National Bank of Ukraine

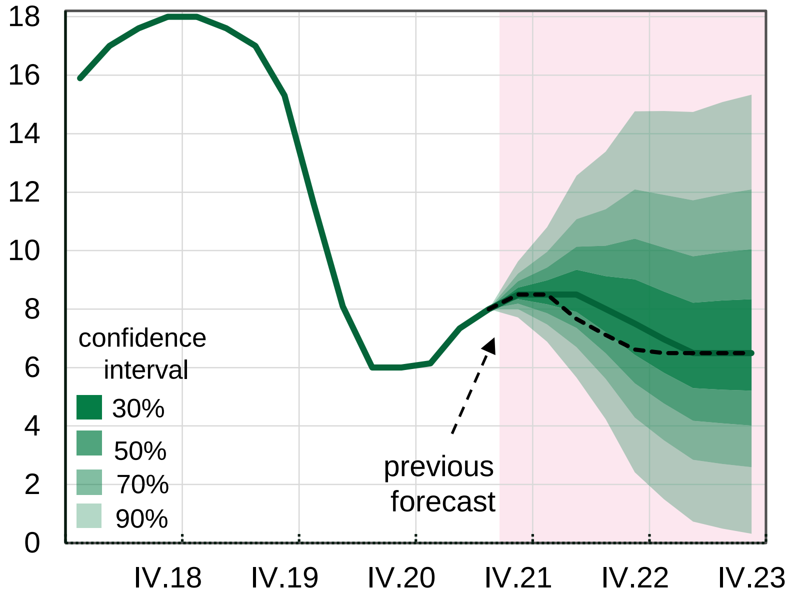
Inflation report (October 2021)

November 2

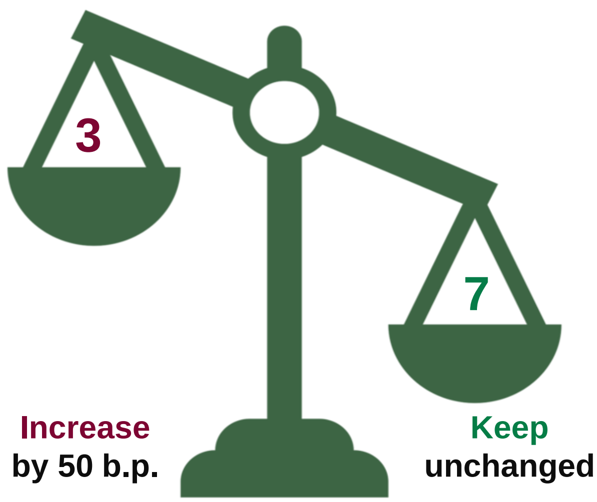
2021

On October 21, the Board of the National Bank of Ukraine has decided to keep its key policy rate at 8.5% per annum

Key rate, %



Distribution of votes (21.10.2021)



Indicators *	**2019**	**2020**	**2021**	**2022**	**2023**
Real GDP growth, %	3.2	-4.0	3.1 (3.8)	3.8 (4.0)	4.0 (4.0)
CPI, % yoy (eop)**	4.1	5.0	9.6 (9.6)	5.0 (5.0)	5.0 (5.0)
Core CPI, % yoy (eop)**	3.9	4.5	7.1 (7.3)	3.3 (4.0)	4.0 (4.0)
Current account balance, % GDP	-2.7	3.4	-1.0 (-0.4)	-2.6 (-2.8)	-4.0 (-4.2)
Gross reserves, USD bn	25.3	29.1	31.1 (31.3)	30.2 (31.6)	29.6 (31.7)

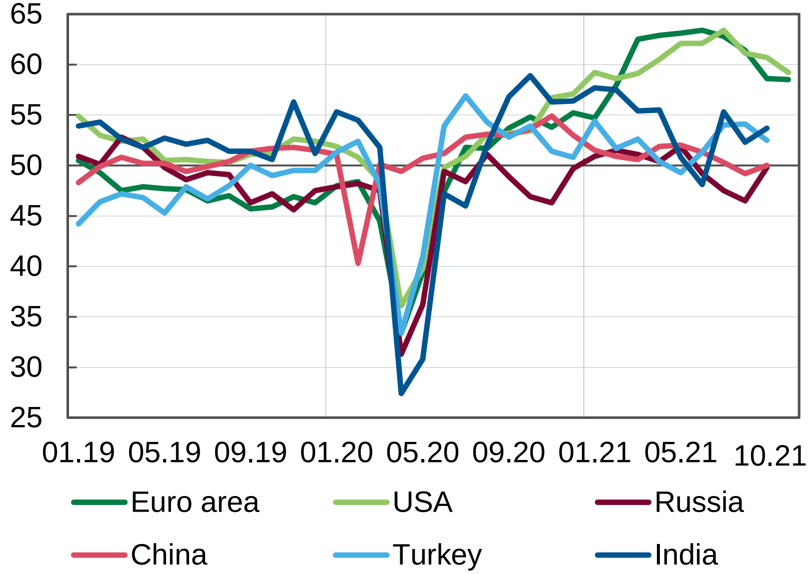
* in brackets – previous forecast (Inflation report, July 2021) ** end of period

Summary

- **The economic growth of MTP is slowing down and remains vulnerable in particular** due to shortage of raw materials and components
- **Price pressure on world commodity markets will be further fueled by steady demand.** Price correction will be slow and at a divergent pace. World inflation will remain high until supply problems are resolved. It will decelerate to target levels during 2022
- **Monetary policy tightening comes at a faster pace** both in EM and in AE due to rising inflation pressure. Tighter global financial conditions will exacerbate competition between EMs for capital flows
- **Inflation in Ukraine reached a peak of 10-11% in Autumn**. **In the future, inflation will gradually decrease** due to the effects of UAH appreciation, a high supply of agricultural products, and previous NBU monetary policy tightening. Inflation will reach 5% by the end of 2022
- **The risk of the energy crisis in Ukraine has heightened.** While the direct impact on inflation is limited, the pressure will come through the cost price channel
- **Currently, economic activity is recovering, supported by high consumer and investment demand, as well as a record harvest.** GDP growth will accelerate due to the global recovery and favorable terms of trade, but in the short term will be restrained by quarantine measures and high gas prices
- **In 2021, the current account deficit will be insignificant thanks to high export prices and a record harvest.** In 2022-23, the current account deficit will widen due to the worsening of terms of trade, growth of internal demand, and hryvnia's REER appreciation.
- **The NBU will keep its key policy rate no lower than 8.5% at least until Q3 2022 rather than until Q2.** It will decrease more gradually than previously expected

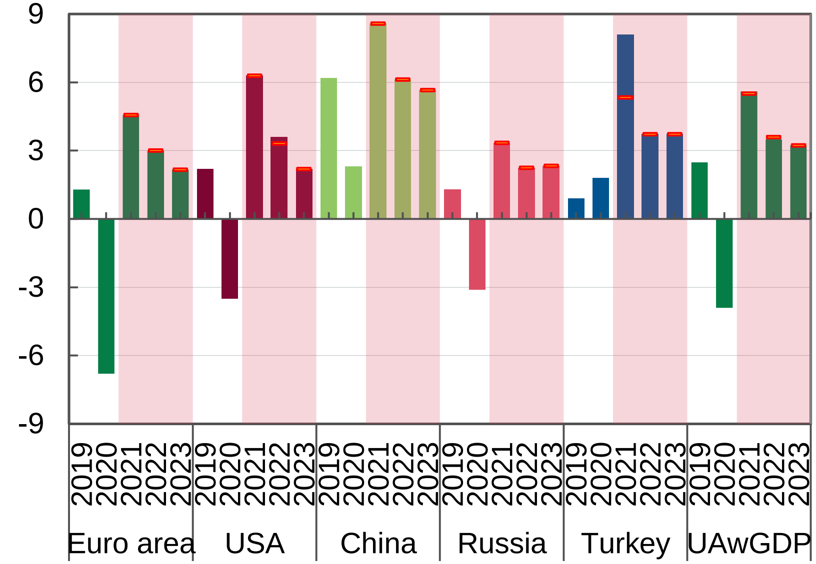
The economies of the MTP countries after the phase of active recovery are entering a stage of slower growth

Manufacturing PMI of selected countries



Source: IHS Markit.

