvency and the quality of the existing loan portfolio will decline, and unresolved issues concerning the protection of creditor rights. But a deeper analysis shows that the main reasons for this decline were purely statistical effects caused primarily by the continued clean-up of the banking system, the banks' more active efforts to reduce their NPLs, as well as exchange rate valuation effects.

NBU monetary statistics indicate that outstanding loans issued by deposit-taking corporations shrank by 9.4% in 2019, contracting by another 3.5% yoy by late November 2020.

However, a more in-depth analysis reveals that the drop in outstanding loans resulted mainly from purely statistical effects. In particular, these are effects arising from the cleaning up of the banking system, the banks adapting to the floating exchange rate regime, the reporting of actual NPL amounts, and the cleaning up of the banks' balance sheets.

More specifically, the cleaning up of the banking system entailed the active shutting down of banks, including insolvent and nontransparent ones. In 2014 – 2015, over 100 banks were shut down. Financial statements show that the total amount of outstanding hryvnia loans alone on the balance sheets of these banks was almost UAH 200 billion when the banks were just sent into liquidation. Once a bank is sent into liquidation, it ceases to report these data in monetary statistics. This, among other things, leads to a statistical decrease in outstanding loans²². In 2019 – 2020, two banks were shut down, as a result of which outstanding hryvnia loans decreased by UAH 18.2 billion.

Figure 1. Impact of statistical effects on outstanding loans (excluding other deposit corporations)¹, UAH bn



¹ Based on monetary statistics.

* Last data for November. ** "+" return to balance / "-" write-off from balance.

Source: NBU staff estimates.

The banks' efforts to reduce their NPLs is another important factor in the statistical decrease in outstanding loans. The portion of NPLs spiked in 2015 – 2017 (over 50%), due to the banks' reporting the actual quality of their loan portfolios and assets after adopting new rules for measuring credit risk and determining nonperforming assets according to international practices.

Despite the fact that non-performing loans are almost fully provisioned ([provisions were made for about 95% of such](#)

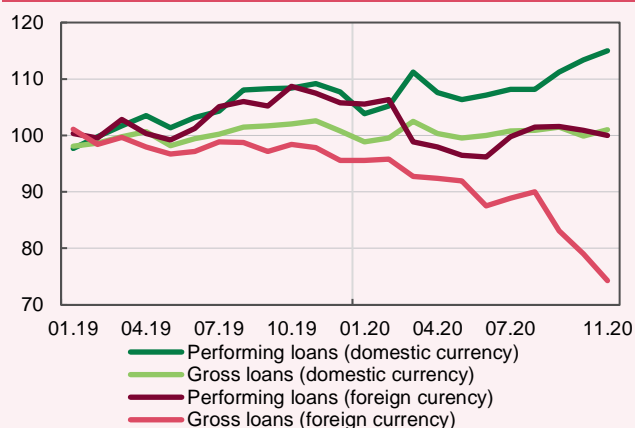
[loans](#)), until recently the banks were making slow progress in removing such loans from their balance sheets. Progress intensified in 2019 – 2020, thanks to [certain legal issues being resolved](#) and joint efforts taken by [the regulator](#), [the Finance Ministry](#) (which owns the state-owned banks), supervisory councils and bank management. As a result, over these two years, the portion of NPLs shrank by almost 11 pp, to 42% as of early December 2020. The largest amounts of old NPLs, which had not been serviced for a long time and were fully provisioned, were written off in 2020 (UAH

²² A portion of these loans may have been reported again in financial statements if the loan debts of the liquidated banks were sold to other banks. However, as their impact is assumed to be negligible, such loans are not factored into future calculations.

82 billion), with the state-owned banks being in the lead in writing them off.

The decrease in the amount of NPLs means the removal of these loans from the banks' balance sheets²³ (moving them to their off-balance sheet accounts if these loans have been written off against provisions, or to the balance sheets of non-banks if such loans have been sold). By the end of 2022, the banks plan to reduce their total NPLs by over UAH 400 billion (read more in *the Financial Stability Report* on page 32). In view of the intensification of such efforts and related significant statistical effects, to perform an unbiased analysis of lending activity, it makes sense to use net loan²⁴ and/or performing loan indicators.²⁵ As evidenced by changes in performing loan amounts, the banking system became a contributor to economic recovery through gradually increasing its hryvnia loan portfolio, virtually for the first time in a crisis.

Figure 2. Loans (excluding other deposit corporations) in national and foreign (in US dollar equivalent) currencies, 12.2018 = 100



Source: NBU staff estimates.

In addition, despite the current restrictions on FX lending, 37% of all bank loans were FX loans as of late 2020. As a

result, total gross loans change when the hryvnia exchange rate changes. Exchange rate revaluation to reflect the strengthening of the hryvnia markedly decreased gross loans in 2019.

With a view to reviving bank lending, the NBU:

- is conducting an accommodative monetary policy, and has taken some steps to give the banks more flexibility in managing their own liquidity (adapted the operational design of its monetary policy, optimized the calculation of required reserves, extended the list of eligible collateral, and so on);
- introduced new instruments, such as long-term refinancing, and interest rate and FX swaps. Among other things, the NBU announced in Q4 that it would continue holding interest rate swap auctions in order to promote long-term lending. These instruments aim to support the banks' liquidity, while also helping decrease interest rates in the economy;
- is involved in efforts to improve corporate governance at banks and reduce their share of NPLs. In Q4, the NBU extended the deadline for cleaning up the banks' balance sheets of noncore assets, allowing the banks not to decrease their capital by the amount of such assets, and so on.

The NBU plans to take additional measures in the near future to approve approaches to measuring credit risk and decreasing the regulatory burden on banks. That said, the main impediments to lending growth and loan rate cuts are beyond the influence of the banking system. They include a lack of solvent borrowers, the weak protection of creditors, the moratorium on foreclosing on collateral for FX mortgages, a lack of required laws and the non-transparency of the primary housing market, and so on. Therefore, robust lending growth can only be achieved if measures are taken to decrease lending risks, and if structural reforms are implemented.

²³ The writing-off of NPLs does mean that these debts have been forgiven. Therefore, efforts to recover these debts will continue.

²⁴ Net loans refer to the gross carrying value of loans adjusted by the amount of loss allowance.

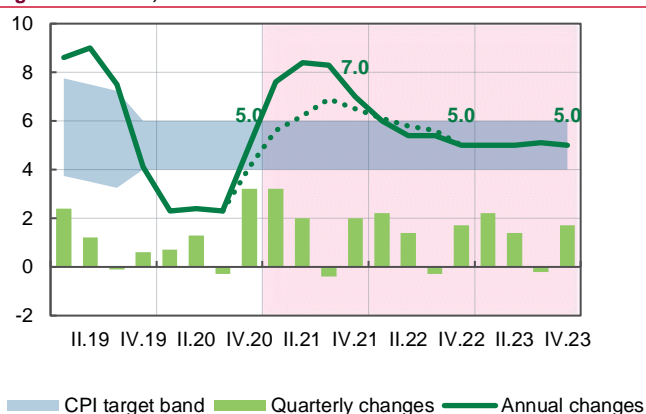
²⁵ Loans on which borrowers have not defaulted, as set forth in NBU Resolution No. 351. Default occurs when payment towards an asset is more than 90 days past due, or when a borrower's debt cannot be repaid in due time without the lender having to foreclose on collateral.

Part 3. Economy of Ukraine: Forecast

3.1. Inflation Developments

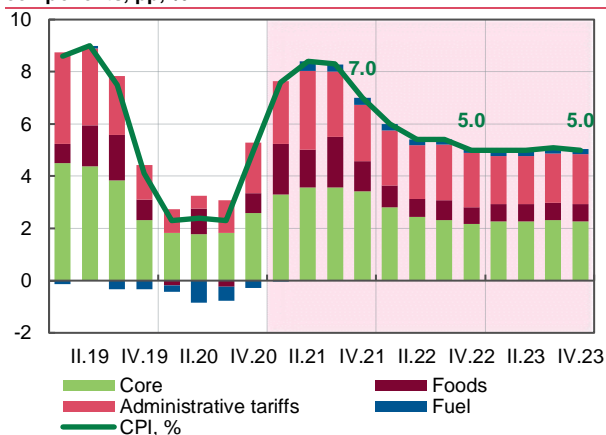
- In 2021, inflation is expected to temporarily spike above the target range due to last year's lower crop yields, rising energy prices, and further growth in consumer demand.
- Driven by fading supply side effects and the monetary policy response, inflation will start to decline in H2 2021 and will enter the 5% ± 1 pp target range in H1 2022.

Figure 3.1.1. CPI, %



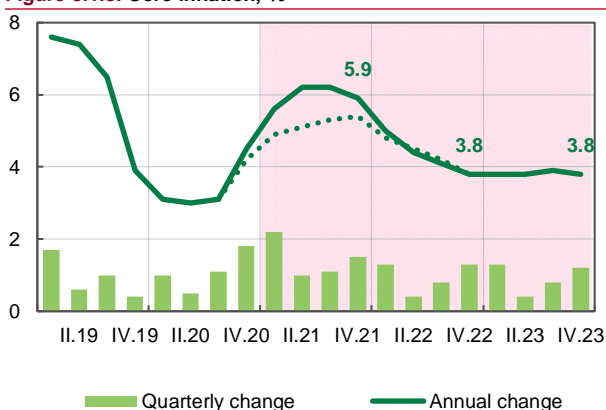
Source: SSSU, NBU staff estimates.

