National Bank of Ukraine

Inflation report (July 2021)

August 3
2021

Monetary policy tightening measures in July

Given the significant increase in underlying inflationary pressures, **the NBU raised its key policy rate to 8% in July.** This step is necessary to return inflation to 5% in 2022 and keep inflation expectations in check.

Monetary policy will also be tightened through additional measures

1 Continuing the phasing out of anti-crisis measures
(in particular, this refers to long-term refinancing and interest rate swaps)

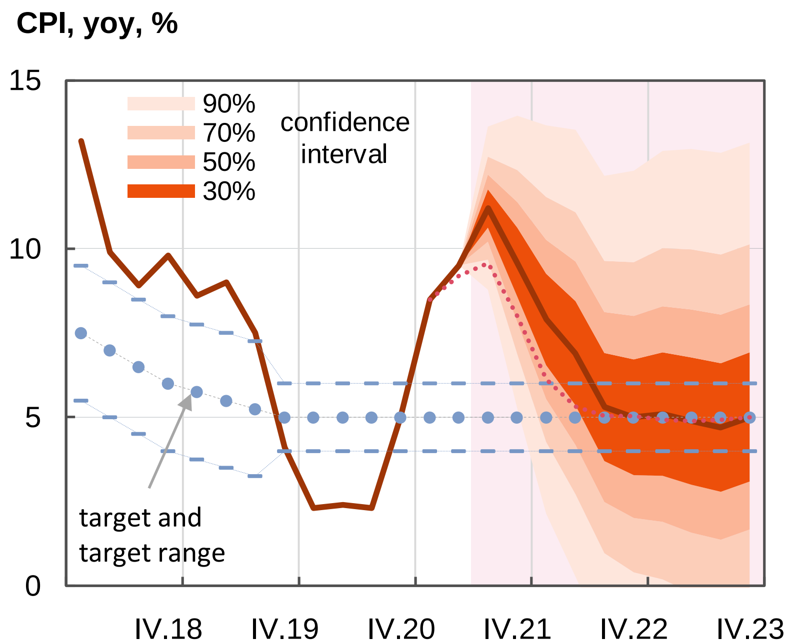
2 Revising the operational design of the monetary policy
(setting the interest rate on refinancing loans at the level of the key policy rate + 1 pp for fixed rate tender, and no less than this level for variable rate tender)

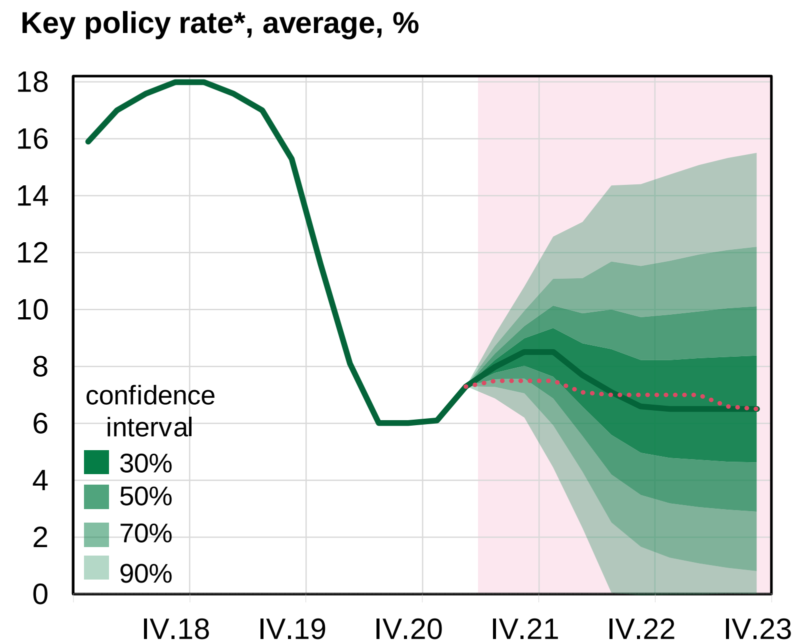
Adjusting the operational design will **strengthen monetary transmission** via the interest rate channel and **facilitate development** of the interbank lending market

3 Decreasing the planned amounts of daily interventions to purchase FX on the interbank FX market
(from USD 20 million to USD 5 million

The revision of the indicator will **improve the monetary transmission mechanism**, through both the FX and the interest rate channels

The updated macroeconomic forecast envisages the higher trajectories of inflation and key rate





Dotted line – previous forecast (April 2021).
* Decreases in key policy rate are limited by the zero lower bound.
Source: IR, July 2021.

- The NBU's forecast envisages that the key policy rate will be raised further, to 8.5%, and maintained at that level until Q2 2022, with a view to bringing inflation back to its 5% target in 2022, and keeping inflation expectations in check
- If additional pro-inflationary risks materialize, the NBU stands ready to continue monetary policy tightening

The MPC members debated how fast monetary policy should be tightened

Distribution of the MPC members’ views on the key policy rate

Sharp hike

Gradual increase

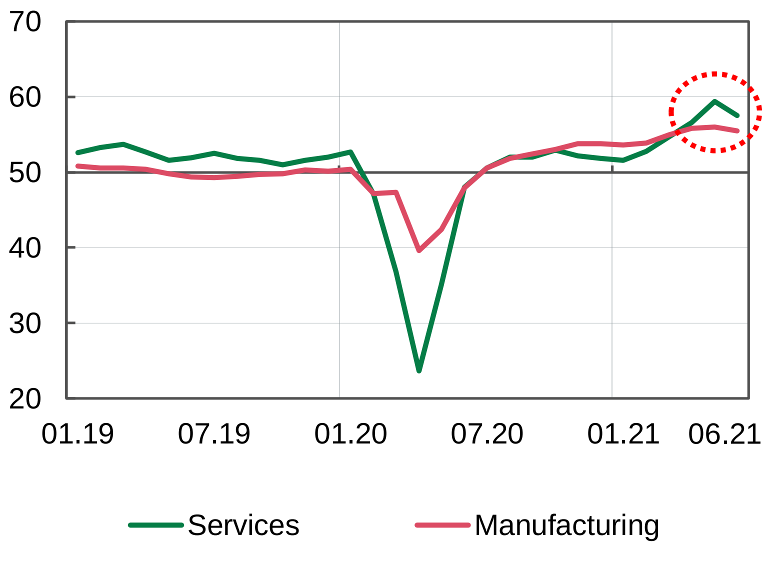
	Sharp hike	Gradual increase
Pros	✓ Core inflation accelerated and exceed the forecast ✓ High risk of inflation expectations deterioration ✓ Decisive, proactive response to the higher trajectory of inflation in the updated forecast	✓ Additional measures are being introduced to strengthen monetary policy ✓ Better meets the market expectations ✓ Inflation and exchange rate expectations have improved ✓ Takes into account the risk of deterioration of the epidemic situation
Cons	– Sharp hike is not expected by the market – Further deterioration of the epidemiological situation and tightening of quarantine measures are likely	– May be perceived as insufficiently decisive reaction on inflationary pressure increase – Risk of faster pace of key policy rate increases in the future

Current situation: summary

- **Global economy has been rebounding sharply**, although rather unevenly, both across sectors and countries, including due to outbreaks of new Covid-19 cases
- **Inflation in Ukraine's trading partners has risen further**, in particular driven by high commodity prices. Central banks have increasingly embarked on policy normalization
- **Inflation in Ukraine exceed the target range, as expected, but was higher than the April forecast** due to temporary factors and elevated underlying inflation pressures
- **The economic recovery continued.** However, the recovery was uneven across sectors and weaker than expected
- **In Q2, CA recorded a surplus** on the back of a significantly narrower merchandise trade deficit
- **Fiscal policy eased in Q2**, mainly driven by higher expenditures

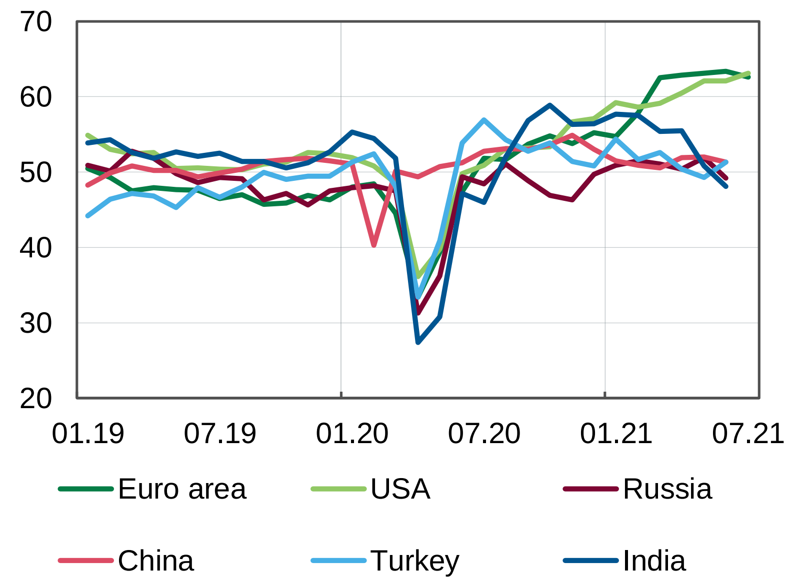
The global economy is recovering rapidly, albeit rather unevenly by sector and by country

Global PMI



Source: J.P.Morgan, IHS Markit.