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

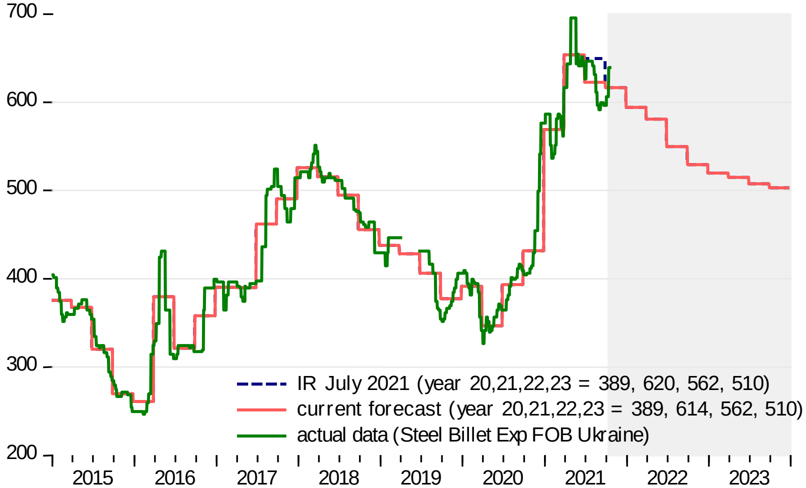


Source: National statistical offices, NBU staff estimates

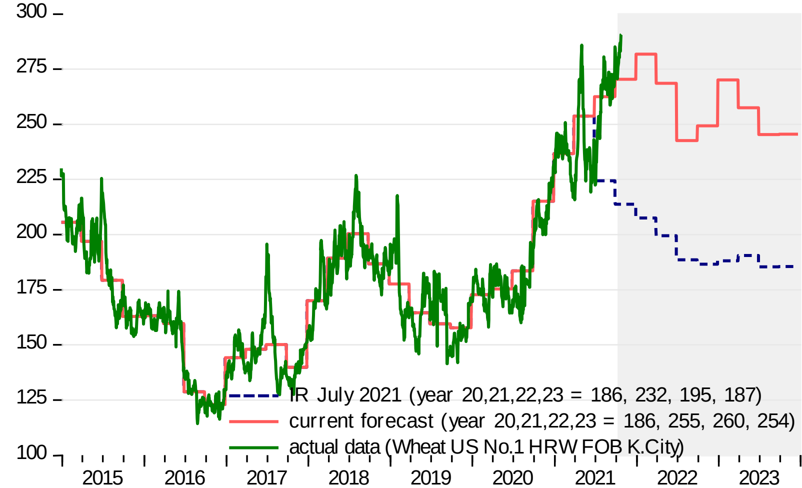
- Economic recovery slowed due to supply-side factors, while demand remained strong
  - The spread of Delta, primarily in Asia (leading suppliers of components), has led to the strengthening of quarantine measures
  - In September, for the first time since June 2020, the volume of new production orders decreased (according to PMI)
  - The unprecedented increase in the volume of unfulfilled orders (the difference between the volume of new orders and actual production) indicates the preservation of significant demand
- The economies of the MTP countries are entering a stage of slower growth due to the tapering of fiscal and monetary stimuli, shortage of raw materials and components, new outbreaks of the pandemic

Prices in world commodity markets remain high. The correction will be slow

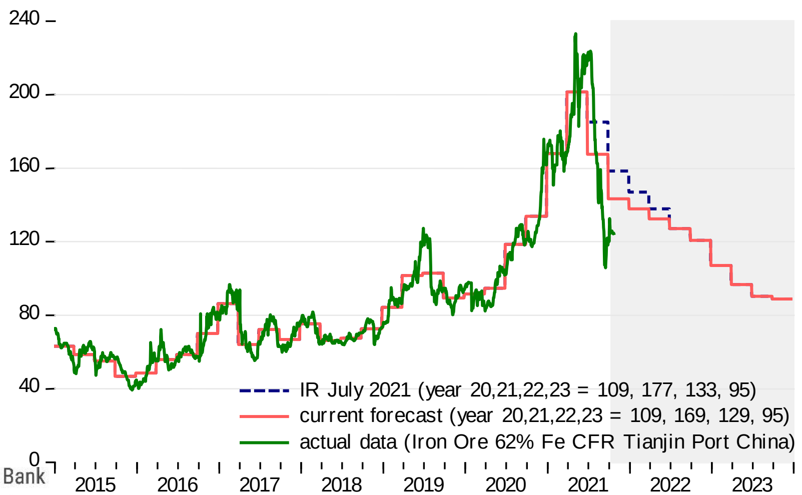
Steel World Price, USD/MT



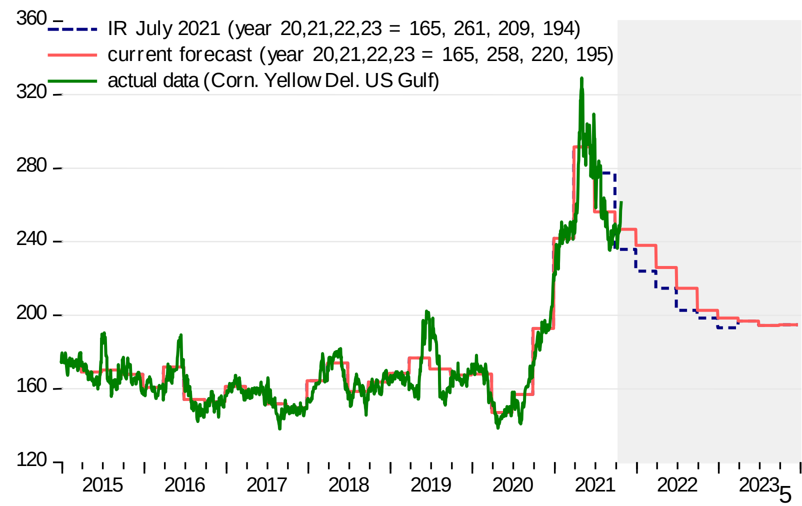
Wheat World Price, USD/MT



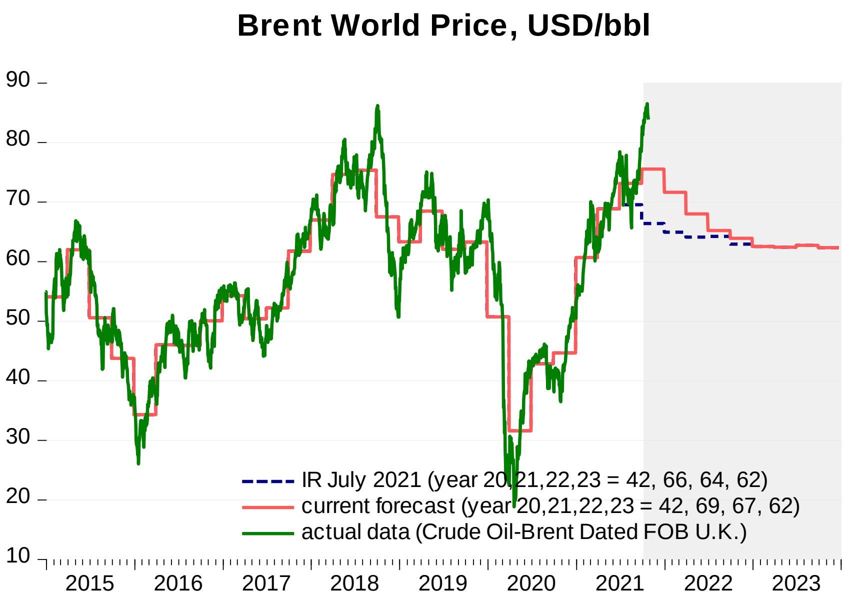
Iron Ore World Price, USD/MT

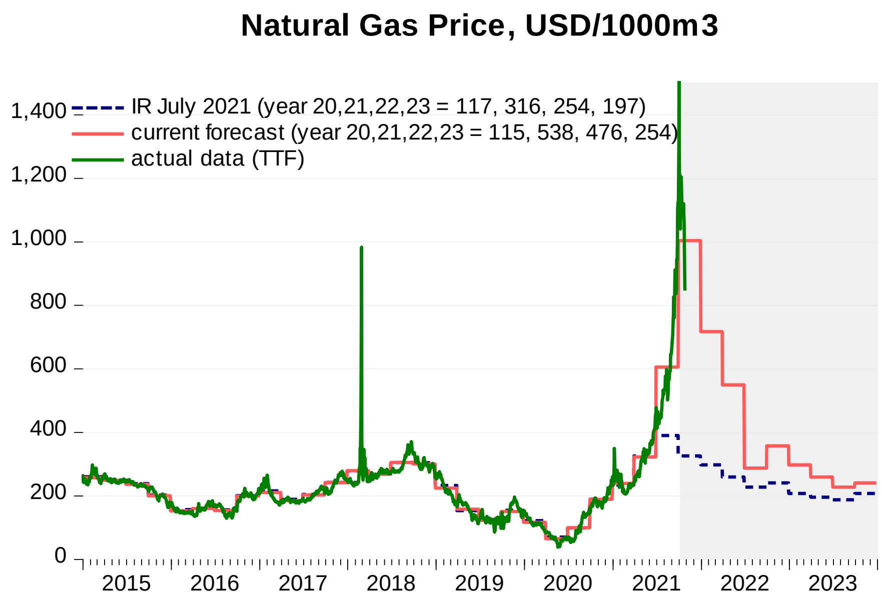


Maize World Price, USD/MT



Energy prices was revised upwards

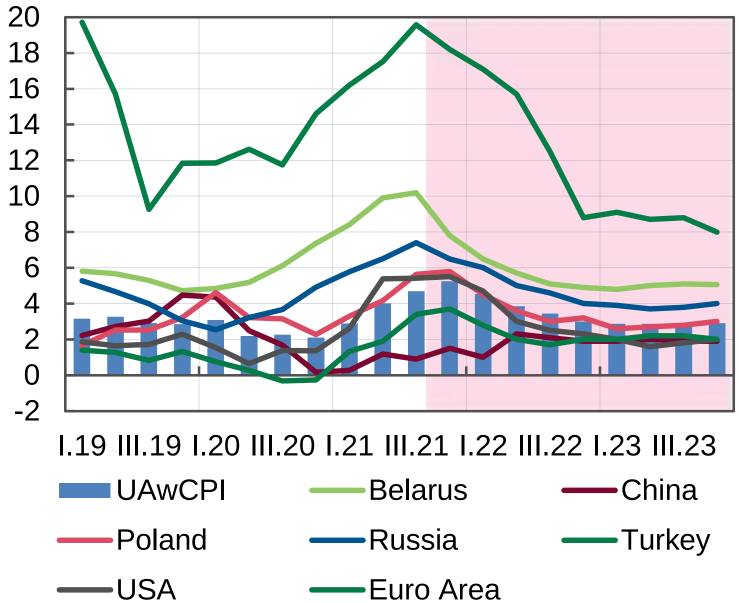




- Oil prices will slowly adjust as supply increases
- Natural gas will remain expensive until the end of the heating season in Europe