Figure 3.1.2. Contributions to annual CPI growth by main components, pp, %



Source: SSSU, NBU staff estimates.

Figure 3.1.3. Core inflation, %



Source: SSSU, NBU staff estimates.

Inflation in 2021 will be above the target range due to a number of supply factors amid the resumption of economic growth

Having long remained below the target range during the economic crisis, consumer inflation in early 2021 will accelerate markedly. The main drivers fueling the surge in inflation will be supply factors, including a lower supply of food (due to last year's poor crop yields), and rising energy prices (driven by both automotive fuel prices and natural gas prices for households and related housing and communal services). An additional pro-inflation factor in 2021 will be a significant increase in the minimum wage (by 20% in January and another 8.3% in December), which will accelerate inflation both through the demand channel (household income growth) and the supply channel (due to higher production costs). This will primarily be reflected in prices in the services sector, where wages account for a significant share of production costs. Thus, with last year's comparison base being low, and temporary restraining supply factors wearing out, inflation will breach the upper limit of the target range at the beginning of the year. To return inflation to the target range in H1 2022 as the economy emerges from the crisis, the NBU will gradually tighten its monetary policy, although it will generally remain accommodative. As expected, the NBU will allow inflation to exceed the 5% ± 1 pp target range in 2021 (reaching 7.0% yoy in December) in order to maintain monetary stimulus so that the economy can recover from the crisis.

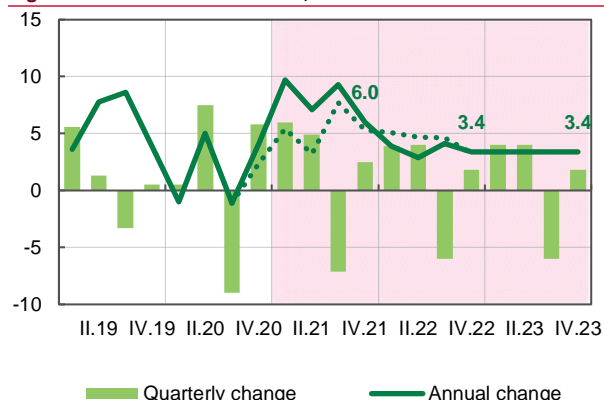
Core inflation in 2021 will accelerate to 5.9% due to secondary effects of raw food prices and higher wages

Economic recovery will gradually increase underlying inflationary pressures this year. However, the acceleration in core inflation will be significantly affected by the secondary effects of rising raw food prices.

An important factor accelerating the growth in prices for services will be an increase in the minimum wage (to UAH 6,000 in January and UAH 6,500 in December 2021). Coupled with stronger consumer demand, this will drive up business expenses on wages, and the tax burden. Business are thus expected to offset these additional costs by raising prices.

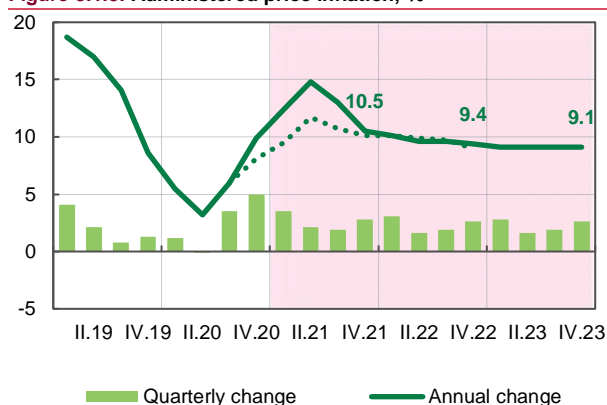
Changes in consumer behavior amid quarantine restrictions and opportunities to work remotely will still be a disinflationary factor for core inflation. In particular, clothing and footwear prices will keep falling for most of the year. Going forward, however, moderate price growth will gradually resume for this group of goods as well.

Figure 3.1.4. Raw food inflation, %



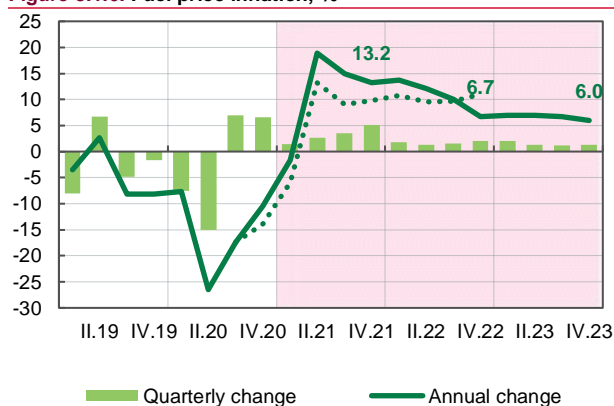
Source: SSSU, NBU staff estimates.

Figure 3.1.5. Administered price inflation, %



Source: SSSU, NBU staff estimates.

Figure 3.1.6. Fuel price inflation, %



Source: SSSU, NBU staff estimates.

The recovery in the Ukrainian and global economies will support further growth in real household income, while also increasing underlying inflationary pressures. Accordingly, the NBU may raise the key policy rate to ease underlying inflationary pressures in 2021–2022. This will return headline inflation to its target.

Food inflation will increase in 2021, driven by constrained supply and rising production costs

The increase in food inflation in H1 2021 will continue due to last year's poor harvest of most crops. This will drive growth in CPI components, both directly through restrained supply, and indirectly through production cost channels (among other things, rising feed costs will push prices for meat and dairy products higher). Production costs associated with higher minimum wages and fuel prices will also drive prices up. On the demand side, the acceleration in food inflation will be underpinned by rising incomes as the economy recovers. However, most supply shocks will fade after newly harvested crops start to be sold, bringing food inflation down to 6% at the end of the year.

In the medium term, food inflation is expected to gradually decline below 4% due to an expansion in food supply as agricultural productivity grows further.

Administered inflation will be high (9%–11% per year) due to higher prices for tobacco products and electricity

Like other CPI components, the administered component will increase significantly in H1 2021. This acceleration will mainly be driven by the growth in energy prices. The main increase in gas prices occurred at the end of last year. It is assumed that the factor of administrative restrictions on natural gas prices will apply only during February–March. Going forward, however, it is projected that in a year's time the price will have hardly changed in the face of tighter competition on the domestic market and sufficient supply and storage reserves on the European market. However, with last summer's comparison base being low, natural gas will account for more than a third of annual administered inflation in Q2. At the same time, tariffs for heating and hot water supplies will increase this year, taking into account both last year's rise in natural gas prices and the growth in the staff payroll. The current forecast factors in the increase in electricity prices by 40% this year, due both to the removal of the preferential tariff for households (for consumption of up to 100 kWh) and to the start of bringing electricity tariffs for households to market levels. This will contribute 0.3 pp to annual inflation. The large increase in the minimum wage in 2021 will cause a wage revision in the utilities sector, driving up prices for some utility services and spurring administered inflation.

Although the growth in socially sensitive tariffs stirs controversy, the main contribution to administered inflation throughout the forecast period will be the increase in excise taxes on tobacco products, making them 16%–17% more expensive every year.

As the global economy recovers, demand for petroleum products will increase, implying that in 2021 and beyond, fuel prices in Ukraine are projected to rise following the growth in oil prices. Apart from influencing inflation directly, fuel will be

a strong pro-inflationary factor in the forecast period by having secondary effects on the production costs of many goods.

Compared to the previous Inflation Report, the inflation forecast for the current year has been raised from 6.5% to 7.0%, for several reasons: higher food prices amid the negative impact of supply factors, rising prices for energy (natural gas and oil), and a significant increase in electricity prices.

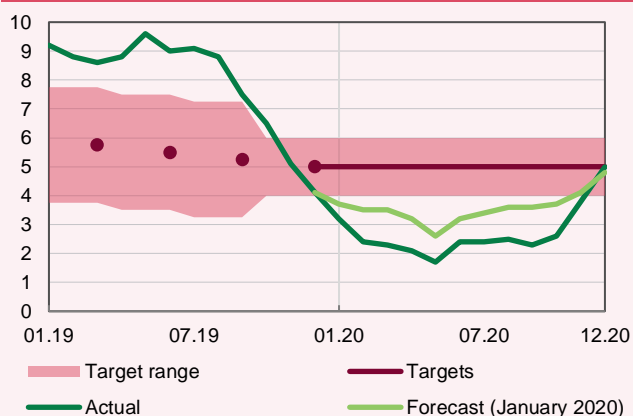
Box 7. Fullfilment of the inflation target

In December 2020, consumer inflation reached the midpoint of the 5% ± 1 pp target range specified in the Monetary Policy Guidelines for 2020 and the medium term. Achieving this goal is the result of the balancing of various risks that affect inflation. The downward pressure from the fall in the global and Ukrainian economies, as well as the decline in energy prices, was later offset by pro-inflationary factors – specifically the growth in administered prices, the reduced supply of certain goods, and the weakening of the hryvnia.

In its January 2020 macroeconomic forecast, the NBU predicted that at the start of the year inflation would decline below the lower bound of the target range. At the same time, it was expected to return to the target range at the end of the year due to the easing of monetary policy and strong domestic demand.