Manufacturing PMI of selected countries

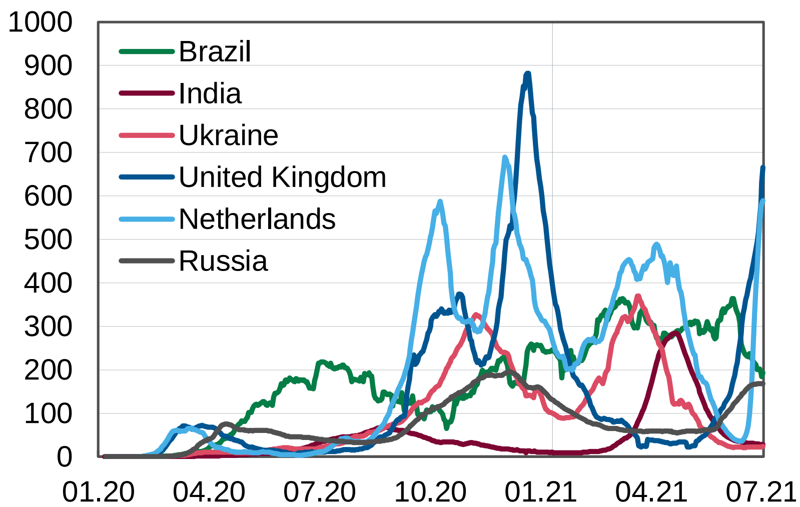


Source: IHS Markit.

- In the second quarter the global economy was recovering at a brisk pace due to increased export orders and employment
- The services sector has grown rapidly due to the easing of global COVID restrictions to the lowest level since the start of the pandemic, although with marked regional variation
- Recovery became more uneven between developed countries and EM

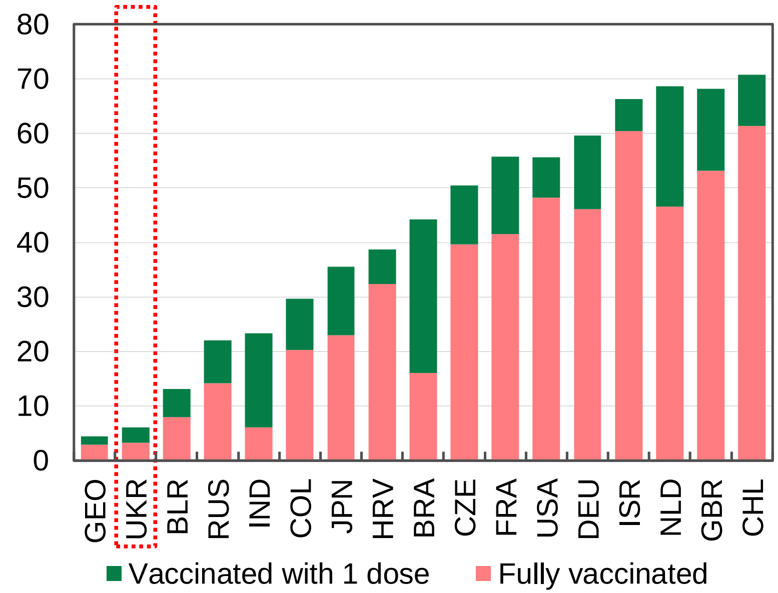
New outbreaks pose a major risk for global economic recovery especially in EM countries due to a slow progress in vaccination

New cases per million (smoothed)



Source: Our world in data, as of 18.07.2021.

People vaccinated per hundred

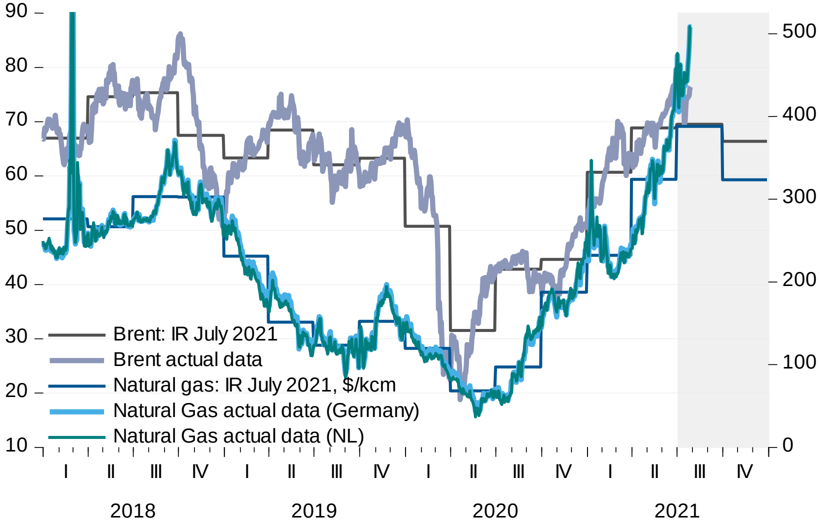


Source: Our world in data, as of 18.07.2021.

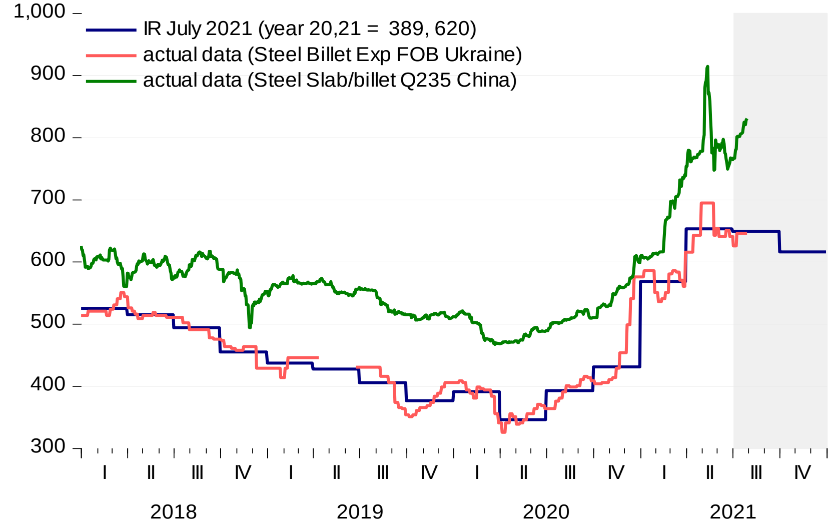
- Vaccination does not protect against the disease, but significantly reduces mortality
- The initial vaccination process in the context of vaccine distribution under the global initiative GAVI COVAX has been balanced between countries
- However, increased vaccine production worldwide and greater financial capacity of developed countries has led to a faster increase in vaccination compared to EM countries

Steady demand amid still limited supply supports high prices in world commodity markets …