The pressure on inflation in the world is stronger and longer due to rising energy prices and supply chain disruptions

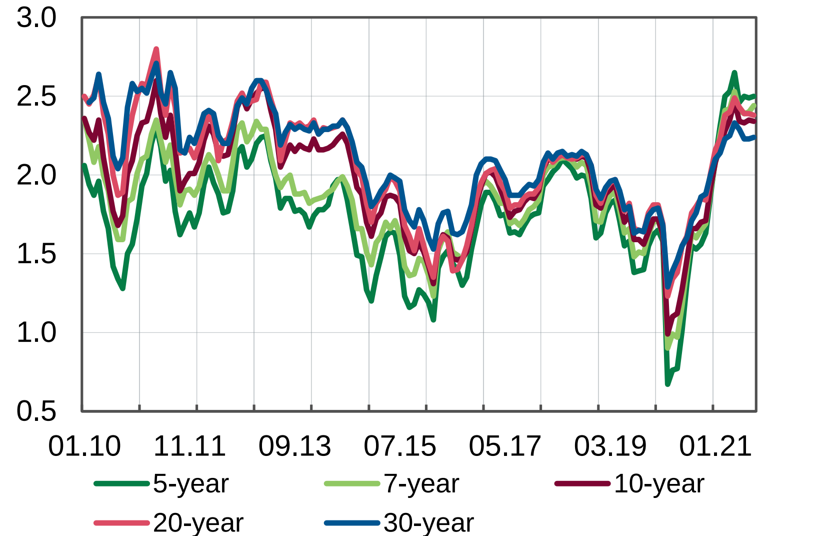
CPI in selected countries and UAwCPI, % yoy



Source: national statistical agencies, NBU estimates..

- The initial drivers of inflation (rapid recovery of demand against the background of supply constraints) also added to the effects of shifting the cost of transportation and shortages of materials and components
- Global inflation will slow to target by the end of 2022

Market inflation expectations* in the U.S., %



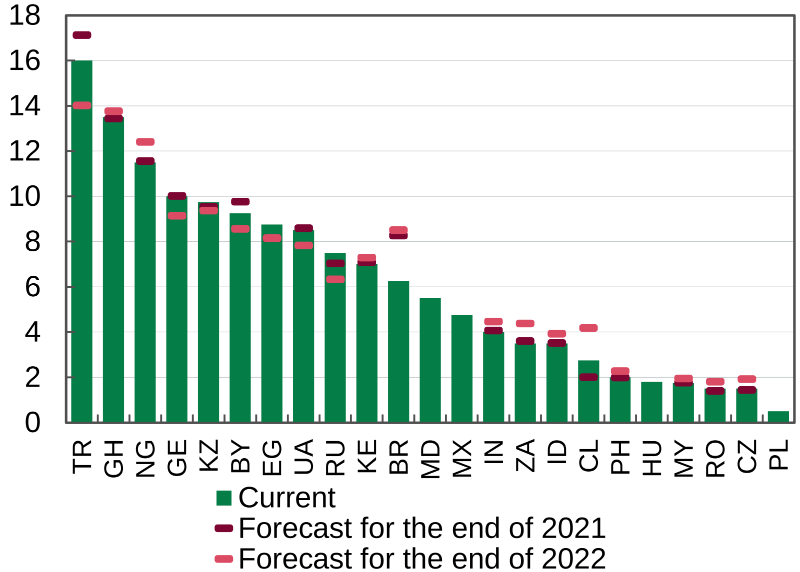
* Implied by the yield differential between benchmark Treasury securities and Treasury Inflation-Indexed Securities.
Source: St. Louis Fed.

Baltic Dry Index

Source: Investing.

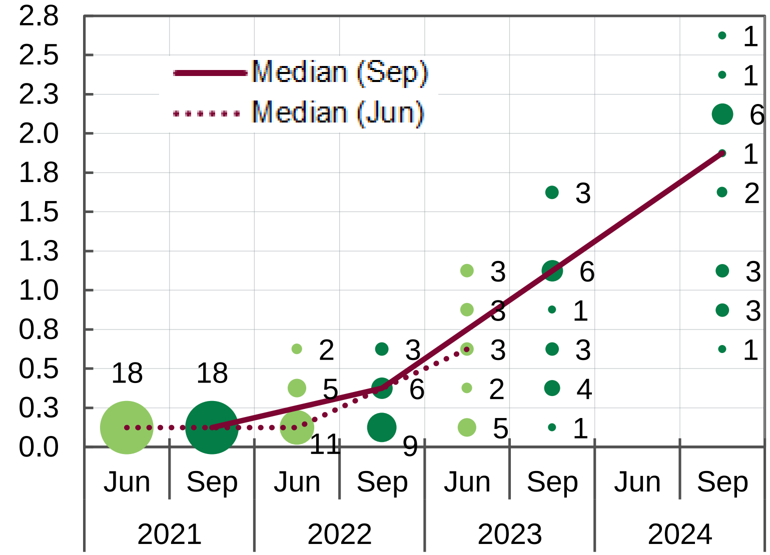
Tighter global financial conditions will exacerbate competition between EMs for capital flows

Key policy rates in selected EM countries, %



Source: official web-pages of central banks, Focus Economics, as of 27.10.21.

Number of FOMC participants expecting particular fed funds rate

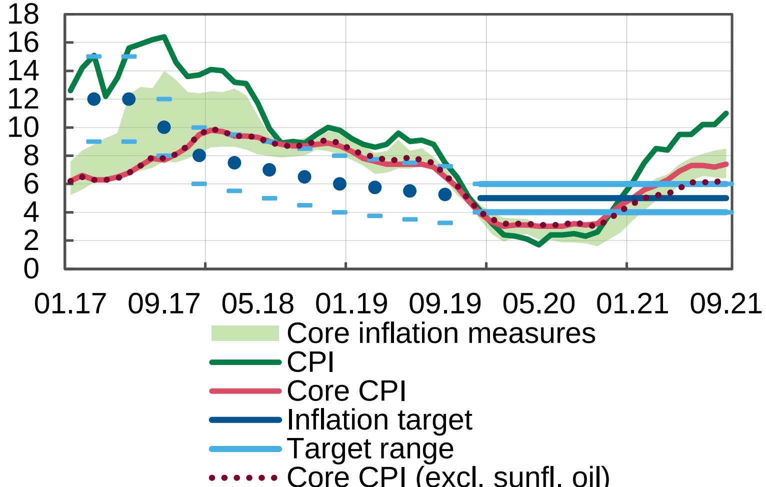


Source: Federal Reserve.

- In September-October, Poland (unexpectedly, for the first time in 9 years), Romania, Pakistan, Colombia, and Azerbaijan joined other EM countries in monetary policy tightening. Some CBs (of Hungary, Czech Rep., Kazakhstan, Uruguay, and Brazil) have signaled their readiness to continue the hiking cycle in the near future
- CBs of Norway and New Zealand raised key policy rates and hinted at potential further monetary policy tightening
- The Fed might start reducing the pace of QE purchases already in November 2021. Half of the FOMC members consider it appropriate to raise the Fed funds rates by the end of 2022

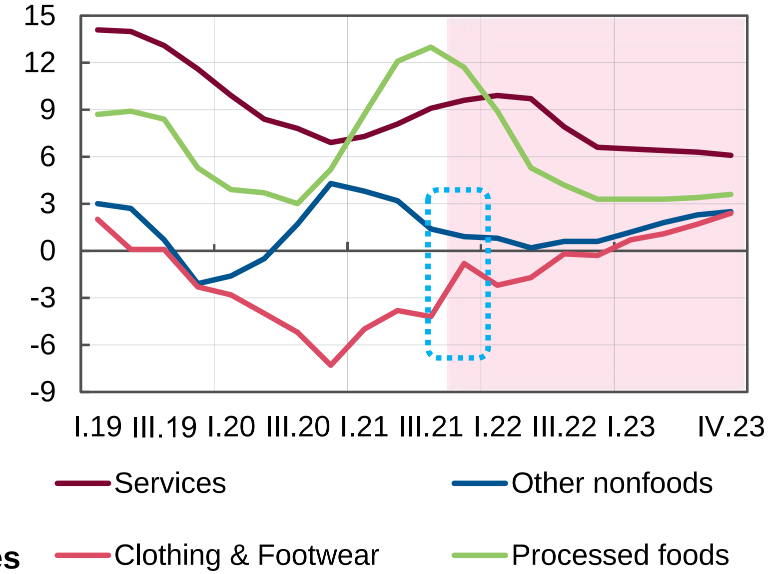
Strengthening of the hryvnia restrains inflation pressure