As a result of the coronavirus crisis, actual inflation for almost the whole of the year was below the trajectory predicted in the NBU's January forecast. However, inflationary pressures were later generated by the gradual recovery of the global economy, a strengthening of domestic consumer demand, and the growth in global prices for energy and certain foods. At the end of the year, inflation thus accelerated more sharply than expected, and reached the midpoint of the 5% ± 1 pp target range.

Figure 1. Inflation trajectory according to the NBU forecast for January 2020 and actual dynamics of consumer inflation, % yoy



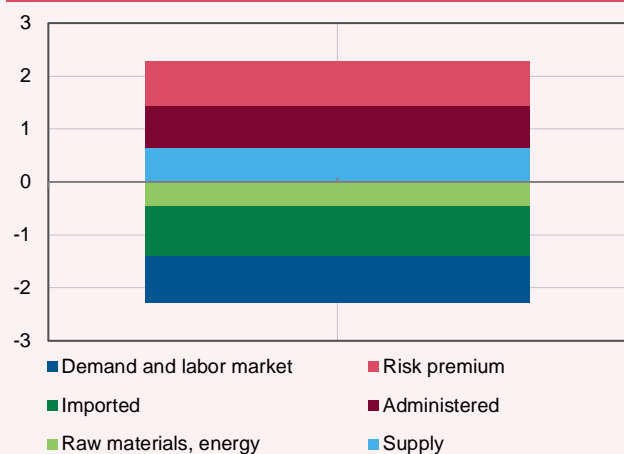
Source: SSSU, NBU staff estimates.

Table 1. Deviations from selected assumptions made in the NBU forecast (January 2020)

Variable	Forecast	Actual
Brent, USD / bbl ¹	63.3	42.3
Price of imported natural gas, USD / kcm (annual average) ¹	193.5	144.8
CPI in the Euro area, % yoy ²	1.3	-0.3
Risk premium for Ukraine*, % ¹	4.8	6.2
Cereal harvest, m t	75	65
Sunflower harvest, m t	13.5	13
Real wages, % yoy ²	8.2	7.2
Hryvnia NEER (annual average), % yoy ¹	6.5	-1.4
Changes in natural gas tariffs for households, % yoy ²	14	56.4

* Difference between yields of Ukraine's sovereign euro-bonds denominated in US dollars and 10Y US Treasuries
¹ annual average; ² end of period.

Source: NBU staff estimates.

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

Source: SSSU, NBU staff estimates.

The factors that drove inflation in 2020 had opposite effects and compensated for each other.

Specifically, inflation in 2020 was restrained by:

- **the weakening of domestic and external demand** due to the negative impact of the pandemic on economic activity in Ukraine and the world. With the country placed under quarantine, consumers deferred their spending on nonstaple goods, and adapted their needs to the new conditions, in particular by taking advantage of the opportunities to work and study remotely. Businesses also revised their approaches to inventory management and pricing, given lower aggregate demand, including external demand, as well as logistical difficulties and uncertainty about restrictions. At the same time, the narrowing of global demand has eased overall inflationary pressure from Ukraine's MTPs. As a result, the **imported component of inflation was also lower** than expected.

- favorable external market conditions. In particular, **prices for raw materials** exported by Ukraine (grain, oil, steel, ore) **remained relatively high**. This facilitated FX inflows to Ukraine, supporting the hryvnia's position in the FX market. At the same time, inflation was also restrained by **cheaper energy** (oil and natural gas) in the middle of the year.

Meanwhile, the increase in inflation was driven by:

- volatility in the global financial markets and the associated flight to safety. Investor interest in EM debt assets declined. Despite some recovery in H2, it remained volatile. **the risk premium for Ukraine's sovereign bonds remained high**. This generated depreciation pressures and inflationary pressures.
- **the increase in administered prices and tariffs** A positive contribution to the deviation of inflation from the target was expected due to the increase in excise taxes on tobacco products and prices for certain utilities (water supplies and sewage services, natural gas).
- **lower harvests of sunflower seeds, grains, and sugar beets** not only affected the prices of sunflower oil, sugar, and flour in the CPI, but also influenced the next stages in the production process, in particular due to rising costs of inputs in the food industry and higher feed prices in livestock farming.

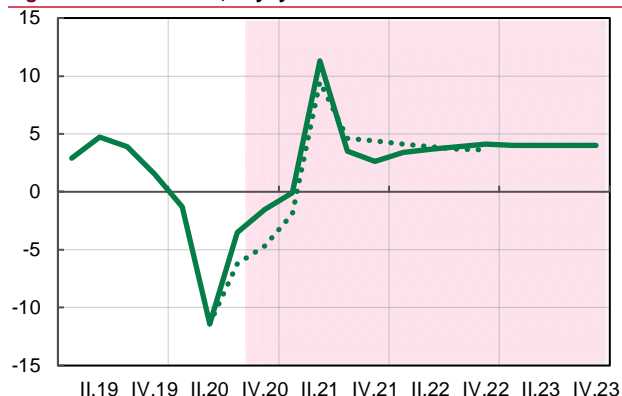
The NBU took these factors into account in its decisions. In particular, given the significant easing of inflationary pressures and the cooling of business activity during H1, the NBU continued to ease its monetary policy. The key policy rate was reduced to an all-time low of 6% in H1, earlier than projected in last year's January forecast. Coupled with the waning of many disinflationary factors, this contributed to the achievement of the inflation target at the end of 2020.

The NBU will continue to pursue its inflation targeting policy to ensure that inflation is at moderate levels, close to the medium-term target of 5%.

3.2. Demand and Output

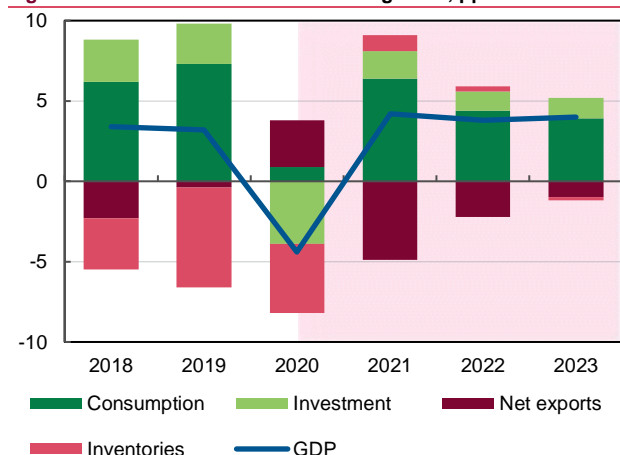
- In 2021, the economy will recover rapidly (+4.2%) and will almost return to its pre-crisis level.
- Consumption will grow, driven by a further increase in household incomes, including the minimum wage.
- Investment activity is intensifying as the global economy grows and business sentiment improves. The NBU's accommodative monetary policy will also help revive business activity.

Figure 3.2.1. Real GDP, % yoy



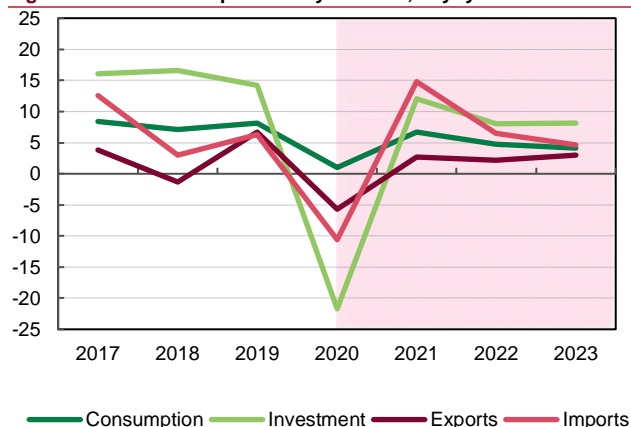
Source: SSSU, NBU staff estimates.

Figure 3.2.2. Contributions to real GDP growth, pp



Source: NBU staff estimates.

Figure 3.2.3. GDP components by end use, % yoy



Source: NBU staff estimates.

Ukraine's economy will return to growth in 2021 despite the January lockdown and the continuation of adaptive quarantine in H1. This macroeconomic forecast assumes the adaptive quarantine will continue in H1. The macroeconomic forecast envisions that further restrictions will not place bans on any economic activities, but will only tighten measures to combat the spread of COVID-19.

Ukraine's GDP will grow by 4.2% this year, both due to increasing external demand and because of the gradual easing of quarantine restrictions and the uncertainty they generate

In 2021, almost all sectors of the economy will recover. Those that have suffered the least from quarantine restrictions (such as industry and agriculture) will receive the main impetus from the growth in demand, including external demand. The recovery will be slower in quarantine-sensitive sectors of services and transport (passenger transport, including air transport). For these sectors, the speed and coverage of coronavirus vaccination will play an important role. In other sectors, businesses have largely adapted to operating under quarantine and will scale up production.

In annual terms, GDP is expected to start growing even in H1. The gradual reduction in uncertainty and the easing of quarantine restrictions will contribute to an improvement in consumer sentiment and intensification of business investment activity.