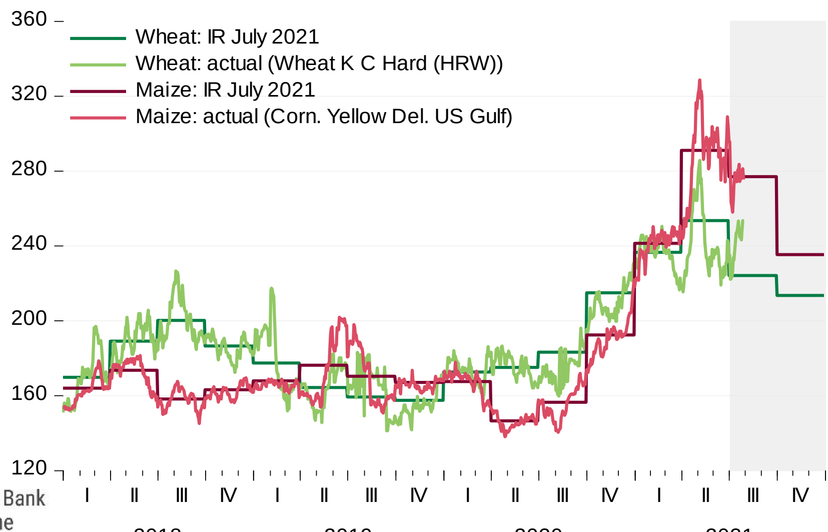
Brent and Natural Gas World Price



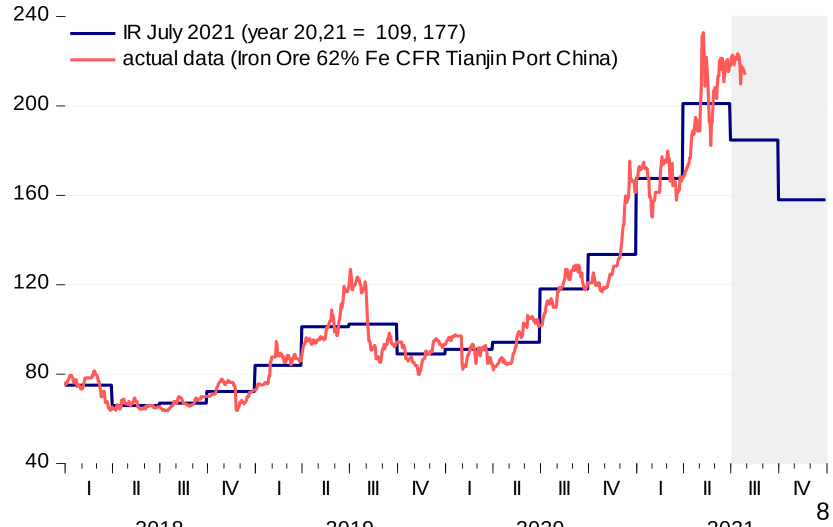
Steel World Price, USD/MT



Wheat and Maize World Prices, USD/MT



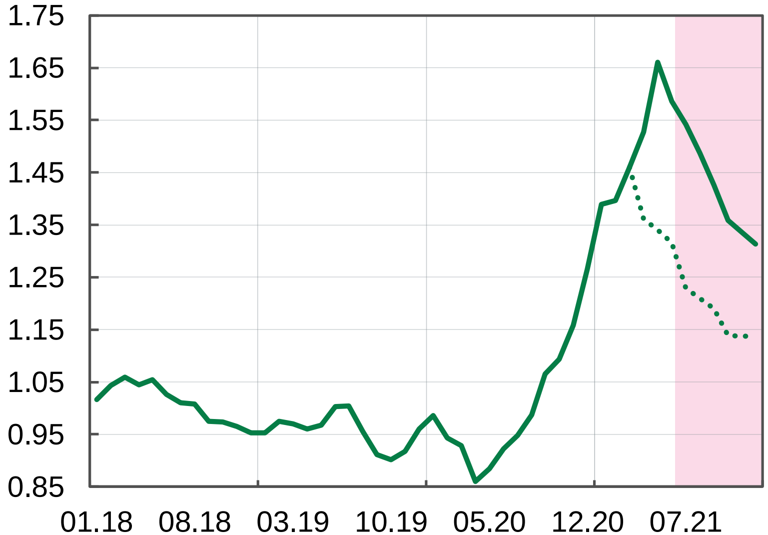
Iron Ore World Price, USD/MT



Source: Refinitiv, NBU staff estimates.

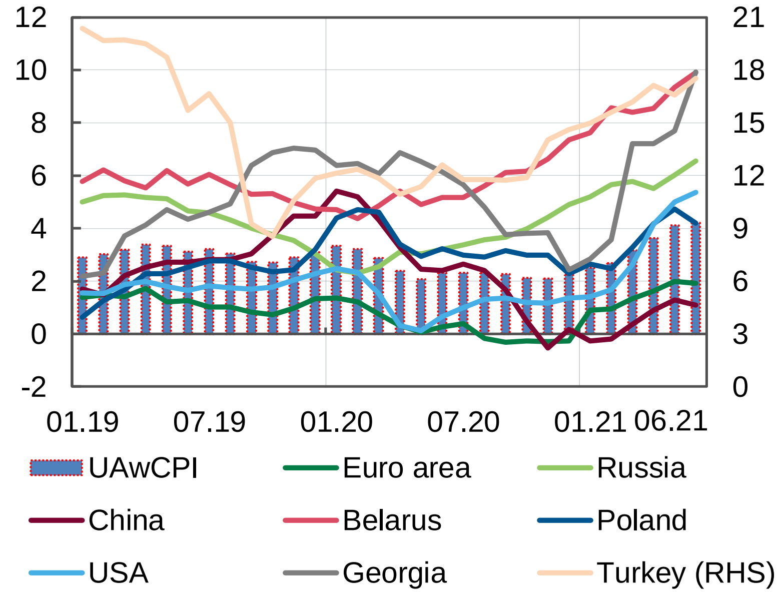
… which leads to a rise in inflation globally

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



Source: World bank, NBU staff estimates.

CPI of selected countries and weighted average of Ukraine's MTP countries' CPI (UAwCPI), % yoy

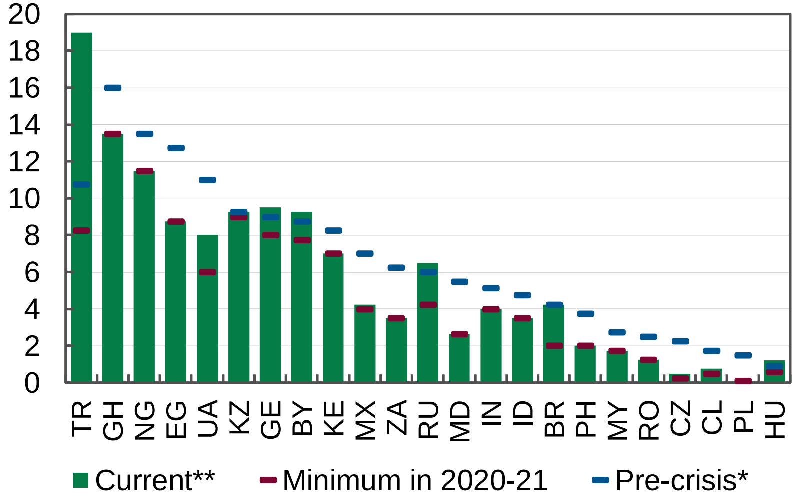


Source: IHS Markit, J.P.Morgan.

- Prices for intermediate goods (as raw materials) remained close to a 12-year high
- According to a global survey of supply managers, global consumer price inflation will continue to rise in the coming months as high costs are passed on to customers as global demand recovers
- In selected countries: Georgia - rising energy and oil prices, Eurozone - energy, Russia - services and goods with a large share of imports, Turkey - electricity and the devaluation of the lira

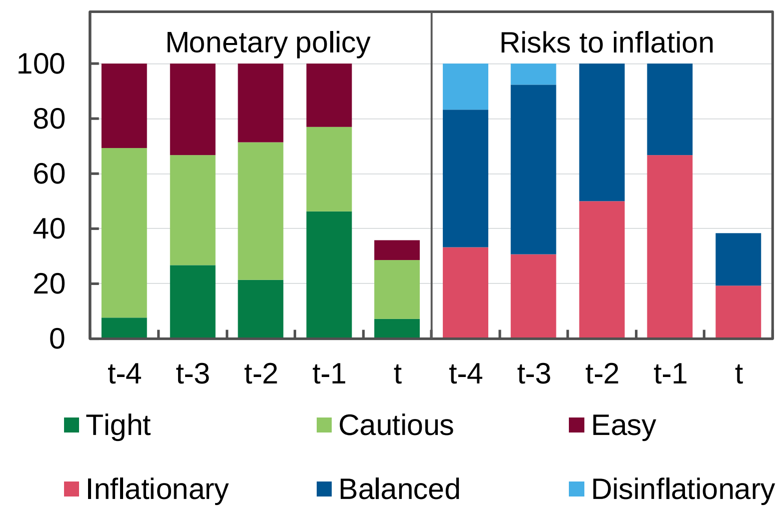
Central banks have increasingly embarked on policy normalization

Level of the key policy rates in selected EM countries, %



* As of March 1, 2020.
** As of July 28, 2021.
Source: official web-pages of central banks.

Balance od CBs' sentiments according to press releases on monetary policy decisions*, % of CB

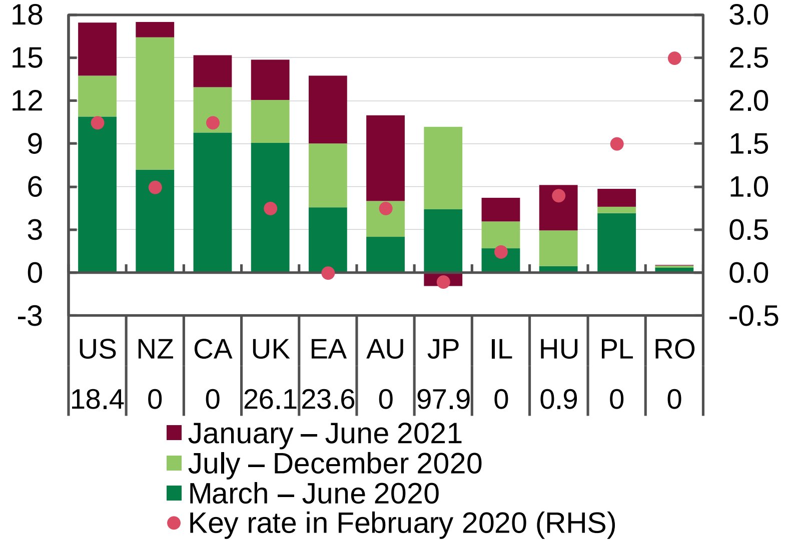


* t – meeting in Jul. 2021, t-1 – meeting in Jun. 2021, t-2 – Apr. / May 2021, t-3 – Mar. / Apr. 2021, t-4 – Jan. / Feb. 2021
Source: official web-pages of central banks.