Underlying inflation trends*, % yoy



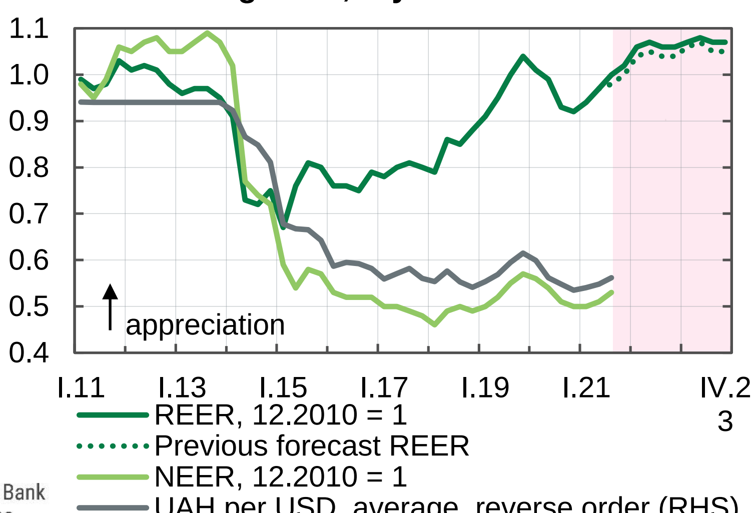
* Read more in the January 2017 Inflation Report (pages 20–21). Source: SSSU, NBU staff estimates.

Core CPI components at the end of period, % yoy



Source: SSSU, NBU staff estimates.

Official exchange rate, hryvnia REER and NEER indices

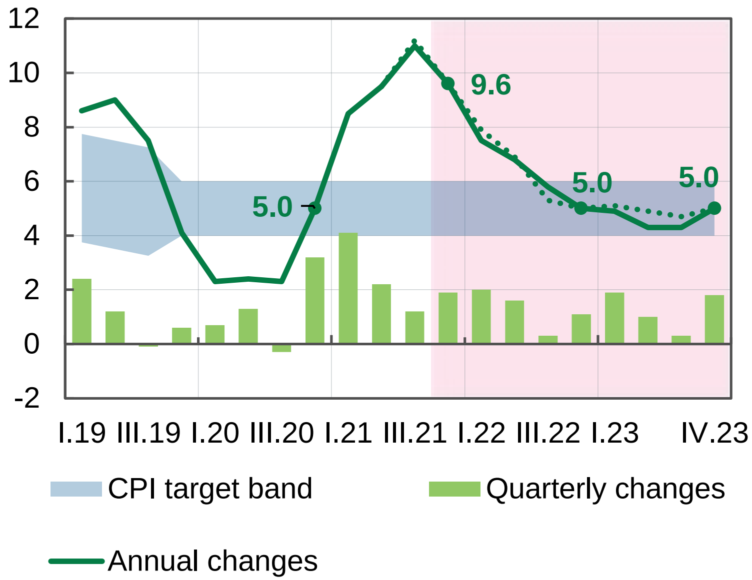


Source: IFS, NBU staff estimates..

- Services acceleration above forecast (July) is caused by solid consumer demand and higher costs
- The last factor drives prices of majority processed foods as well
- However, core inflation remained lower than the July forecast due to stronger hryvnia and faster than expected, the decline in sunflower oil price on the world market

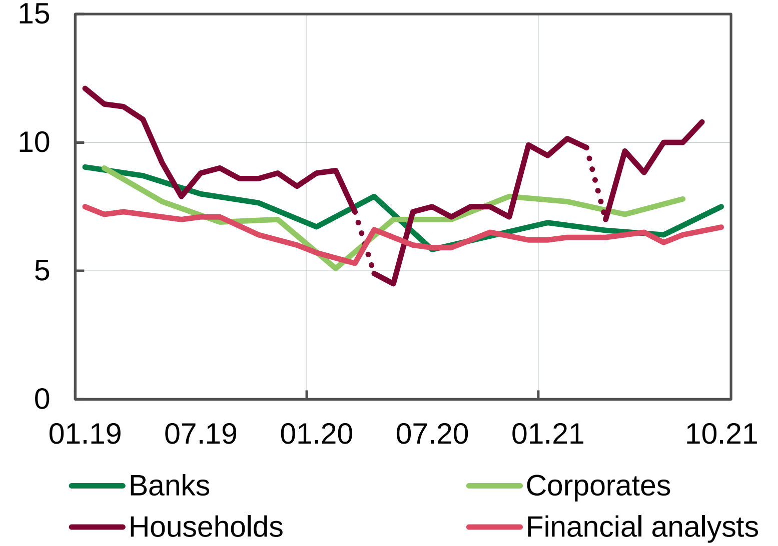
Inflation in Ukraine reached a peak of 10-11% in Autumn and then will gradually decrease to 5% in 2022

CPI, %



Source: SSSU, NBU staff estimates.

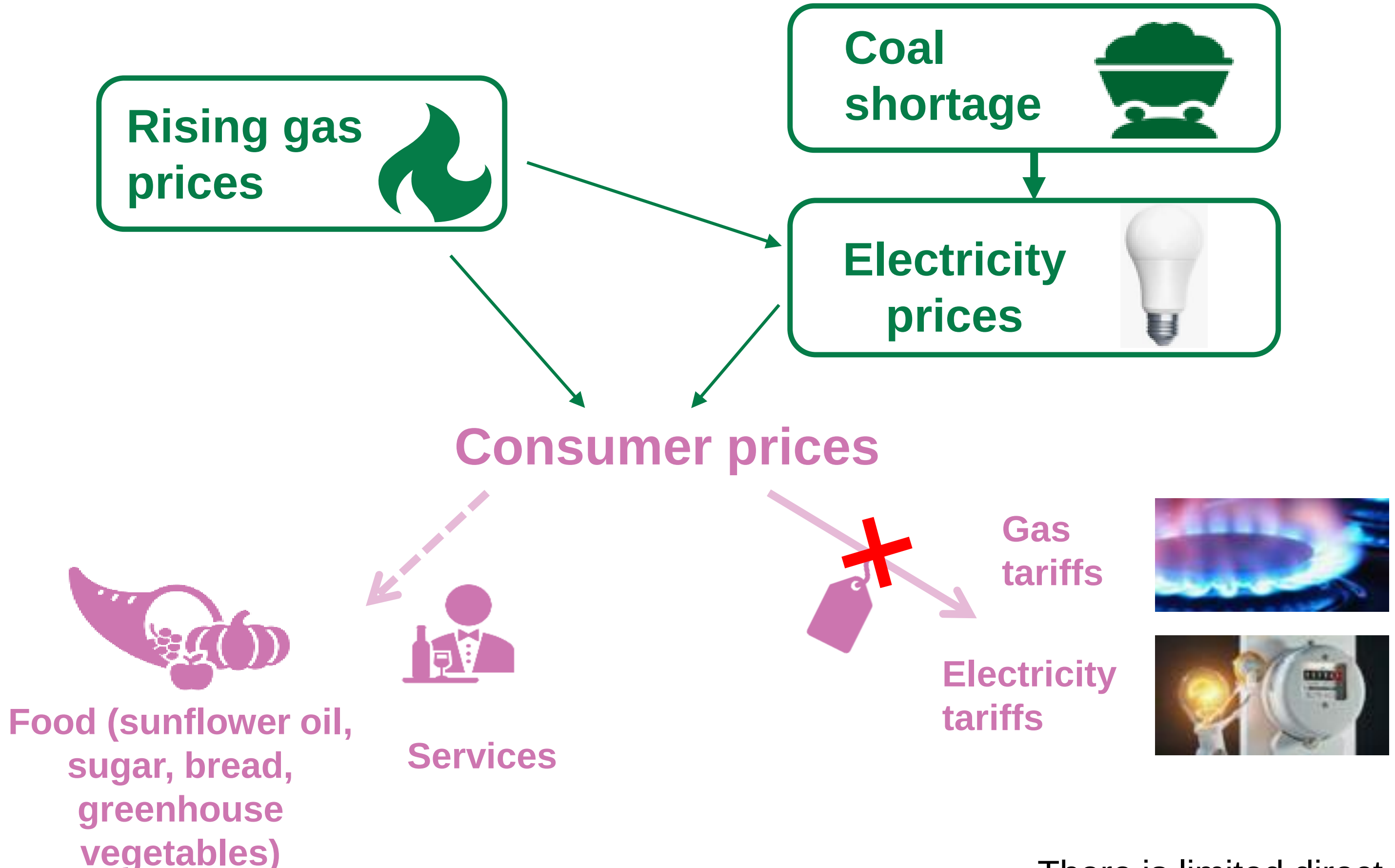
12-month-ahead inflation expectations*, %



* The dotted line indicates a change in the method of survey for a telephone interview due to quarantine restrictions.
Source: NBU, GfK Ukraine, Info Sapiens.