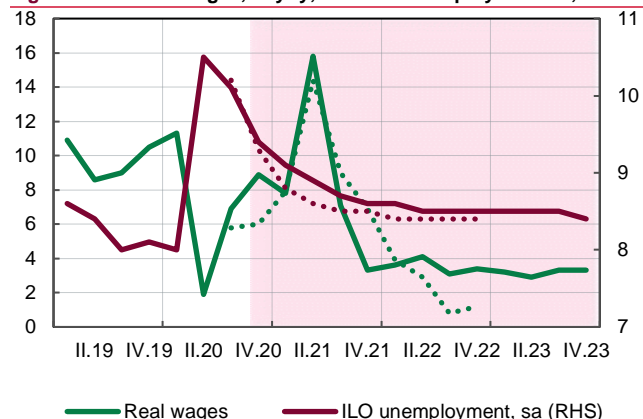
In the medium term, the Ukrainian economy will grow, driven by recovering external demand, increasing real household incomes, improving consumer sentiment, and growing lending activity.

A further increase in household incomes will fuel the growth in private consumption

Consumer spending did not decline even during the 2020 crisis, and will continue to grow actively thanks to higher real household incomes. In 2021, nominal wage growth will exceed 16% due to the economic recovery and a significant increase in the minimum wage.

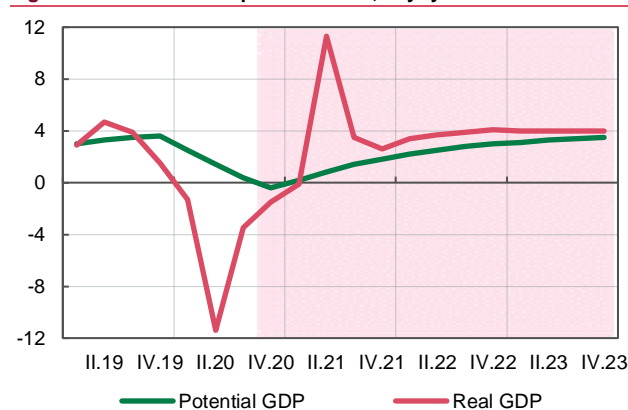
Private consumption is expected to accelerate by almost 8% and become the main driver of GDP growth this year. Unemployment will gradually decline, although a rapid rise in business spending will slow this process. In 2022–2023, along with the slowdown in wage growth, the growth in private consumption will decelerate slightly (to about 5%). However, it will continue to grow rather quickly, given the recovery in consumer sentiment and rising employment.

Figure 3.2.4. Real wages, % yoy, and ILO unemployment sa, %



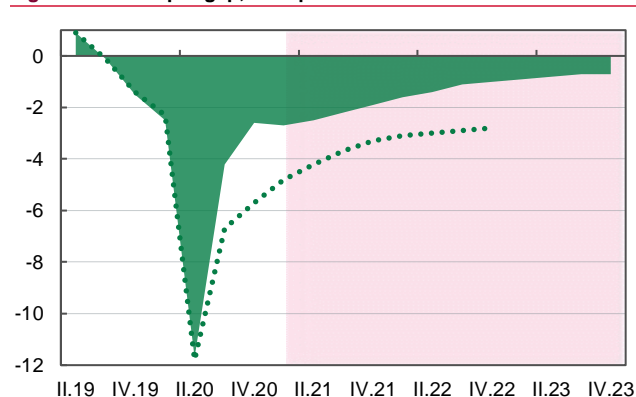
Source: SSSU, NBU staff estimates.

Figure 3.2.5. Actual and potential GDP, % yoy



Source: SSSU, NBU staff estimates.

Figure 3.2.6. Output gap, % of potential GDP



Source: NBU staff estimates.

After last year's decline, investment in fixed assets will grow rapidly, by 12% in 2021, gradually slowing to 8% per year in the years ahead. This growth will be driven by declining uncertainty about the spread of the pandemic as people are vaccinated, the economy recovers, and lending resumes. Investment activity will grow through major repairs and construction of road infrastructure, as well as the expansion of production by exporters under favorable conditions in the global commodity markets. On the negative side, a significant increase in labor costs will limit investment growth and make the economy less competitive.

Increased demand for imported products and the gradual recovery of international tourism will bring back the negative contribution of net exports to GDP in 2021–2023

Imports will increase by almost 15% in real terms in 2021. Both consumer and investment imports will grow. External tourism will noticeably revive due to growth in real incomes and improvement in consumer sentiment. The economic recovery will also increase the demand for energy.

GDP will remain below potential, limiting inflationary pressures, but the GDP gap will gradually narrow

In Q4 2020, the GDP gap narrowed to -3% (after peaking at -12% in Q2 2020). It declined faster than expected due to high external demand for commodities, and the rapid realization of pent-up domestic demand. A further narrowing of the GDP gap will be driven by the resumption of business investment activity amid reviving domestic and external demand.

Growth in potential GDP will be ensured by increasing labor productivity as companies introduce new technologies and optimize their production processes under quarantine. At the same time, GDP will not reach its potential level in 2021–2023, restraining inflationary pressures over the entire forecast horizon.

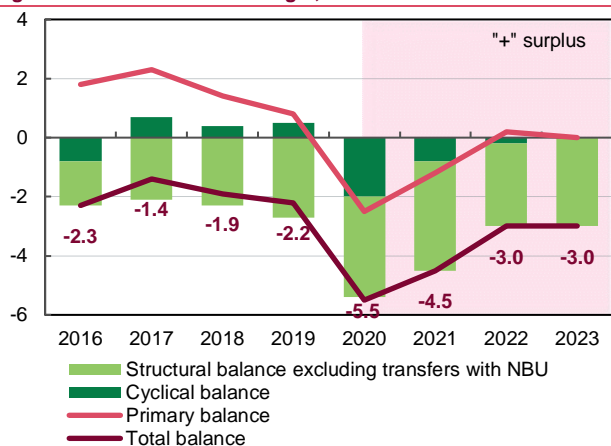
Starting in 2021, fiscal policy will be tighter as the economy emerges from the crisis

In order to support households and provide fiscal stimulus to the economy as the battle against the pandemic continues, this year the government will once again maintain a sizeable budget deficit (4.5% of GDP). However, when the economy enters a period of sustainable growth, the need for additional incentives from the state will decline. Starting next year, the budget deficit is expected to shrink to 3% of GDP, allowing the debt position to gradually improve.

The projected size of the budget deficit primarily depends on the feasible options of its financing, which is planned to come from official and market borrowings. The way Ukraine meets its commitments under the IMF program will play a key role in the country's ability to borrow.

The growth in general government revenues this year will exceed inflation by 1–2 pp, primarily due to revenues from the personal income tax and contributions to the Pension Fund, which will accelerate amid a significant increase in nominal wages. The recovery in aggregate demand will help increase

Figure 3.2.7. Consolidated budget, % of GDP



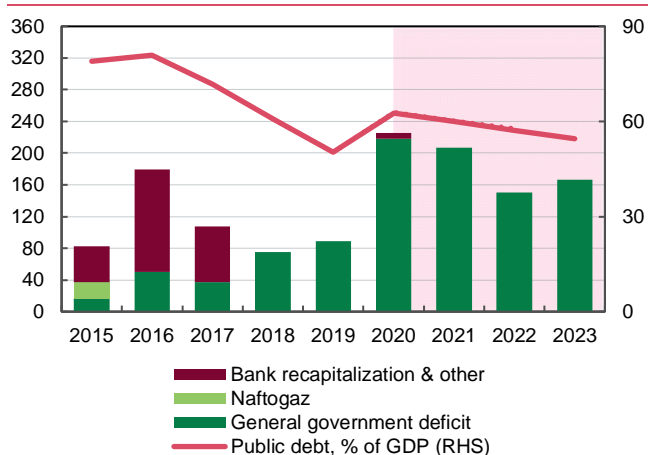
Source: STSU, NBU staff estimates.

receipts from taxes on goods and services, including VAT and excise taxes. The latter will increase further due to higher excise rates on tobacco products. The expected improvement in the financial results of businesses will increase corporate income tax receipts. At the same time, nontax revenues will decline compared to the previous year due to a smaller transfer of NBU profits to the state budget.

Budget expenditures this year will grow moderately. Social spending will rise significantly due to the increase in the minimum wage and the need to support the public while quarantine continues. The growth in capital expenditures, including on road construction, will slow in order to maintain a moderate budget deficit.

After growing to 63% of GDP in 2020, the level of state and state guaranteed debt will continue to decline by 2–3 pp per year, due to economic growth, prudent fiscal policy, and moderate exchange rate volatility.

Figure 3.2.8. Broad public sector deficit, UAH bn, and public debt, % of GDP

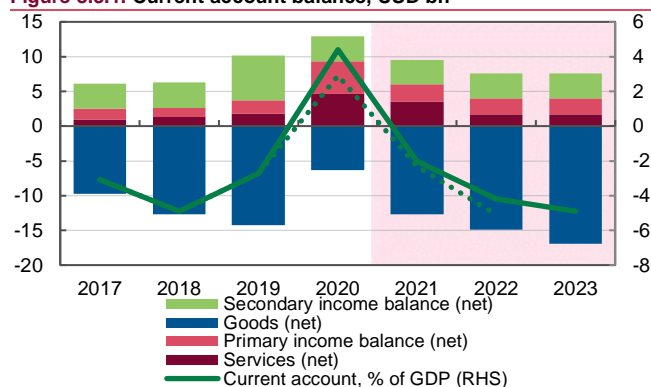


Source: IMF, STSU, MFU, NBU staff estimates.