- In most countries, the balance of risks to the inflation outlook is tilted to the upside, the share of CBs with intentions to tighten policy on the forecast horizon is growing
- A quicker response compared to advanced economies is associated with shorter IT experience and less anchored inflation expectations
- Still, even advanced economies have already started to respond

Box. Significant accumulation of assets by CBs will complicate exit from QE and might lead to financial market turmoil

Asset purchases*, % of 2020 GDP, and key policy rate, end-February 2020, %



* Assets held by the CB, purchased under QE in previous periods, in % of 2020 GDP as of February 2020, is shown under the country codes.

Source: official pages of central banks, NBU staff estimates.

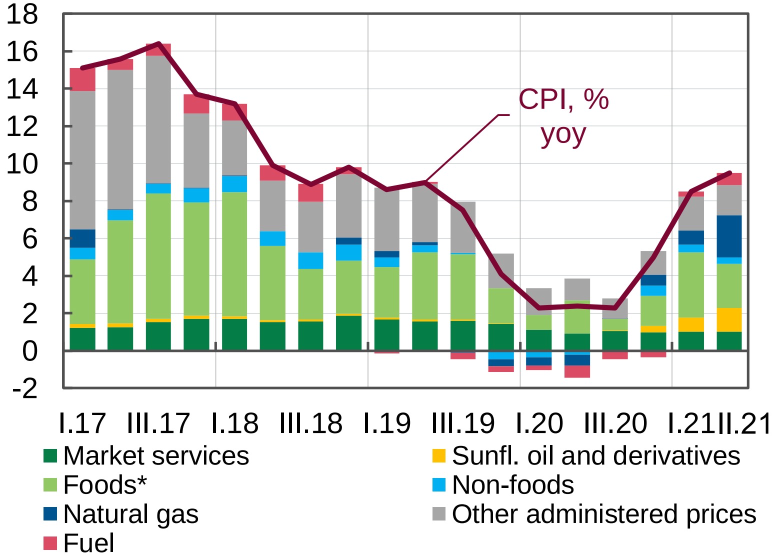
Risks of long-lasting QE

Source: NBU staff elaboration.

- During the pandemic, asset purchases (or QE) became an important monetary policy tool, used by both major central banks and CBs of selected EM countries
- However, active use of QE has its risks, associated primarily with blurring the borders between monetary and fiscal policy
- In addition, long-lasting QE programs may have a negative impact on the functioning of financial markets, in particular lead to an excessive risk-taking and increase the sensitivity of markets to changes in the CBs' position on the pace or volume of asset purchases

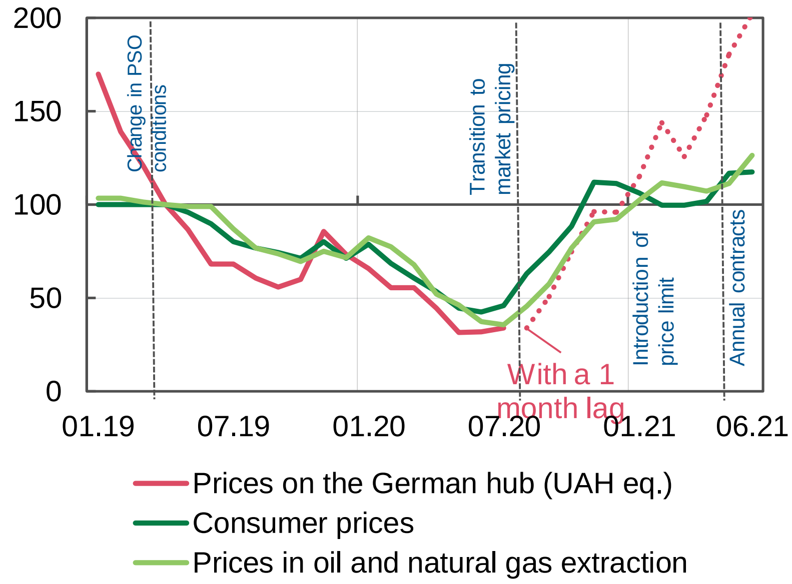
The main reasons for accelerating inflation in Ukraine – rising prices for sunflower oil (and products containing it) and gas …

Contributions to the annual change in the CPI (eop), pp



* Excluding sunflower oil and products of its processing (margarine, spreads, mayonnaise).
Source: SSSU, NBU staff estimates.

Natural gas prices, 04.2019 = 100

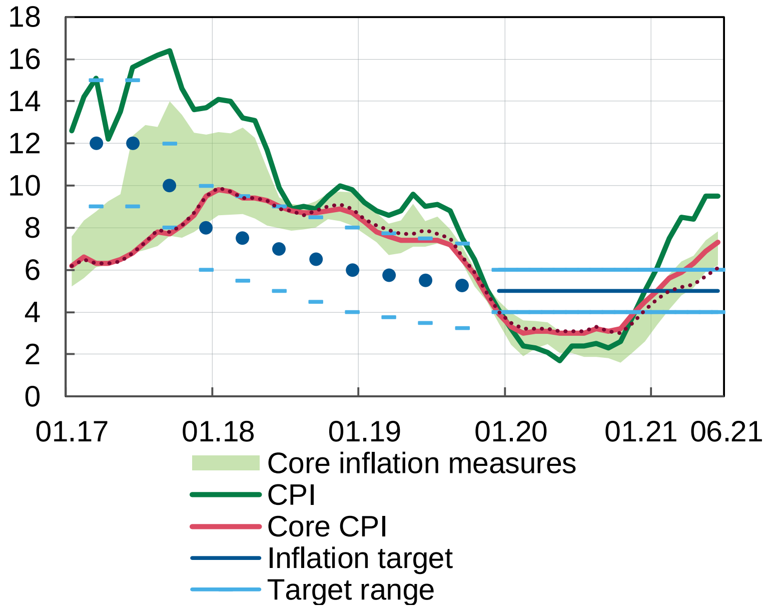


Source: SSSU, Refinitiv Datastream, NBU staff estimates.

- Soaring world sunflower oil prices had a significant contribution to acceleration of inflation
- The price of natural gas for the households grew in annual terms, mainly driven by a low base of comparison and rising world prices on gas. The increase in costs, in particular fuel prices and wages, affected the cost of transport services
- Instead, inflationary pressures on raw foods continued to ease due to the expansion of supply

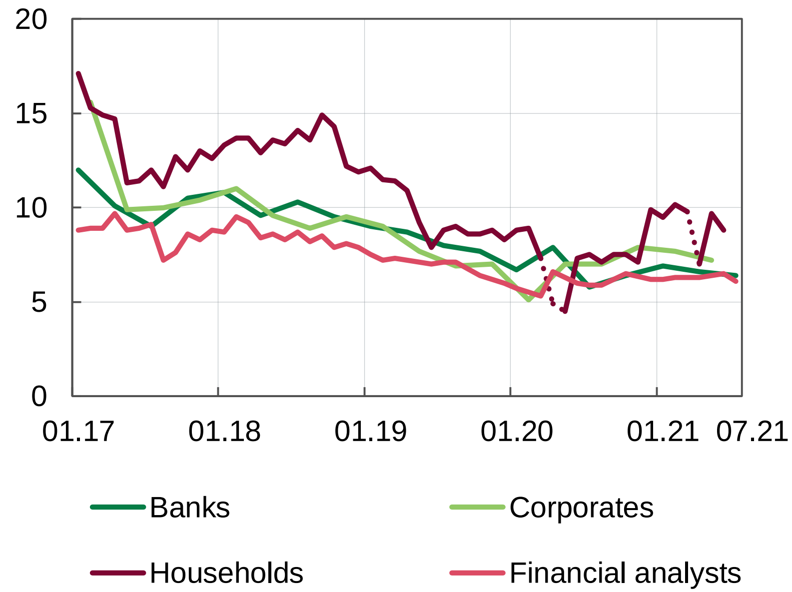
… although underlying inflation pressures also increased

Underlying inflation trends, % yoy



Source: NBU staff estimates.