- Inflation accelerated sharply (to 11% yoy) in September primarily due to the price growth of foods and services. Inflation expectations continue to deteriorate
- In the future, inflation will gradually decrease due to the vanishing of the low base effect, the favorable situation on the currency market, and this year's high harvest
- Inflation pressure will be restrained by previous NBU actions for monetary policy strengthening as well
- High energy prices in the next several quarters, consumer demand, and labor costs will interfere with a sharp inflation decrease which was previously expected

Energy crisis in Europe and its risks in Ukraine pushing up inflationary pressure despite the limited direct impact on tariffs



Indirect impact of increased production costs

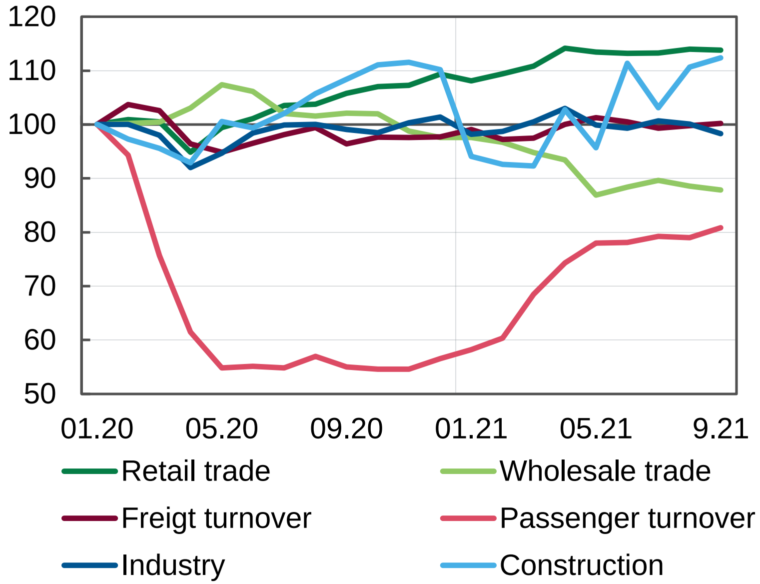
+ 0.3 pp by the end of 2021

up to + 0.8 pp (at the end of the Q2 of 2022)

There is limited direct impact on inflation through administrative decisions

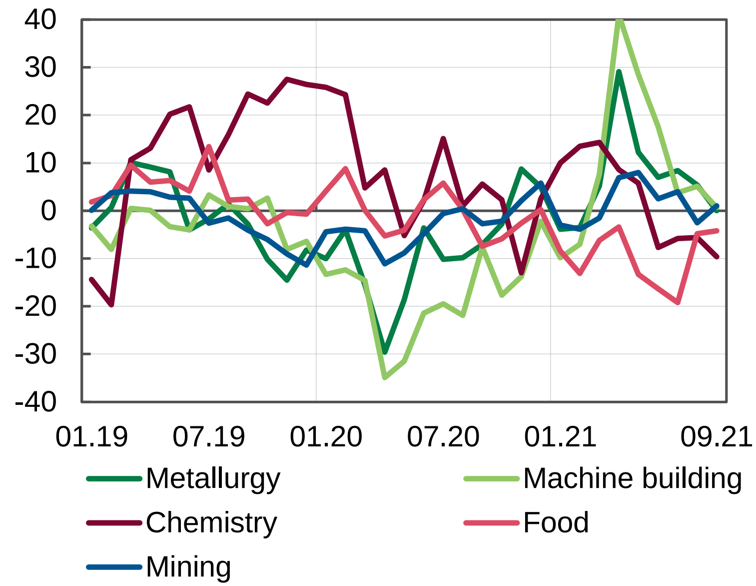
The economic recovery remains uneven across sectors

Production in selected activities, sa, index 01.2020 = 100



Source: SSSU, NBU staff estimates.

Production in selected industries,% y/y

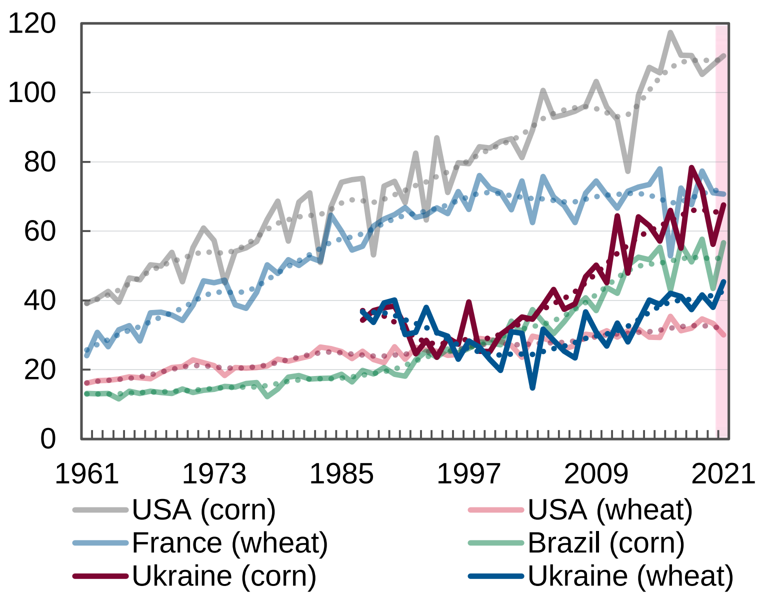


Source: SSSU, NBU staff estimates.

- The record harvest of early grain also supported the food industry, trade and transport (however, low volumes of gas transit constrained the growth of the latter)
- Consumer demand supported high growth of retail trade and passenger turnover, and strong investment demand helped to restore the growth rate of construction and engineering
- Despite favorable external conditions, the recovery of the industry was constrained by limited production capacity in some industrial sectors and due to insufficient investment in previous periods. Economic growth was also restrained by increasing price pressure from production costs

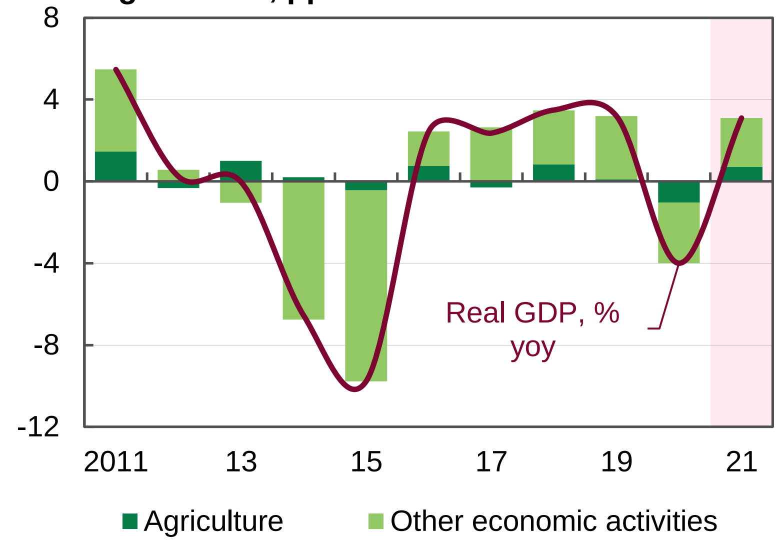
Box. Record harvest effects on economy of Ukraine

Yields of wheat and corn in selected countries*, c/ha



* Dot lines for HP filter.
Source: FAO, USDA, SSSU, NBU staff estimates.

Agriculture direct contributions to the annual change of GDP, pp

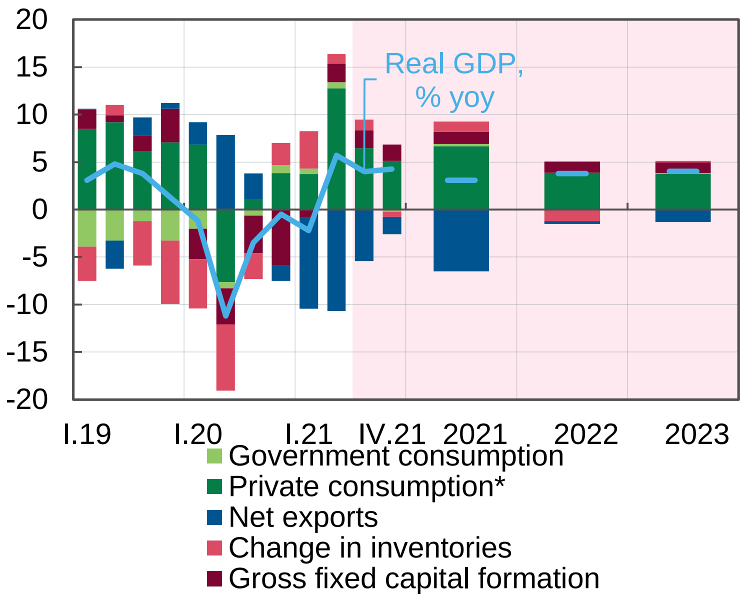


Source: SSSU, NBU staff estimates.