3.3. Balance of Payments

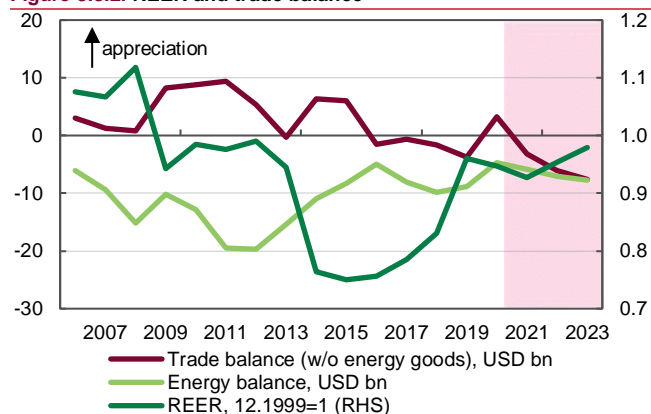
- Starting in 2021, the current account will return to deficit. The deficit will then widen in coming years, driven by rising domestic demand and a gradual worsening in terms of trade.
- Capital inflows to Ukraine will resume on the back of continued cooperation with the IMF, rebounding economic activity, and persisting loose monetary conditionals globally.
- As a result, international reserves will hit about USD 30 billion, or 90% to 100% of the IMF composite measure.

Figure 3.3.1. Current account balance, USD bn



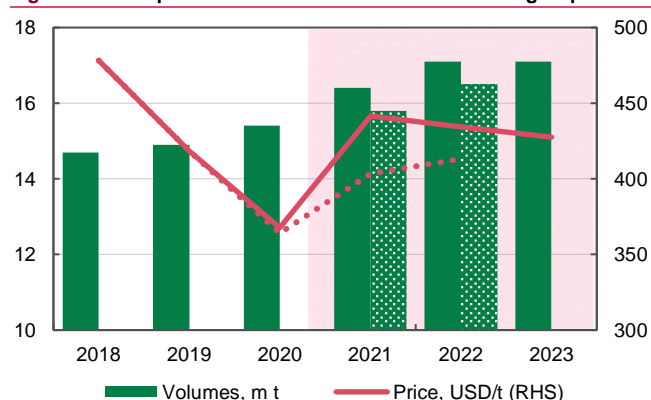
Source: NBU.

Figure 3.3.2. REER and trade balance



Source: NBU.

Figure 3.3.3. Exports of ferrous metals: four main sub-groups



Source: NBU.

Rising consumer demand and rebounding investment activity will widen the current account deficit in 2021 – 2023

The current account will return to deficit in 2021, and it will then continue to widen (to 4.9% of GDP in 2023), propelled by rising consumer demand and the resumption of investment projects. Additional factors will be worsening terms of trade, the recovery of international tourism, a drop in gas transit, and larger payments of reinvested earnings. Following the decrease in trade seen in 2020 in the wake of anti-epidemic restrictions, exports and imports are expected to return to their pre-crisis levels in 2021, rising gradually in 2022 – 2023.

In 2021 – 2023, export growth will be fueled by robust demand for metallurgical and machinery exports from Ukraine's trading partners due to stimulus programs and a further increase in the productivity of the agricultural sector.

In 2021 – 2023, import growth will be generated by both energy and non-energy imports. Non-energy import growth will mainly be propped up by consumer demand resulting from higher real household income and investment demand fueled by economic growth. Energy imports will rise due to both an increase in energy prices and demand for energy.

Following the record-large surplus in the trade in services in 2020 caused by a drop in imports of travel services, the surplus will gradually narrow over the forecast horizon due to recovering tourism and lower transiting of gas. Imports of travel services, which will recover only partly in 2021, are expected to return to their pre-crisis level only in 2022. Exports of services will grow gradually, driven by higher exports of IT services, which grew steadily even in 2020.

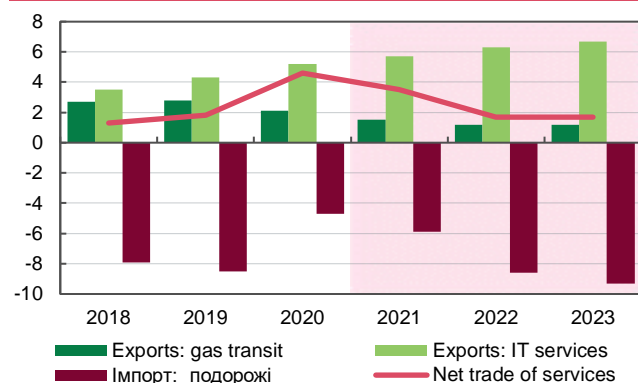
Remittances will continue to grow in 2021 – 2023, buoyed by receiving countries' robust demand for Ukrainian labor migrants. In 2021 – 2023, repatriation of dividends is expected to remain at the average level of previous years.

If cooperation with the IMF continues, capital inflows to the government and private sectors will enable Ukraine to maintain its international reserves at their current level

The widening in the current account deficit over the forecast horizon will be fully financed by financial account inflows, which will gradually grow as the macroeconomic situation stabilizes and loose monetary conditions persist globally.

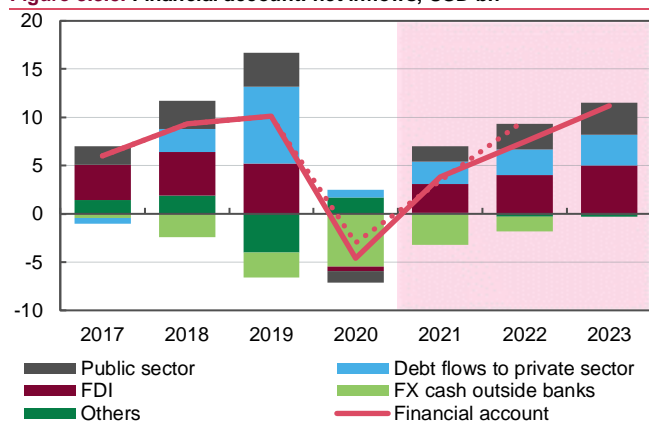
FDI inflow will resume in 2021 – 2023, due to, among other things, an increase in reinvested earnings. Moreover, debt inflows will also rise, while the outflow of foreign cash outside

Figure 3.3.4. Trade of services: selected items, USD bn



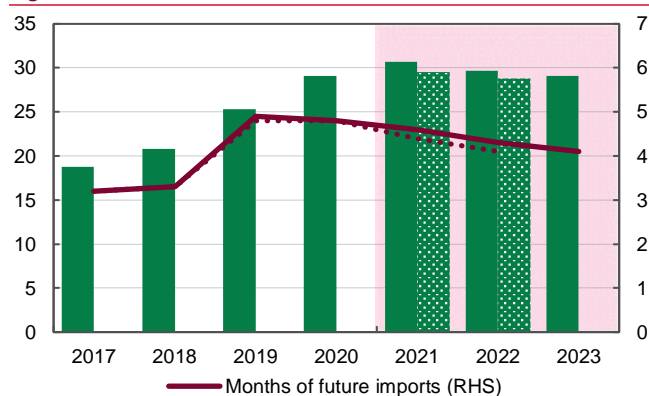
Source: NBU.

Figure 3.3.5. Financial account: net inflows, USD bn



Source: NBU.

Figure 3.3.6. International reserves



Source: NBU.

the banking system will decrease, contributing to a larger financial account surplus.

The government sector expects to continue to receive official financing from the EU and the World Bank, and to place new Eurobonds to finance the budget deficit. Nonresidents' demand for hryvnia domestic debt government securities will rise on the back of low exchange rate volatility and persisting low interest rates globally.

A surplus in the overall balance of payments, together with IMF financing, will enable Ukraine to maintain its international reserves at USD 29 – 31 billion in 2021–2023, or 90% to 100% of the IMF ARA metric.

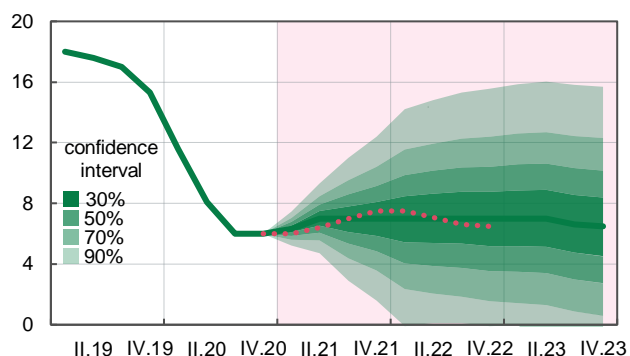
The balance of payments is very little changed compared to the previous forecast. Although being divergent, revision effects on the current account are positive in general. The prices of both Ukraine's main exports and energy imports have been revised upward. As a result, after improving the terms of trade slightly in 2021, the effect of these prices will be almost neutral afterwards. The energy balance has remained practically unchanged. Gas imports increased, while coal imports decreased, due to industrial companies switching from coal consumption to gas consumption. Gas transit will also rise somewhat in 2021 on the news that the completion of bypassing pipelines will be delayed. Metallurgical exports have also been revised because of stronger global demand. However, domestic demand will also grow at a faster pace than expected, fueling consumer import growth.