12-month-ahead inflation expectations, %

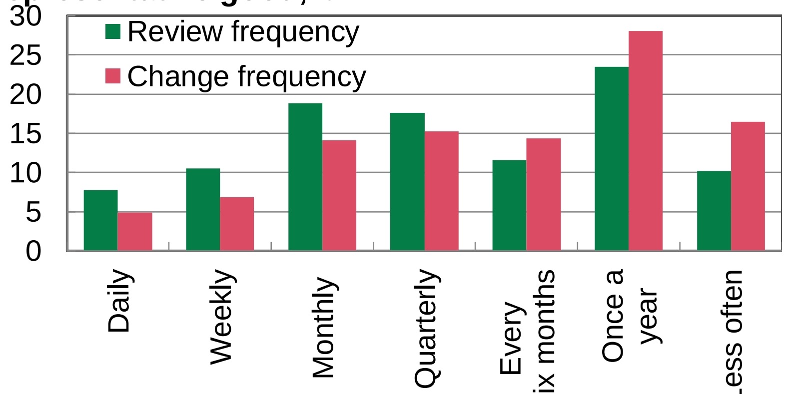


Source: NBU, GfK Ukraine, Info Sapiens.

- Core inflation has been accelerating even after excluding prices for sunflower oil and its products
- The increase in the cost of services accelerated due to solid consumer demand and rising production costs
- However, the stabilization of inflation expectations and the favorable situation in the FX market somewhat restrained this pressure

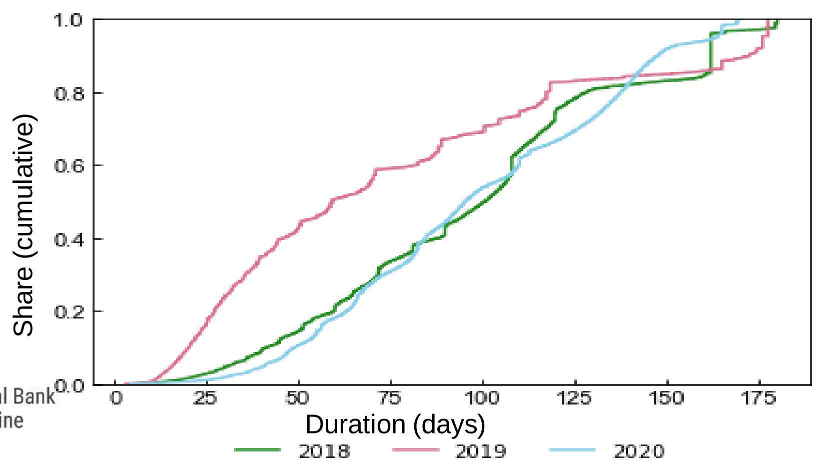
Box. Pricing policy can significantly affect the dynamics of inflation

Distribution of responses of enterprises by frequency of review * and change ** of prices for a representative good,%

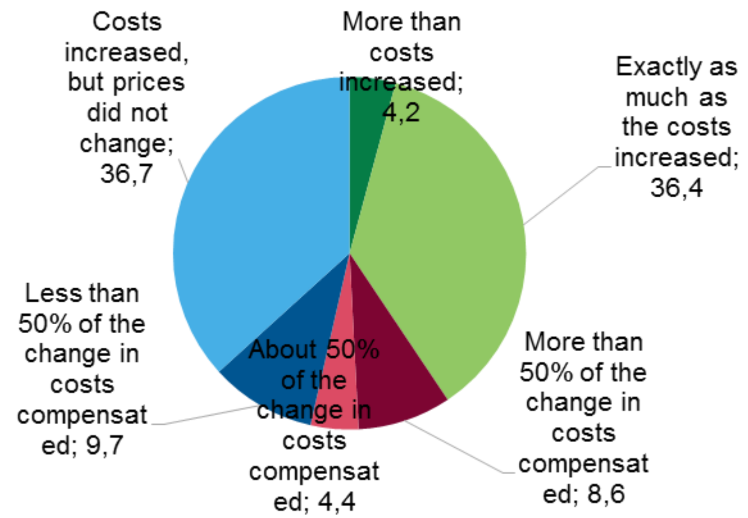


* Price review means an analysis of the current situation and the decision whether to change prices or not.
** Accordingly, the change in prices is the result of the decision to change the price.
Source: NBU.

Price duration in 2018 - 2020



The degree of pass-through of costs to price changes in 2020,%

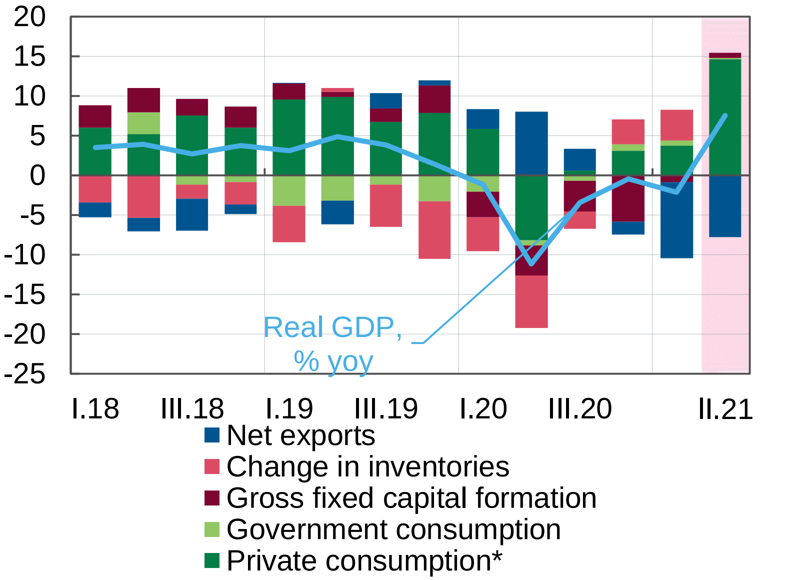


Source: NBU.

- During the corona crisis, the price duration increased in 2020 compared to previous years despite the depreciation
- In addition, according to a survey of enterprises, in 2020, 60% of enterprises at least partially adjusted the growth of costs through their margins
- This may explain the low inflation rate in 2020, especially in the recovery phase

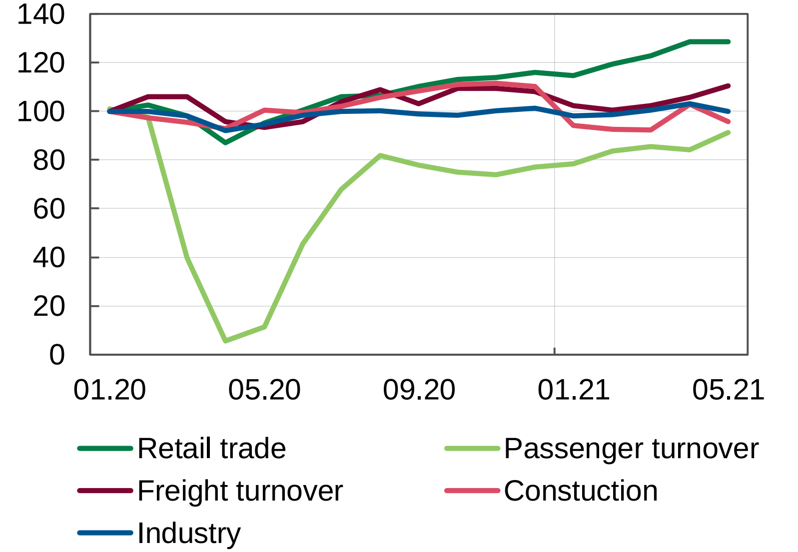
In H1 2021, the economic recovery continued, but was weaker than expected

Contributions to annual GDP growth by final use, pp



Source: SSSU, NBU staff estimates.

Output in selected sectors sa, index 01.2020=100%

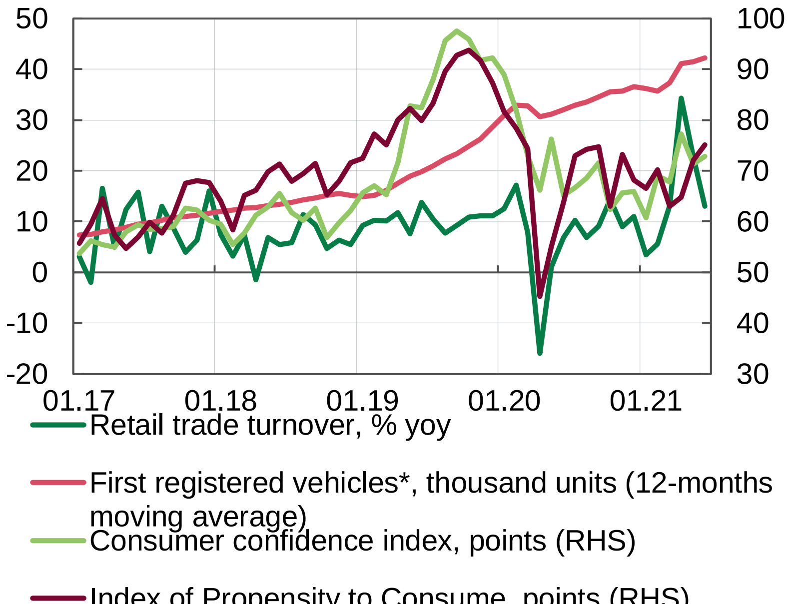


Source: SSSU, NBU staff estimates.