- The next record harvest is expected in 2021 (81 million tons for grain and leguminous, by NBU staff estimates). It will contribute directly 0.8 pp to GDP
- In addition, this will have a positive impact on related activities (*according to the "cost-output" table, 1 UAH produced in agriculture, leads to an increase by 2.5 UAH in overall output*), as well as stable export revenues (*for the period from 2005 to 2020 the share of agricultural and food products in goods export increased from 13% to 49%*)
- At the same time, despite the significant increase in crop productivity over the last decade, the agriculturee continues to face significant challenges (underinvestment, the impact of climate change, etc.), which hinders the realization of its potential

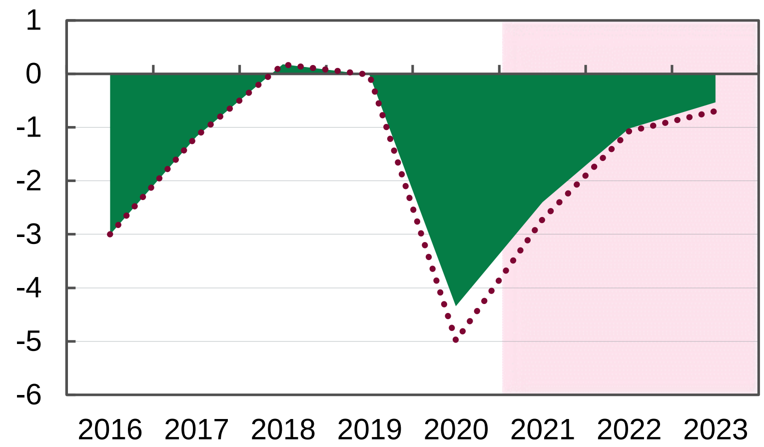
GDP will grow due to global recovery and favourable terms of trade

Contributions to annual GDP growth by final use, pp



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

GDP GAP, %

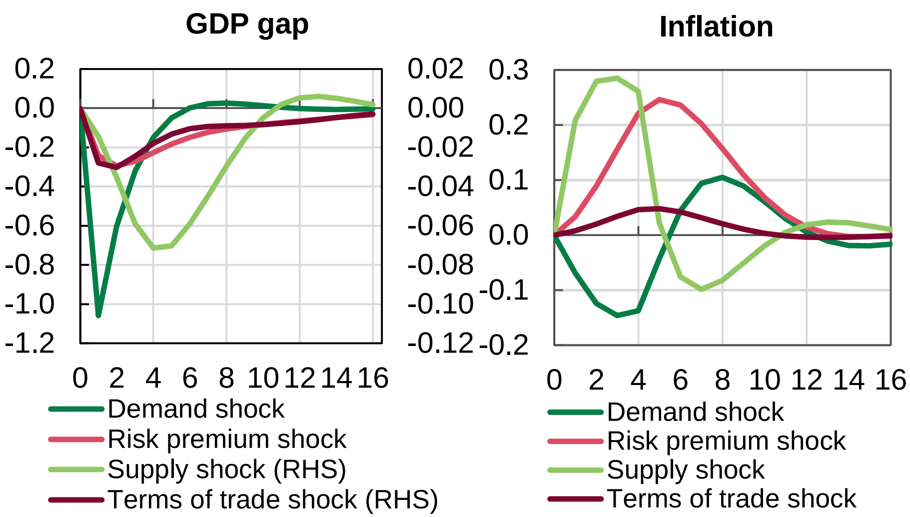


Source: SSSU, NBU staff estimates.

- In H1 2021, the economic recovery was somewhat weaker than expected
- In Q3 2021 economic activity revived, supported by robust consumer demand, investment activity, and a record harvest of early grain
- The baseline forecast scenario includes 1-month quarantine of red zones, which reduces GDP by 0.2 pp in 2021. In the case of strict quarantine, the effect will worsen by another 0.3pp
- The forecast of real GDP growth has been revised downwards due to the longer and stronger impact of the pandemic and a sharp rise in gas prices (growth in energy prices will restrain GDP growth by 0.1 pp in 2021 and 0.4 pp in 2022)

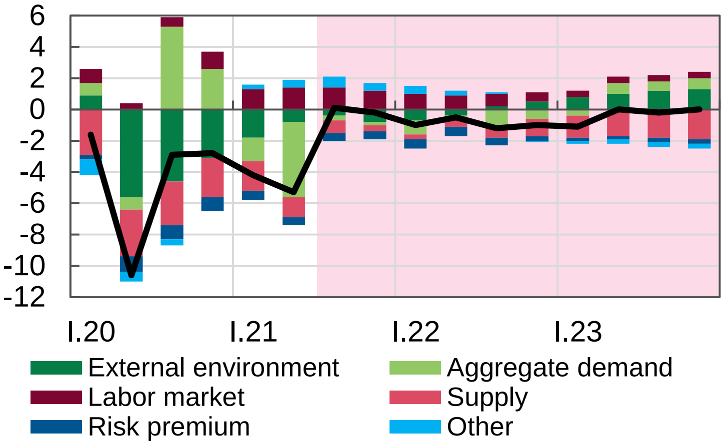
Box. Estimation of factors that affect GDP gap in Ukraine

Impulse response functions of GDP gap and inflation to selected shocks, quarterly, size of shock = 1%



Source: NBU staff estimates

Decomposition of GDP gap by factors, pp

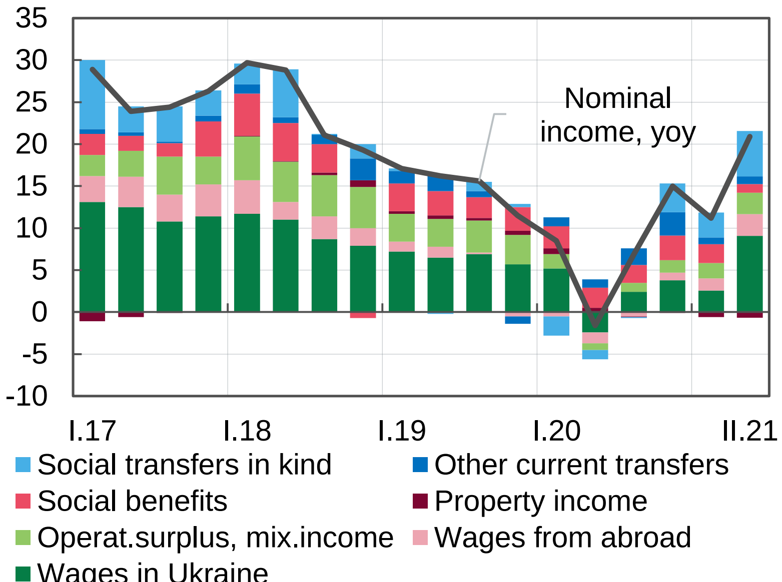


Source: NBU staff estimates

- An understanding of the shocks nature is crucial for balanced monetary policy
- The multidirectional reactions of GDP gap and inflation on shocks (left picture) require different responses of the monetary policy: for the demand shock it’s unambiguous, while in the case of inflation shock reaction should be more balanced
- We use shock decomposition (right picture) to analyze factors, that define GDP gap dynamics. Such a decomposition shows that a substantial driver of economic slowdown in 2020Q2 was low external demand, while unexpectedly high internal demand in the second half of 2020 played a key role in recovery. But the latter shows a negative impact in 2021Q2 due to the shift in harvesting. A labor market affects economic growth positively throughout 2020-2023

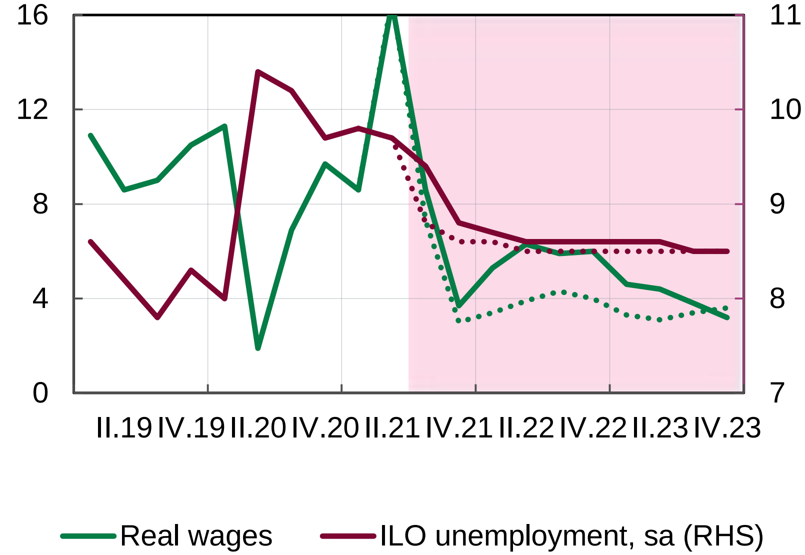
Consumer demand is supported by HH income growth, in particular growth in wages

Contributions to Annual Change in Nominal Household Income, pp



Source: SSSU, NBU staff estimates.