Financial account inflows have also been very little changed. FDI inflows are expected to decrease slightly compared to the previous forecast, due to persisting high level of uncertainty. Conversely, foreign investors' interest in hryvnia domestic government debt securities is expected to increase compared to the previous forecast, driven by a positive signal from the IMF and investors' rising appetite due to the start of the vaccination campaign and the fiscal stimulus provided by the United States. As a result, the forecast for international reserves has been revised slightly upward – they will hover around USD 30 billion.

3.4. Monetary Conditions and Financial Markets

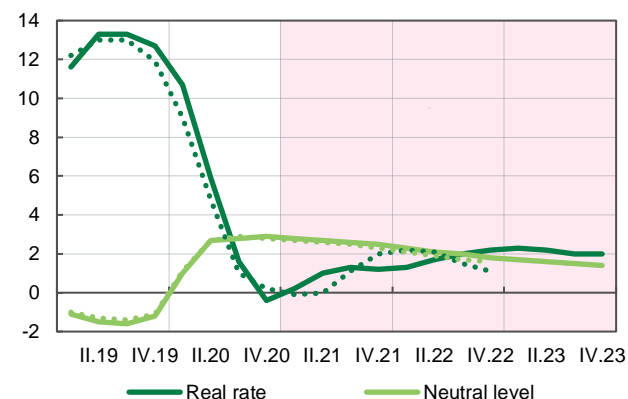
- The NBU will have to raise its key policy rate in 2021 in order to contain inflationary pressures. However, the key policy rate will remain below its neutral level throughout 2021 and most of 2022.
- The banking system will maintain surplus liquidity over the forecast horizon, which will hold interbank rates close to the lower bound of the NBU rate corridor.
- Lower uncertainty about the course of the pandemic will have a positive impact on the term structure of deposits, the resumption of lending, and will moderate growth in cash in circulation.

Figure 3.4.1. Key policy rate, average*, %



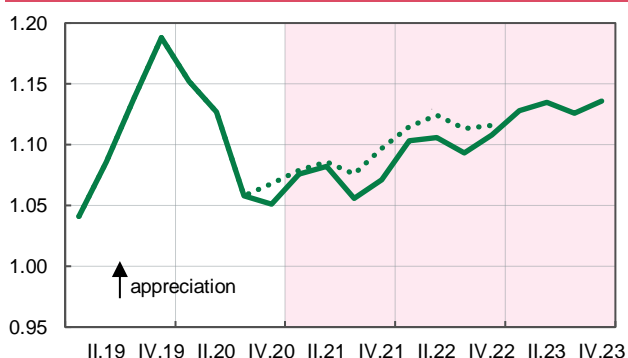
* Decreases in key policy rate are limited by the zero lower bound.
Source: NBU staff estimates.

Figure 3.4.2. Real interest rate* and its neutral level, %



* Deflated by inflation expectations that are based on the QPM.
Source: NBU staff estimates.

Figure 3.4.3. Hryvnia REER index, IV.2018 = 1



Source: NBU staff estimates.

The NBU will have to tighten its monetary policy in 2021 in order to curb inflationary pressures

The central bank will continue to aim its monetary policy at striking a balance between responding to inflation risks and supporting economic recovery. Acting within the flexible inflation targeting framework, the NBU will not react to short-term inflation shocks. Keeping the key policy rate below its neutral level will maintain favorable conditions for a faster economic recovery. At the same time, if the increase in underlying inflationary pressures stemming from consumer demand are not offset by any other factors, in particular by sizeable capital inflows, and inflation expectations continue to worsen, the NBU will raise the key policy rate. The size of the rate hike will depend on the intensity of the factors.

Increasing the key policy rate earlier than projected in the previous forecast would be driven by the materialization of a number of pro-inflationary risks and a faster recovery in consumer demand. Higher export prices will restrain inflationary pressure through the exchange rate channel. Therefore, the rate hike in 2021 will be more moderate than expected. However, the key policy rate will remain at 7% longer due to effects of higher global inflation.

The hryvnia's REER will appreciate gradually due to domestic inflation being higher than that in Ukraine's main trading partners.

There will continue to be a liquidity surplus in the banking system. This will contribute to low volatility in interbank loan rates, which will fluctuate closer to the lower bound of the NBU rate corridor. Liquidity will mainly come from NBU purchases of foreign currency and the government spending funds received from foreign currency conversion.

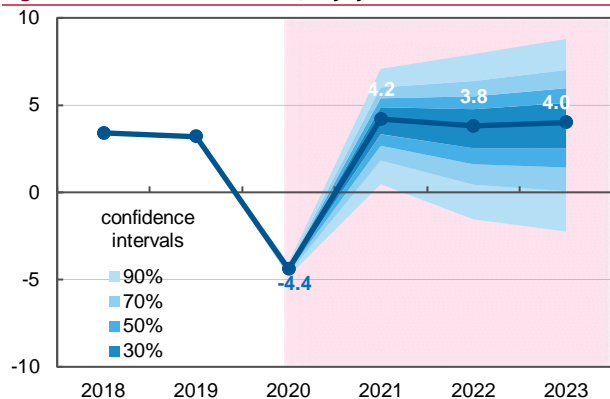
Bank interest rates on customer transactions are likely to rise somewhat in response to the surge in inflation and the increase in the key policy rate. The growth in bank rates will mainly affect the short-term segment.

The NBU's consistent monetary policy will help anchor inflation expectations and bring inflation back to its target range. Coupled with lower uncertainty about the course of the pandemic, this will have a positive impact on the term structure of deposits and the further resumption of bank lending.

3.5. Risks to the Forecast

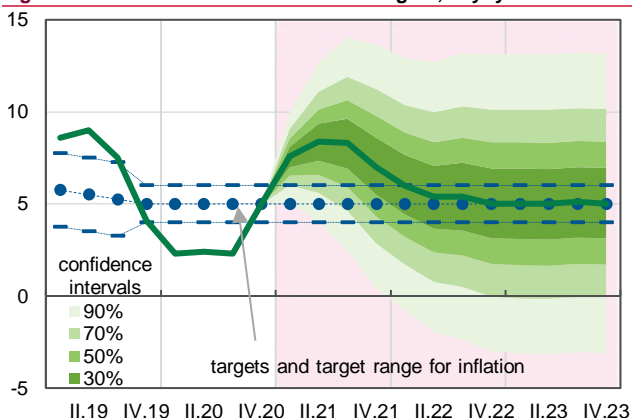
- The key forecast assumption is that Ukraine will continue to cooperate with the IMF under the fund's program.
- The main risks to the forecast are a tightening of quarantine measures both in Ukraine and globally, and large capital inflows to Ukraine.

Figure 3.5.1. Real GDP forecast, % yoy



Source: NBU staff estimates.

Figure 3.5.2. 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.

The current macroeconomic forecast is based on the assumption that the IMF cooperation program will be continued. Cooperation with the IMF is a precondition for covering budget needs, including through receiving related financing provided by international partners. A suspension of the program could not only slow economic recovery, but also seriously worsen inflation and depreciation expectations. This would require the NBU to tighten its monetary policy.

A long duration of the pandemic and a tightening of quarantine measures remain one of the main risks. A worsening of the epidemic would affect foreign and domestic demand and slow the economic recovery. Stronger fiscal and monetary stimuli would be required to mitigate the impact of the pandemic on the economy. There is also the opposite scenario: a fast and large-scale vaccination campaign across the globe could boost global economic growth. If such a risk materializes, global inflation may accelerate faster, putting pressure on prices. The monetary policy response would depend on assessments of this pressure and the possibilities for neutralizing it through the foreign exchange channel.

Large capital inflows to Ukraine are another important risk. Extremely loose monetary conditions globally, and optimism over vaccinations have boosted the interest of foreign investors in emerging markets, including Ukraine. Large capital inflows could lower inflationary pressures through the exchange rate channel.

The external environment risk lies in a more significant deterioration in the terms of trade. This is related to a more rapid exhaustion of the temporary factors that support high export prices (in particular the prices of ores and grains) and large increases in prices of imported goods (particularly energy prices) due to the global economy growing faster than assumed under the baseline scenario. The adverse impact of this scenario would first of all arise through the exchange rate channel. Accordingly, the NBU will conduct a tighter monetary policy to eliminate excessive inflationary pressures.

Fiscal risks also remain relevant. Financing the state budget deficit through large borrowings from the domestic market could increase the cost of borrowing and make the Ministry of Finance compete more with businesses for bank funds. This would threaten the resumption of lending due to the crowding-out effect. The materialization of a scenario that envisages larger capital inflows could neutralize these adverse effects.

At the same time, financial imbalances in the energy sector related to the long-lasting administrative regulation of electricity prices for households, the accumulation of debts owed to green energy companies, and other non-payments

		Probability that a risk will materialize		
		Low <15%	Medium 15%–25%	High 25%–50%
Degree of impact on the baseline scenario	Weak	Higher volatility of global food prices		
	Moderate	Smaller harvest of main agricultural crops	Fiscal and quasi-fiscal risks More significant deterioration in the terms of trade	
	Strong	Escalation of the military conflict	Delays in cooperation with the IMF Rapid global economic recovery Large capital inflows from non-residents to Ukraine	Longer duration of the coronavirus pandemic

create risks of a quasi-fiscal nature (read more in Box 8 *Electricity Market Debts* on page 50). Taking a non-systemic approach to solving these issues could considerably increase budget spending and cause growth in the public debt.