- A decrease in real GDP in Q1 2021 was deeper than expected (2.2% yoy vs 1.5% yoy, respectively) due to worse than expected March's performance. This was due to quarantine measures, worse weather conditions, increased competition in certain foreign markets, and the difficult situation in animal production
- According to our estimates, growth in Q2 also will be weaker (7.5% yoy vs the previous 8.7% yoy). Despite steady growth in consumer demand, wholesale, construction, industry and agriculture are weaker than expected
- Again, temporary factors played some role – a later start of the harvest, disruptions in fuel supplies, volatile budget expenditures, etc.

Private consumption has been growing rapidly. Investment activity has been also reviving

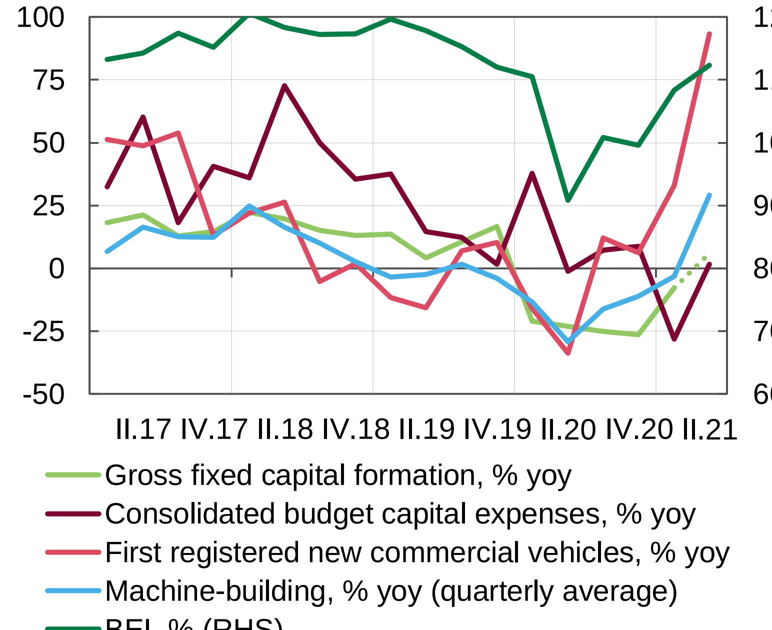
Selected indicators of private consumption



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

Source: SSSU,Info Sapiens, Ukravtoprom.

Selected indicators of investment demand



Source: SSSU, Treasury, NBU, Ukravtoprom.

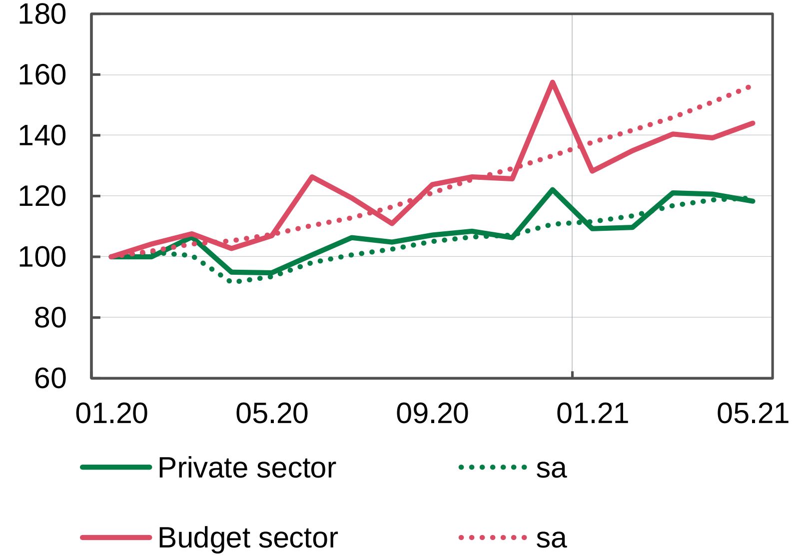
- High frequency indicators confirmed steady demand:
  - sales of cars hitting records (based on 12-months moving average)
  - high paces on increase in consumer imports
  - improved consumer sentiment
  - increased number of flights and package tourism
- Investment activity has been gradually recovering, as evidenced by the improvement of business expectations, the dynamics of certain subsectors of machinery, improved financing of budget capital expenditures and the growth of investment imports

Quarantine and ↑ of morbidity suspended the labor market recovery, but incomes continue to growth at high pace

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.

Wages in budget and private sectors, index 01.20=100

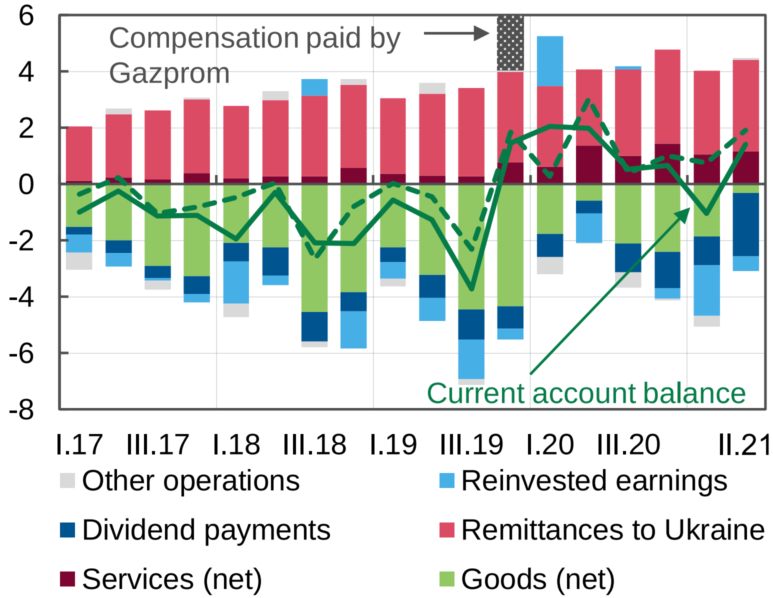


Source: SSSU, NBU staff estimates.

- The situation in the labor market somewhat worsened due to stricter quarantine restrictions in January and, especially, in March 2021, as well as weaker economic recovery in Q1
- This adversely affected employment; however, sa unemployment rate rose marginally as some people quit the labor force
- Household income growth also slowed down somewhat, but it is expected to accelerate in Q2. In addition to low base effects, it will be supported by the recovery of economic activity amid the adaptation of business and the population to quarantine, as well as social benefits

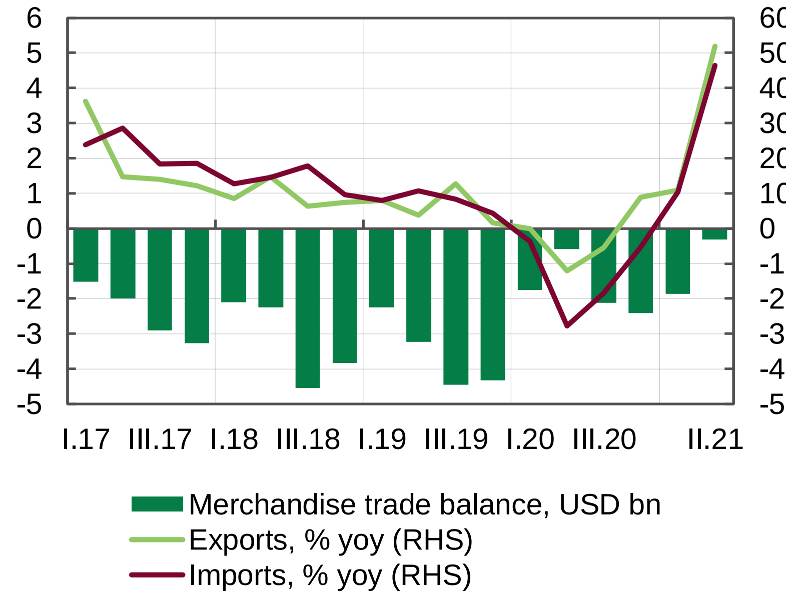
In Q2, CA recorded a surplus on the back of a significantly narrower merchandise trade deficit

Current account balance, USD bn



Dotted line – without reinvested earnings.
Source: NBU staff estimates.