Real wages, % yoy and ILO Unemployment sa, %

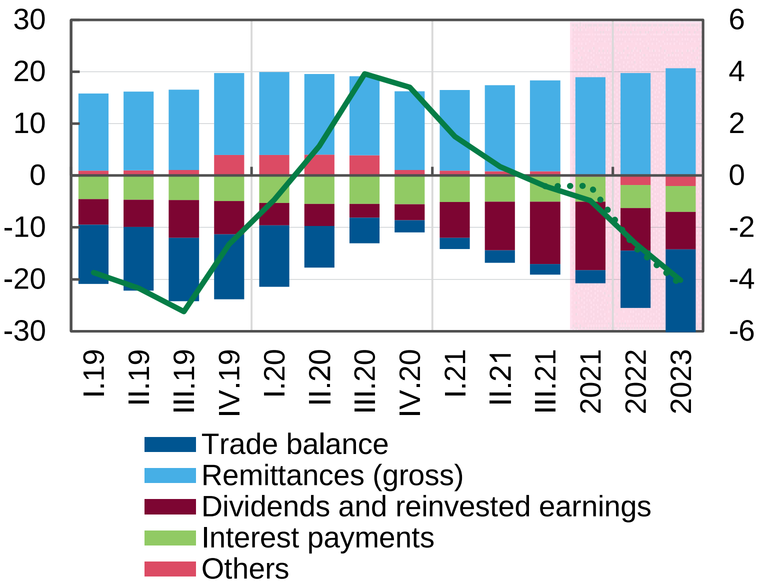


Source: SSSU, NBU staff estimates.

- As well as supporting demand, the wage growth contributes to higher labor costs for businesses
- The wage growth is connected with:
  - revival of economic activity
  - an increase in minimum wage and wages in budget sectors
  - renewed pressure from migration
  - structural disparities in the labor market (mismatch between qualification skills of job seekers and the requirements of employers)
- Steady economic growth and lower potential quarantine pressure will stimulate wages growth and unemployment return to its natural level. However, wages will grow slower than in 2021

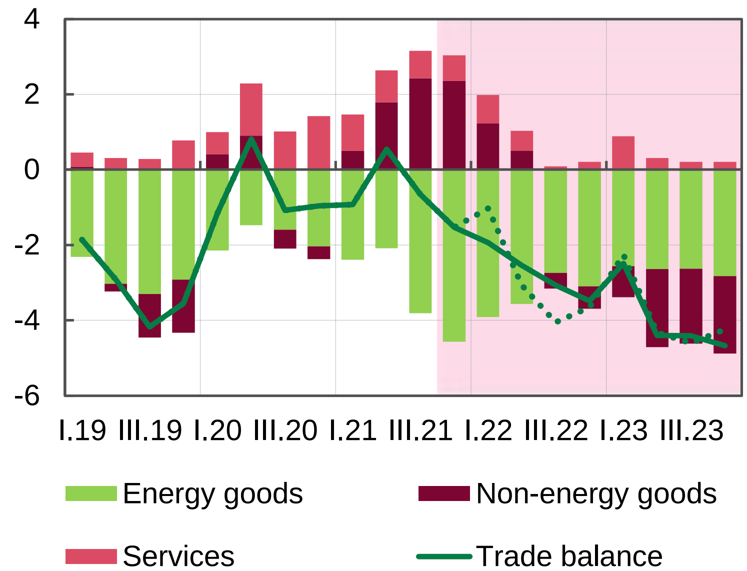
In 2021, CA will record a small deficit due to increase in investment income payments, it will widen to 4% of GDP in 2023

Current account balance, four-quarter rolling sum, USD bn



Source: NBU staff estimates.

Trade balance, USD bn

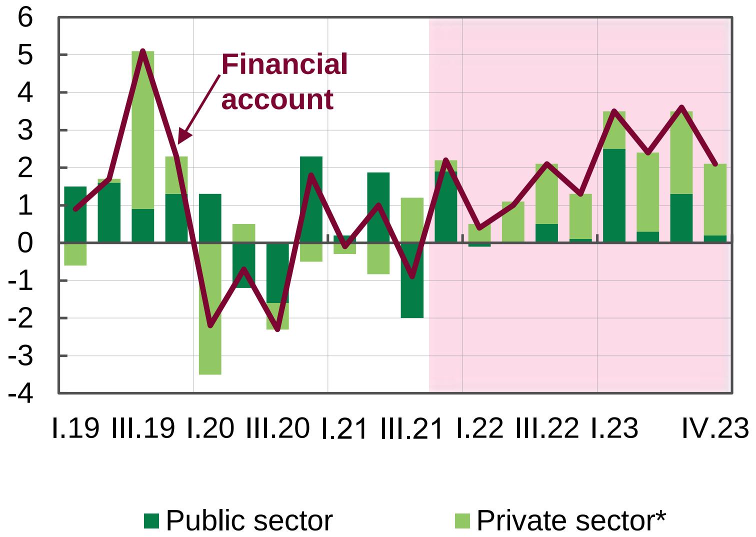


Source: NBU staff estimates.

- Despite the persistent high global prices for export goods, the merchandise trade deficit increased in Q3, primarily driven by energy imports growth. Significant dividend payments and high reinvested earnings also contributed to the CA deficit
- In 2021 the CA deficit will be insignificant (1% of GDP) supported by high export prices and a bumper crops. In 2022-2023, it will gradually widen to 3-4% of GDP due to worse terms of trade, growth in domestic demand, and hryvnia REER appreciation

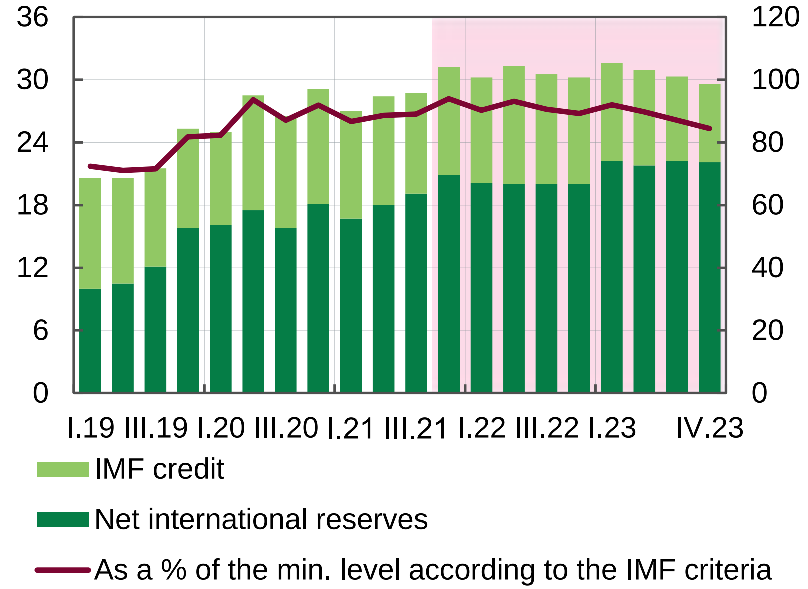
Improvement of macroeconomic conditions will lead to recovery of capital inflows, reserves will increase to USD 30-31 bn

Financial account: net external liabilities, USD bn



* Including net errors and omissions.
Source: NBU staff estimates.

Gross international reserves

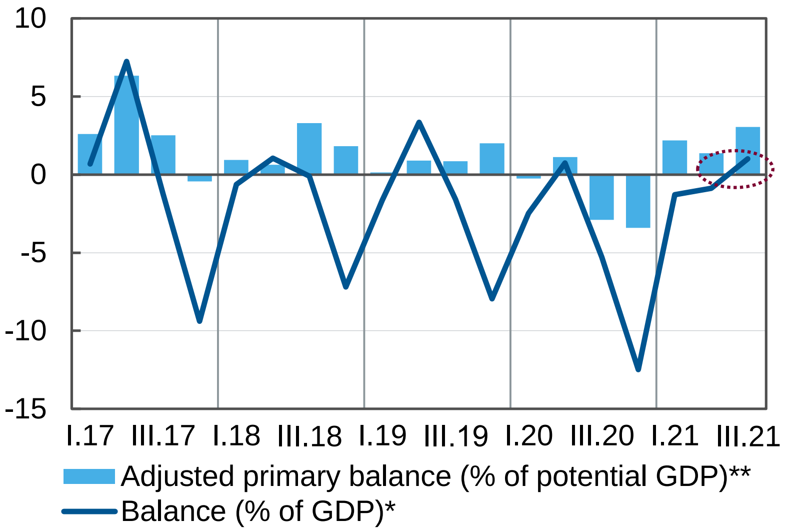


Source: NBU staff estimates.