The macroeconomic forecast assumes there would be no significant food supply shocks, either negative or positive. Another risk thus lies in a poor harvest of grains, oilseeds, or other fruit and vegetable crops, in particular due to unfavorable weather. A consequence of that would be a rise in food price inflation and a decline in GDP due to decreased agricultural output. That said, losses from lower exports could be partly offset by higher grain prices. In this case, the monetary policy response would balance the need to reduce inflationary pressures against the need to minimize economic losses.

Rapid climate change gives rise to risks of higher volatility of global food prices. Inflation in Ukraine is sensitive to such shocks due to the large share of food products in its CPI structure. Therefore, the shocks may cause inflation to deviate from the target either for a short term or for a longer period. The monetary policy response will be determined by the influence any supply shock has on inflation expectations.

There are persisting risks of an escalation of the military conflict in the east of the country, which can markedly worsen Ukraine's investment attractiveness and significantly affect the expectations of economic agents. Conversely, any progress achieved in resolving the issue with the temporarily occupied areas will noticeably improve Ukraine's investment climate, while also reducing the country risk premium.

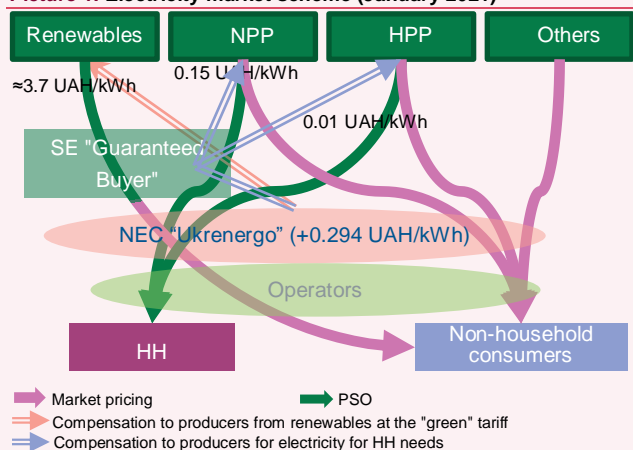
Box 8. Electricity Market Debts

With the introduction of the new electricity market model, special obligations to secure public interest were imposed on some of the market participants. However, amid worsening economic conditions in early 2020, drawbacks in the mechanism to compensate for such obligations led to large debts building up between market participants. That became another risk to the fiscal system.

When the new market model was launched in mid-2019, the public service obligations (PSO) were introduced in order to keep household tariffs unchanged and to fulfill commitments to renewable electricity producers. To perform this function, the state-owned Guaranteed Buyer company was created, while expenses on meeting the PSO were meant to be covered by selling renewable electricity and excess electricity not consumed by households, and by the proceeds from the tariff for transmitting electricity from Ukrenergo NPC. However, the difference between expenses on the PSO and Guaranteed Buyer's income from selling electricity turned out to be greater than envisaged when the Ukrenergo tariff was set. In particular, due to regulatory restrictions, applied to lot size, prices, and initial restrictions on sales markets, Guaranteed Buyer had to sell large volumes of electricity on the balancing market at a reduced price. This factor was aggravated by the overall decline in demand for electricity as the coronavirus crisis developed in early 2020.

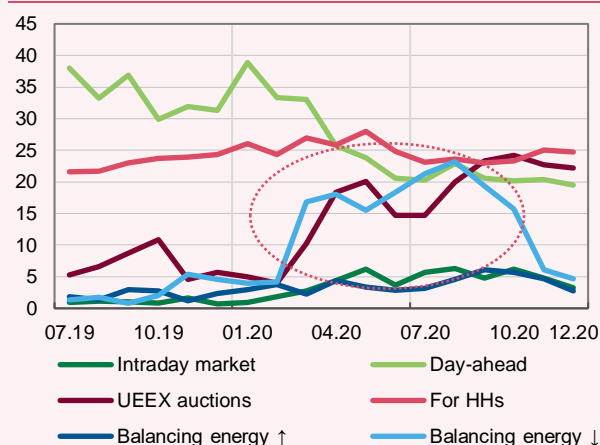
Moreover, Ukrenergo's income was much smaller because of court rulings in favor of [electricity exporters](#) and a number of other [large companies](#), as well as due to growth in accounts receivable. As a result, [as of the end of 2020, Guaranteed Buyer owed almost UAH 33 billion in debts to electricity producers, and Ukrenergo owed UAH 31 billion to Guaranteed Buyer](#). In turn, Ukrenergo also had outstanding accounts receivable. The situation with mutual debts on the electricity market in late 2020 transformed into the risk of an increase in the debt burden for the state.

Picture 1. Electricity market scheme (January 2021)



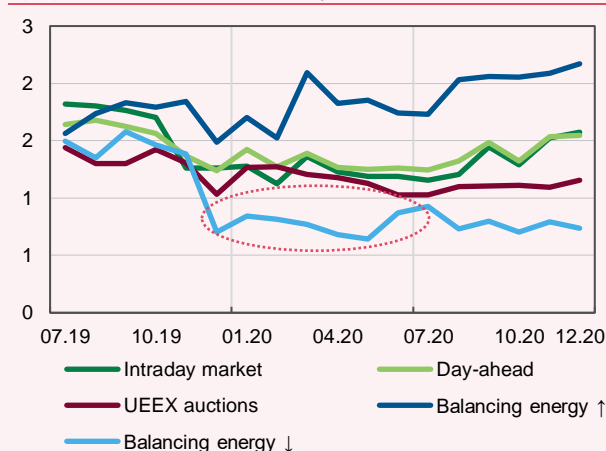
Source: Law "On the electricity market", Law "On alternative energy sources", resolutions of the Cabinet of Ministers, the National Energy Regulation Commission, NBU staff estimates.

Figure 1. Volumes of electricity sales, % of production *



* Electricity is sold partially under individual contracts, information about which is not disclosed. In addition, the electricity surplus purchased in one market, such as the UEEEX, can be sold in the balancing market later on. As a result, the amount of sold electricity may exceed 100% of production. Source: Ukrenergo, UEEEX, Market Operator, Minenergo, NBU staff estimates.

Графік 2. Prices on the electricity markets, UAH/kWh



Source: Ukrenergo, UEEEX, Market Operator, NBU staff estimates.

At the end of 2020, Ukrenergo received state guarantees on loans totaling UAH 10.25 billion from three state-owned banks. According to a decision of the regulatory authority, [no less than 50% of these funds](#) must be allocated for settling debts owed to Energoatom NNEGC, while the remaining amount was probably intended to cover debts owed to renewable energy producers. However, the funding sources and timelines for Ukrenergo to repay all the debts²⁶ it owed to renewable energy producers (more than UAH 24 billion [for 2020](#)) remained unclear.

²⁶ Pursuant to the [Memorandum of Understanding on Settling Problem Issues in the Area of Renewable Energy](#), Guaranteed Buyer had to settle 40% of the debt as of 1 August 2020 (around UAH 9 billion in 2020) and 15% of the debt every quarter in 2021.

The amount of green tariff compensation to be paid to renewable energy producers in 2021 is estimated to exceed UAH 50 billion²⁷. More than UAH 14 billion is expected to come from selling renewable electricity to Guaranteed Buyer. Another UAH 26.6 billion is to be paid in compensation using proceeds from Ukrenergo's electricity transmission tariff. However, the transmission tariff set for 2021 [assumed that not less than 20% of forecast renewable energy production](#) (around UAH 11 billion) would be financed from the budget²⁸. That, however, was not envisaged in the State Budget of Ukraine for 2021. Together with the unresolved issues of the accumulated accounts receivable of Ukrenergo, including as a result of court rulings, this poses a significant risk of further growth in the debts in 2021 (UAH 11–20 billion).

Electricity market debts may be covered by means of:

- providing state guarantees (the 2021 state budget envisages UAH 24 billion in guarantees to support liquidity on the electricity market)
- issuing government debt securities – so-called green Eurobonds or domestic government debt securities.

However, both options will lead to an increase in the guaranteed and/or direct public debt. Thus, risks to public finances will rise, and investors' perception of the country's sovereign credit risk will worsen. Therefore, a comprehensive solution to the debt settlement problem on the electricity market will require setting well-balanced tariffs for households and industrial producers, as well as respecting the *pari passu* principle for settling electricity supply debts.

²⁷ According to the [forecast electricity balance](#) developed by the Ministry of Energy, renewable electricity generation in 2021 is projected to reach 13.12 billion kWh.

²⁸ Article 8 of Law of Ukraine No. 555-IV *On Alternative Energy Sources*.