Merchandise trade

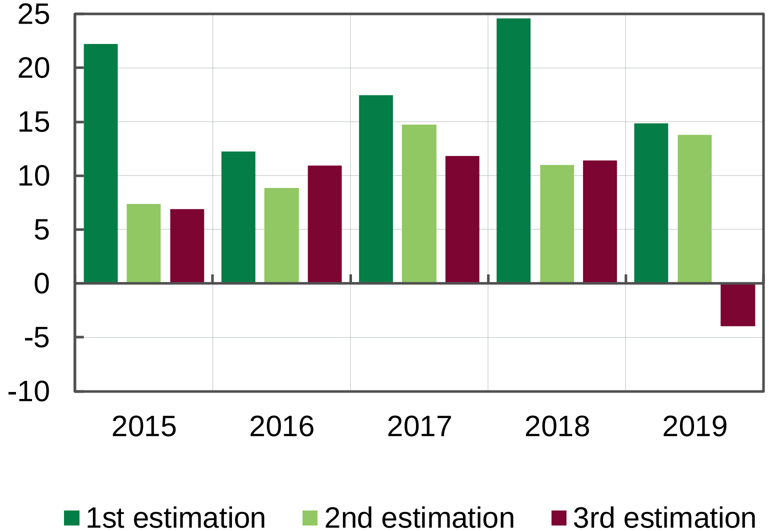


Source: NBU staff estimates.

- CA surplus resulted from trade deficit narrowing. However, surplus was smaller compared to the same period last year on the back of higher dividend payments and gradual recovery of services imports
- High global prices continued to fuel exports growth, meanwhile global demand recovery pushed up supplies of some goods
- Non-energy imports continued to rise amid strong domestic demand, while energy imports was constrained by lower purchases of energy resources

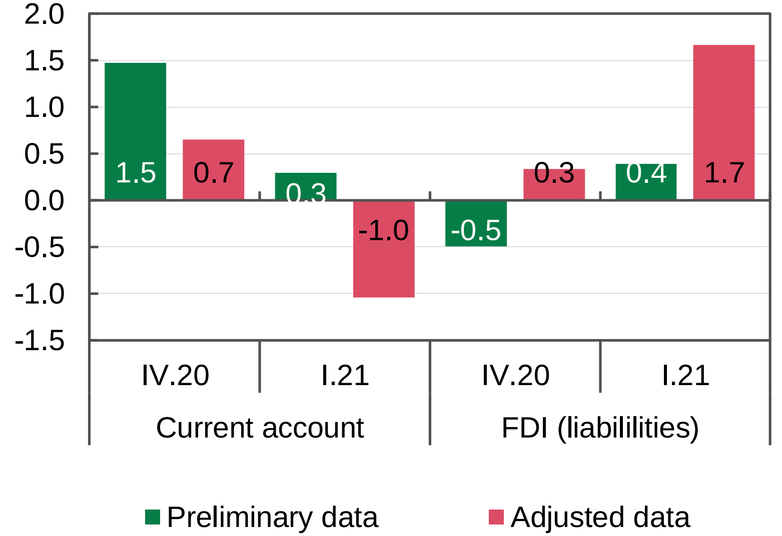
Box. Significantly higher than expected financial results of enterprises led to a revision of reinvested earnings statistics

Reinvested earnings revisions in UK's Balance of Payments statistics, pounds bn



Source: UK Office for National Statistics.

Revisions to balance of payments data, USD bn

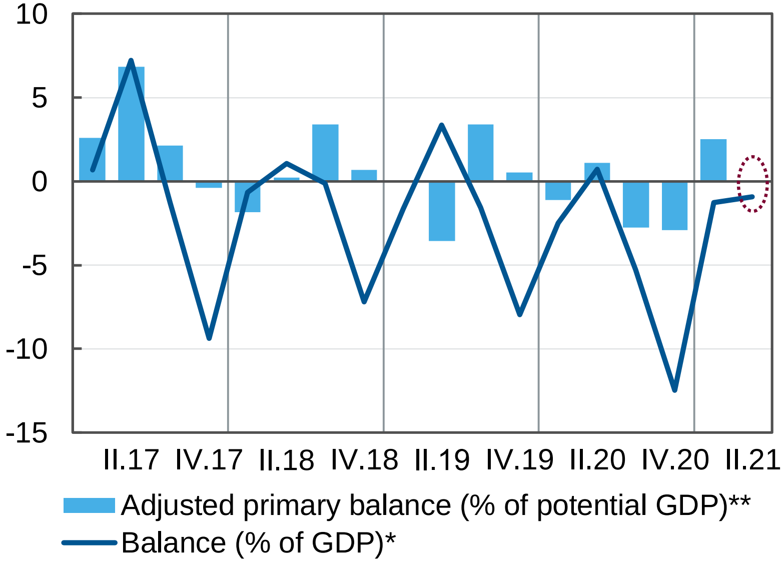


Source: NBU.

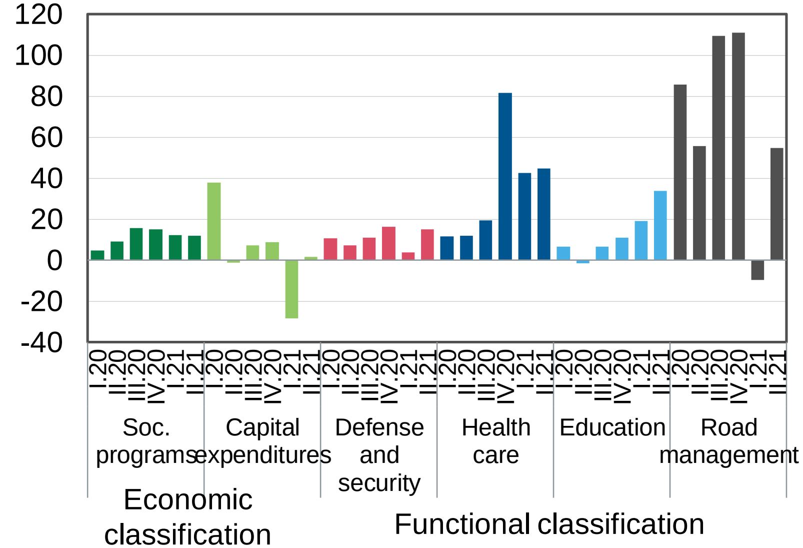
- Data revisions are common for countries that carry out up-to-date estimations of economic indicators. Several factors lay behind this: particular differences in methodology, timing of reporting by enterprises and periodicity of BoP statistics publications, high volatility of indicators, especially during crises, and the atypicality of the current crisis
- Strong financial result of enterprises in mining and metallurgical complex and related economic activities resulted in reinvested earnings statistics revisions in Q4 2020 (+0.8 USD bn) and Q1 2021 (+1.3 USD bn). This somewhat worsened current account balance, but led to an increase in FDI inflows. However there was no impact on the overall balance of payments

Fiscal policy eased in Q2, helping restore economic activity

Fiscal balance indicators



Growth in consolidated budget expenditures by selected areas,% yoy



*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.

Source: Treasury, NBU staff estimates.

- The maintenance of the consolidated budget deficit at Q1 level (while usually the balance in Q2 improved) and almost zero cyclically adjusted primary balance signaled a fiscal policy easing
- The easing was reflected in rising expenses, including capital expenditures, and a moderate increase in revenues
- The deficit was financed by external borrowings and hryvnia funds accumulated earlier

Box. Medium-term budget declaration – strengthening budgetary discipline, greater predictability of budget and economy policy

1 Goal	Compliance of available resources with the needs for the implementation of state development strategies
2 Components	Follows worldwide practices: ▪ macroeconomic parameters ▪ main tasks of tax and budget policy ▪ caps for the state budget deficit and public debt ▪ expenditure ceilings, public policy objectives for each main administrators of budget funds and performance indicators ▪ fiscal risks, fiscal space
3 Importantly	▪ Parliamentary participation - strengthening the role of the budget declaration as a strategic document ▪ Parameters for the first year - mandatory, for the rest - more often indicative
4 Challenges	▪ Existing legislative initiatives are not taken into account ▪ A significant number of budget policy priorities and their dispersion, lack of details ▪ Fiscal policy is not sufficiently countercyclical on the forecast horizon

Selected indicators of the budget declaration for 2022-2024 years

Indicators	2021*	2022	2023	2024
Real GDP, %	4.1	3.8	4.7	5.0
State budget balance, % GDP	-5.1	-3.5	-3.0	-2.7
Public debt, % GDP	60.6	55.9	53.3	51.2

* Forecast of the Ministry of Economy from the Budget Declaration for 2022 - 2024, 8-9 pages. Source : MFU, VRU.