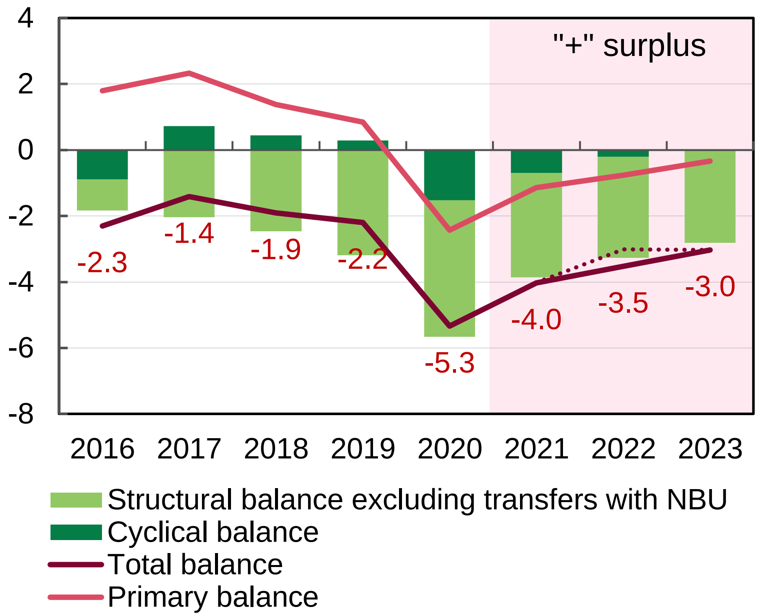
- In Q3, the capital outflow under the financial account resulted mostly from significant scheduled repayments on the public sector's external debt
- The capital inflows are expected to renew due to the growing non-residents' interest in hryvnia domestic government debt securities and FDIs to equities
- The capital inflows will fully cover the current account deficit, coupled with the funds from the IMF, it will support to accumulate reserves to the level of USD 30-31 bn

In Q3, the fiscal stance remained rather tight. The budget deficit will narrow in 2021-2023

Fiscal balance indicators



Consolidated Budget Balance, % of GDP



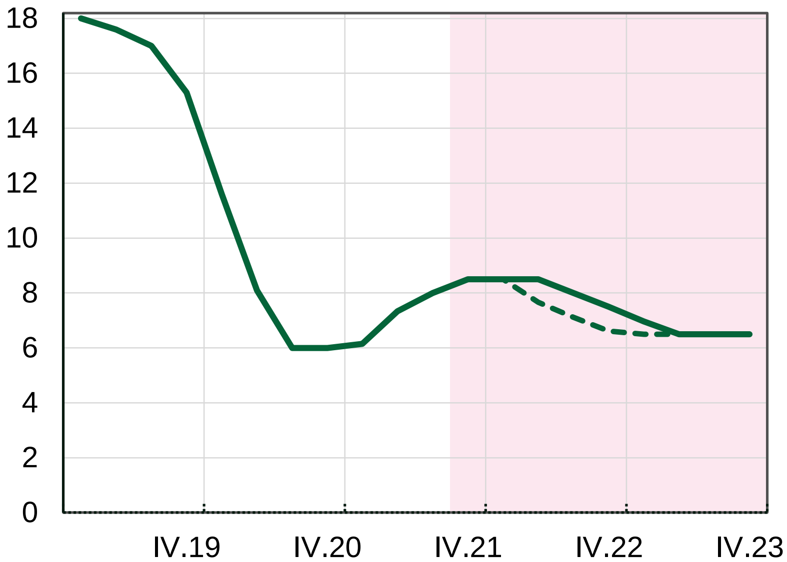
*Overall balance (% of GDP) is the consolidated budget balance, taking into account loans to the Pension Fund from the STA. **Cyclically adjusted primary fiscal balance (CAPB) of the general government (% of potential GDP). CAPB is the difference between seasonally adjusted revenues, in the structure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

Source: Treasury, NBU staff estimates.

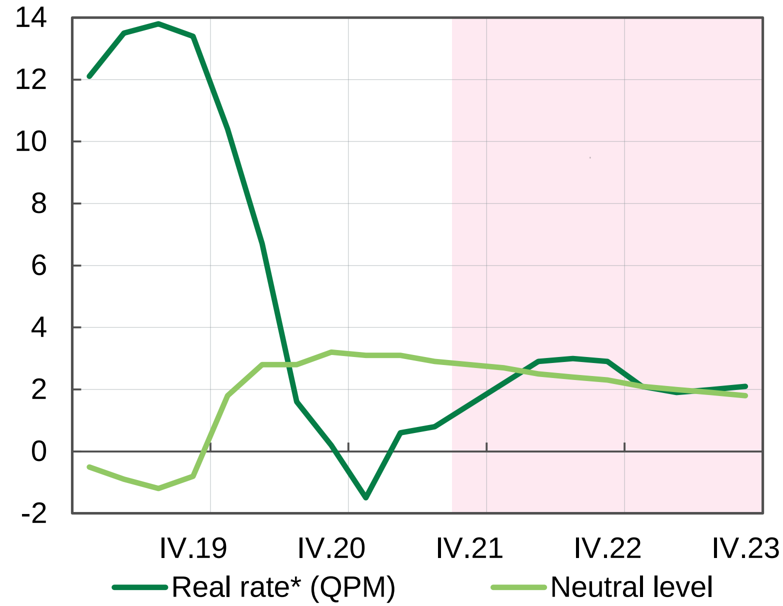
- The consolidated budget recorded a surplus and the positive adjusted primary balance increased as evidence of the restrained fiscal policy
- Tax revenues grew at a high rate, while expenditures increased moderately
- By the end of the year, fiscal policy will ease, although the deficit is expected to be smaller than planned in 2021 (about 4% of GDP). Moderate fiscal consolidation will continue

The key policy rate will be cut later and more gradually in 2022 than forecast before

Key rate, %



Real interest rate and its neutral level, %



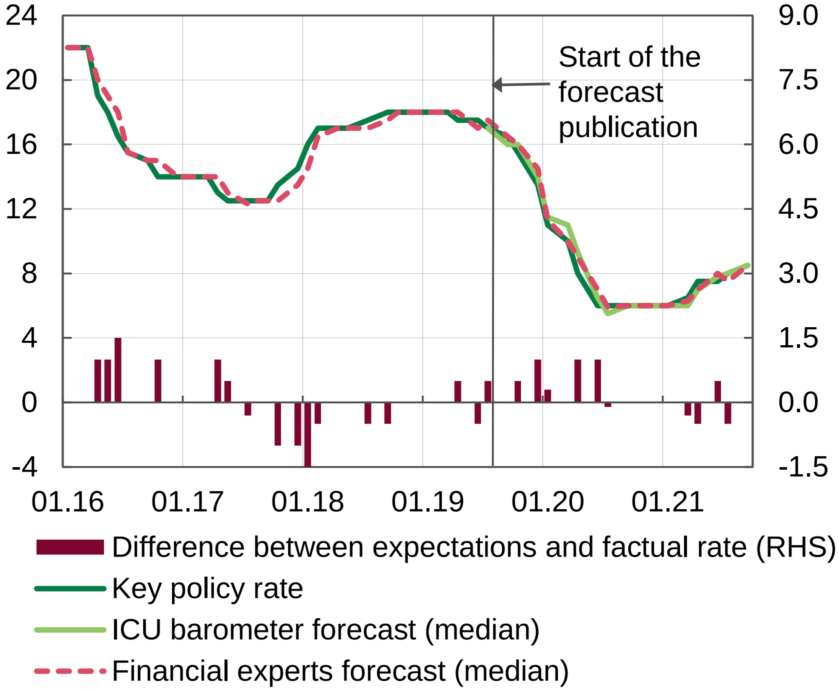
* Deflated by inflation expectations (QPM model).

The revision of the rate trajectory is due to the need to level in the medium term inflationary pressures that will arise as a result of:

- secondary effects of rising natural gas prices
- higher wage growth, in particular due to labor migration
- inflation expectations deterioration

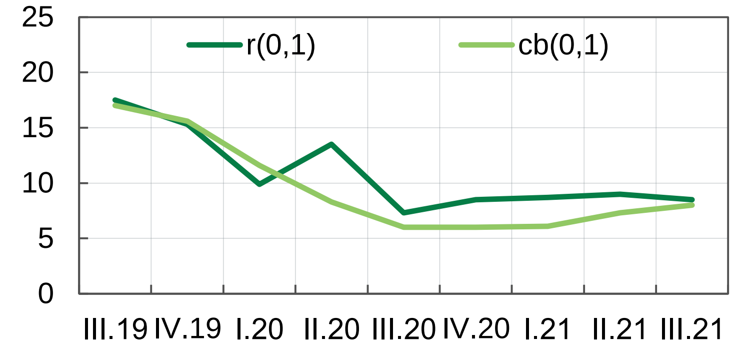
Box. Market participants respond rationally to the forecast of key policy rate trajectory

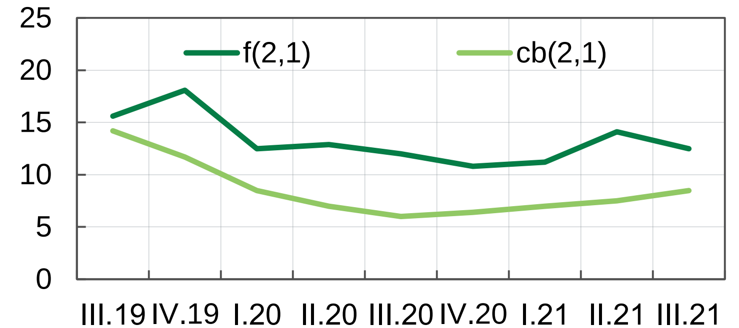
Key policy rate: experts forecast and actual rate, %



Source: ICU, NBU staff calculations.

Key policy rate forecasts and market spot and forward rates on hryvnia domestic government debt securities





- Changes in financial analyst’s expectations demonstrate an improved understanding of monetary policy decisions/actions by market participants
- Graphic analysis indicates the presence of the transmission of the key rate forecast in market rates, especially in the short term period
- As market turbulence rises, the impact of certain structural factors is more pronounced as opposed to the one of the key policy rate

Risks

Influence on baseline	Risk probability: Low <15%	Risk probability: Middle 15%–25%	Risk probability: High 25%–50%
Weak			
Moderate	Lower harvest	Increased labor migration and wage growth	
Strong		Escalation of the military conflict in eastern Ukraine Suspension of the cooperation with IMF	Worsening in the terms of trade Stricter quarantine measures Surge in global inflation, stagflation, capital outflow from EM