Indicators	Macroeconomic forecast (January 2021)																									
	2020			2021			2022			2023																
	2018	2019		I	II	III	IV	current forecast	forecast 10.2020	I	II	III	IV	current forecast	forecast 10.2020	I	II	III	IV	current forecast						
REAL ECONOMY, % yoy, unless otherwise stated																										
Nominal GDP, UAH bn	3561	3978	846	868	1157	1209	4079	3925	925	1044	1291	1321	4580	4360	1013	1143	1416	1443	5015	4775	1107	1248	1546	1575	5475	
Real GDP	3.4	3.2	-1.3	-11.4	-3.5	-1.5	-4.4	-6.0	-0.1	11.3	3.5	2.6	4.2	4.2	3.4	3.7	3.9	4.1	3.8	3.8	4.0	4.0	4.0	4.0	4.0	
GDP Deflator	15.4	8.1	5.1	5.0	7.9	11.0	7.2	5.1	9.4	8.1	7.0	6.5	7.8	6.6	6.0	5.5	5.4	5.0	5.5	5.5	5.0	5.0	5.0	5.0	5.0	
Consumer prices (period average)	10.9	7.9	-	-	-	-	2.7	2.6	-	-	-	-	7.7	6.1	-	-	-	-	5.6	5.7	-	-	-	-	5.0	
Consumer prices (end of period)	9.8	4.1	2.3	2.4	2.3	5.0	5.0	4.1	7.6	8.4	8.3	7.0	7.0	6.5	6.0	5.4	5.4	5.0	5.0	5.0	5.0	5.1	5.0	5.0		
Core inflation (end of period)	8.7	3.9	3.1	3.0	3.1	4.5	4.5	4.2	5.6	6.2	6.2	5.9	5.9	5.4	5.0	4.4	4.1	3.8	3.8	3.8	3.8	3.9	3.8	3.8		
Non-core inflation (end of period)	10.7	4.8	1.5	1.8	1.1	5.9	5.9	3.9	10.3	11.3	11.4	8.6	8.6	7.9	7.4	6.5	7.2	6.6	6.6	6.5	6.4	6.4	6.6	6.6		
raw foods (end of period)	3.3	3.9	-1.0	5.0	-1.1	4.1	4.1	2.4	9.7	7.1	9.3	6.0	6.0	5.3	3.9	2.9	4.1	3.4	3.4	3.3	3.4	3.4	3.4	3.4		
administrative prices (end of period)	18.0	8.6	5.5	3.2	6.0	9.9	9.9	8.1	12.4	14.8	13.0	10.5	10.5	10.1	10.1	9.6	9.6	9.4	9.4	9.0	9.1	9.1	9.1	9.1		
Producer prices (end of period)	14.2	-7.4	-4.2	-4.6	-1.7	14.5	14.5	8.2	12.4	16.1	12.4	6.8	6.8	5.3	6.3	7.0	6.7	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Nominal wages (period average)	24.8	18.5	14.3	4.0	9.5	13.0	10.2	8.9	15.3	25.2	15.9	10.9	16.6	16.1	10.2	9.7	8.6	8.7	9.3	8.0	8.4	8.0	8.5	8.5	8.3	
Real wages (period average)	12.5	9.7	11.3	1.9	6.9	8.9	7.2	6.2	7.8	15.8	7.1	3.3	8.3	8.3	9.5	3.6	4.1	3.1	3.4	3.6	2.1	3.2	2.9	3.3	3.2	
Unemployment (ILO, period average)	8.8	8.2	-	-	-	-	9.5	9.4	-	-	-	-	8.8	8.6	-	-	-	-	8.5	8.4	-	-	-	-	8.5	
FISCAL SECTOR																										
Consolidated budget balance, UAH bn	-67.8	-87.3	-	-	-	-	-224	-254	-	-	-	-	-207	-174	-	-	-	-	-151	-145	-	-	-	-	-166	
% of GDP	-1.9	-2.2	-	-	-	-	-5.5	-6.5	-	-	-	-	-4.5	-4.0	-	-	-	-	-3.0	-3.0	-	-	-	-	-3.0	
Public sector fiscal balance (IMF methodology), UAH bn	-75.4	-89.2	-	-	-	-	-225	-255	-	-	-	-	-206	-175	-	-	-	-	-151	-145	-	-	-	-	-167	
% of GDP	-2.1	-2.2	-	-	-	-	-5.5	-6.5	-	-	-	-	-4.5	-4.0	-	-	-	-	-3.0	-3.0	-	-	-	-	-3.0	
BALANCE OF PAYMENTS (NBU methodology)																										
Current account balance, USD bn	-6.4	-4.1	2.2	2.2	0.7	1.6	6.6	4.3	0.6	-1.4	-2.0	-0.3	-3.2	-3.5	-1.6	-2.2	-2.9	-0.7	-7.4	-8.7	-1.9	-2.8	-3.2	-1.4	-9.3	
Exports of goods and services, USD bn	59.2	63.6	15.3	13.2	14.9	17.3	60.6	59.8	15.5	14.7	16.0	17.9	64.0	62.3	16.1	15.2	16.5	18.3	66.2	65.1	16.7	15.7	17.2	18.2	67.7	
Imports of goods and services, USD bn	70.6	76.1	16.3	12.4	15.9	17.8	62.3	62.4	15.8	17.8	19.5	20.1	73.1	73.0	18.4	19.2	20.6	21.2	79.4	80.0	19.4	20.4	21.7	21.6	83.0	
Financial account, USD bn	-9.3	-10.1	2.3	0.8	2.4	-0.9	4.6	3.0	-0.7	-2.2	-0.5	-0.4	-3.8	-3.4	-2.2	-2.8	-2.0	-0.4	-7.5	-9.7	-3.9	-2.5	-3.2	-1.6	-11.2	
BOP overall balance, USD bn	2.9	6.0	-0.1	1.3	-1.7	2.5	2.0	1.3	1.3	0.8	-1.5	0.1	0.6	-0.1	0.6	0.6	-0.8	-0.3	0.1	1.1	2.0	-0.3	0.1	0.1	1.9	
Gross reserves, USD bn	20.8	25.3	24.9	28.5	26.5	29.1	29.1	29.1	30.4	32.0	29.9	30.7	30.7	29.5	31.4	31.8	30.2	29.7	29.7	28.8	30.9	30.4	29.5	29.1	29.1	
Months of future imports	3.3	4.9	4.8	5.1	4.5	4.8	4.8	4.8	4.8	5.0	4.6	4.6	4.6	4.4	4.7	4.7	4.4	4.3	4.3	4.1	4.4	4.3	5.2	4.1	4.1	
MONETARY ACCOUNTS (Cumulative since the beginning of the year)																										
Monetary base, %	9.2	9.6	0.9	11.6	18.9	24.8	24.8	27.6	5.8	9.3	9.3	13.5	13.5	5.4	0.9	3.6	4.5	7.1	7.1	5.2	0.3	1.7	2.0	3.8	3.8	
Broad money, %	5.7	12.6	5.5	12.0	19.7	28.7	28.7	28.7	25.4	0.7	5.2	8.2	13.3	13.3	11.7	0.0	3.6	6.0	11.9	11.9	11.8	0.7	4.2	6.4	11.2	11.2
Velocity of broad money (end of year)	2.8	2.8	-	-	-	-	2.2	2.2	2.2	-	-	-	-	2.2	2.2	-	-	-	-	2.1	2.1	-	-	-	-	2.1

Terms and Abbreviations

BAOI	Business Activity Outlook Index	NJSC	National Joint-Stock Company
BoP	Balance of Payments	OECD	Organisation for Economic Co-operation and Development
CD	Certificate of deposit	OPEC	Organization of the Petroleum Exporting Countries
CEE	Central and Eastern Europe	PJSC	Public Joint-Stock Company
CMU	Cabinet of Ministers of Ukraine	PMI	Purchasing Managers' Index
Core CPI	Core consumer price index	QE	Quantitative easing
COVID-19, coronavirus	Coronavirus disease COVID-19	QPM	Quarterly projections model
CPI	Consumer price index	REER	Real effective exchange rate
EAEU	Eurasian Economic Union	Russia	Russian Federation
ECB	European Central Bank	SCSU	State Customs Service of Ukraine
ECPI	External Commodity Price Index	SCSU	State Customs Service of Ukraine
EM	Emerging Markets	SESU	State Employment Service of Ukraine
EMBI	Emerging Markets Bond Index	SSSU	State Statistics Service of Ukraine
EU	European Union	STA	Single Treasury Account
FAO	Food and Agriculture Organization of the United Nations	STSU	State Treasury Service of Ukraine
FDI	Foreign direct investment	U.S.A	United States of America
Fed	Federal Reserve System	UAWCPI	Weighted average of Ukraine's MTP countries' CPI
FOMC	Federal Open Market Committee	UAWGDP	Weighted average of economic growth in Ukraine's MTP countries
FX	Foreign exchange	UIIR	Ukrainian Index of Interbank Rates
GDP	Gross domestic product	UNCTAD	United Nations Conference on Trade and Development
GVA	Gross value added	USDA	United States Department of Agriculture
IFI	International financial institutions	VAT	Value-added tax
IIF	Institute of International Finance	WSA	World Steel Association
ILO	International Labour Organization	WTO	World Trade Organization
IMF	International Monetary Fund		
IMF WEO	World Economic Outlook published by the IMF		
IT	Information technologies		
ITC	International Trade Centre		
MFU	Ministry of Finance of Ukraine		
MTP	Main trading partner		
MY	Marketing year		
NBU	National Bank of Ukraine		
NEER	Nominal effective exchange rate		
m	million	pp	percentage point
bn	billion	bbl	barrel
UAH	Ukrainian hryvnia	yoy	in annual terms; year-on-year change
USD	US dollar	qoq	in quarterly terms; quarter-on-quarter change
bp	basis point	mom	in monthly terms; month-on-month change
bcm	billion cubic meters	sa	seasonally adjusted
		RHS	right-hand scale