Macroeconomic forecast: summary

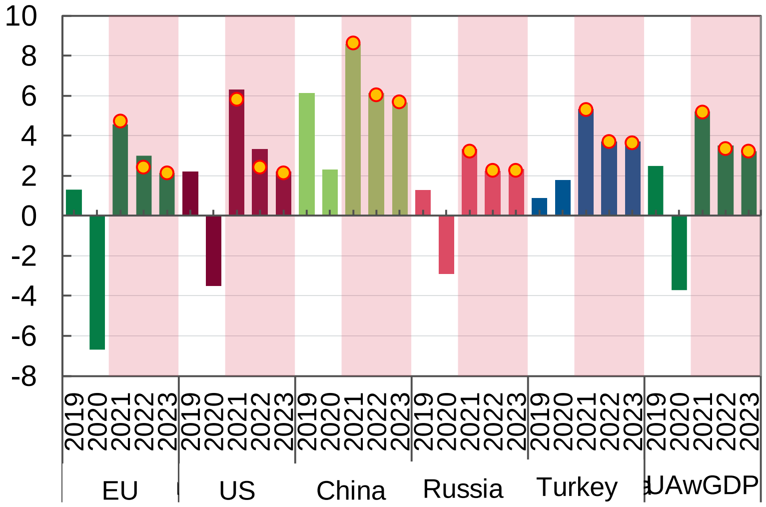
- **The world economy will recover** due to large-scale vaccination and large stimuli
- **Increasing supply will adjust world commodity prices downward**, but correction will be slow
- **The economy will grow** due to the global recovery and favorable terms of trade
- **In 2021, CA will turn to the deficit** due to recovery of economic activity. It will widen further due to the growth of internal demand and worsening of terms of trade
- **CPI surge will be significant (double-digit in the fall)** on the back of high world food & energy prices and demand recovery. **However, the global prices` downward correction, ample harvest and tighter NBU policy will reduce CPI**
- **Tighter monetary policy is aimed at reducing inflationary pressure and preventing the unanchoring of inflation expectations**

	2019	2020	2021	2022	2023
Real GDP growth, %	3.2	-4.0	3.8 (3.8)	4.0 (4.0)	4.0 (4.0)
CPI, % yoy (eop)**	4.1	5.0	9.6 (8.0)	5.0 (5.0)	5.0 (5.0)
Core CPI, % yoy (eop)**	3.9	4.5	7.3 (6.5)	4.0 (3.9)	4.0 (3.9)
Current account balance, % GDP	-2.7	3.4	-0.4 (-0.8)	-2.8 (-3.6)	-4.2 (-4.5)
Gross reserves, USD bn	25.3	29.1	31.3 (29.8)	31.6 (29.3)	31.7 (29.1)

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

Given the positive business sentiment due to vaccination programs, expectations of global growth remain high

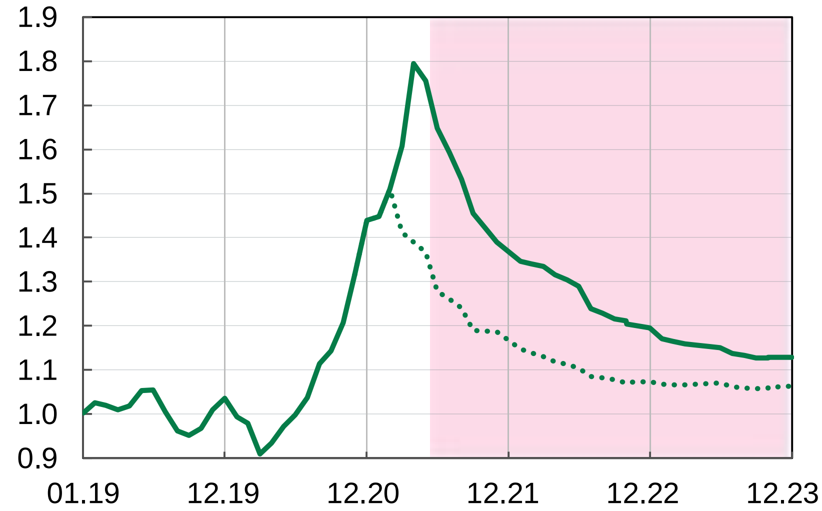
Real GDP of main trading partners, % yoy



Source: national statistical agencies, NBU calculations.

o – previous forecast

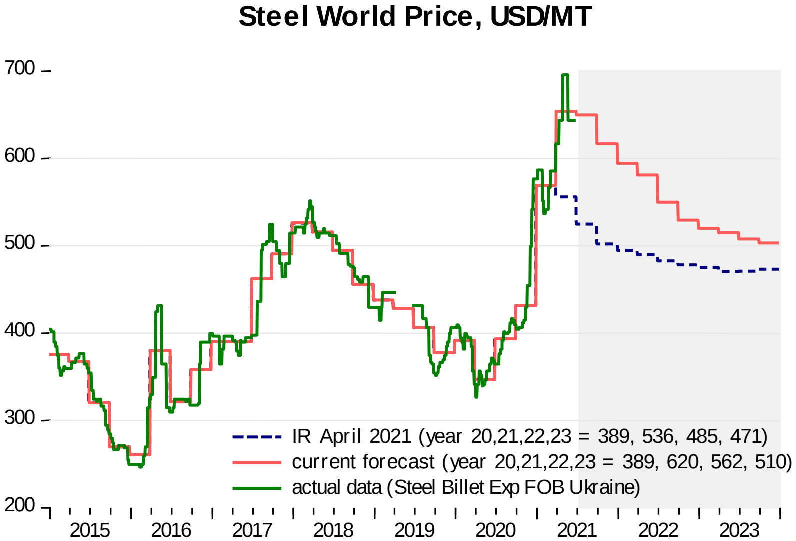
External Commodity Price Index (ECPI), Dec 2004 = 1

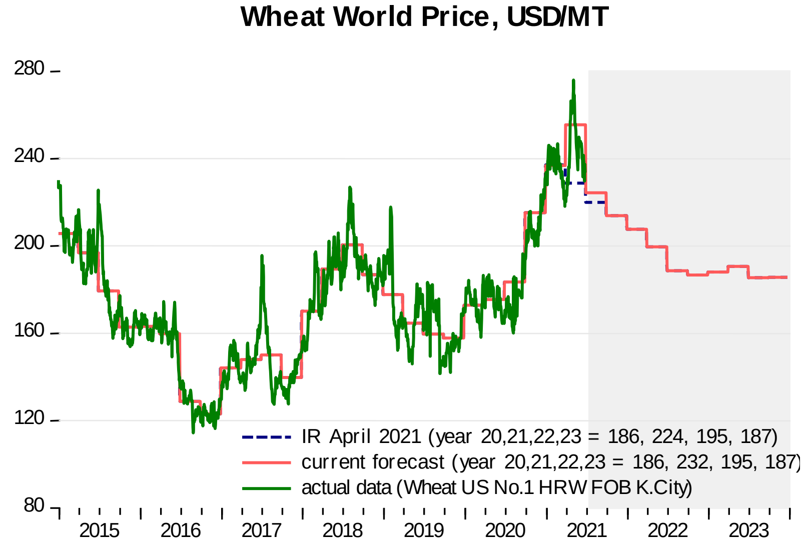


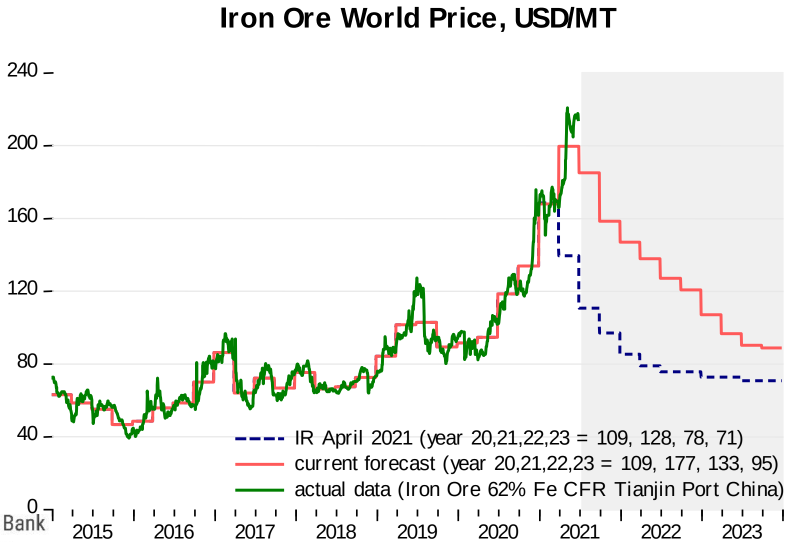
Source: World bank, NBU staff estimates.

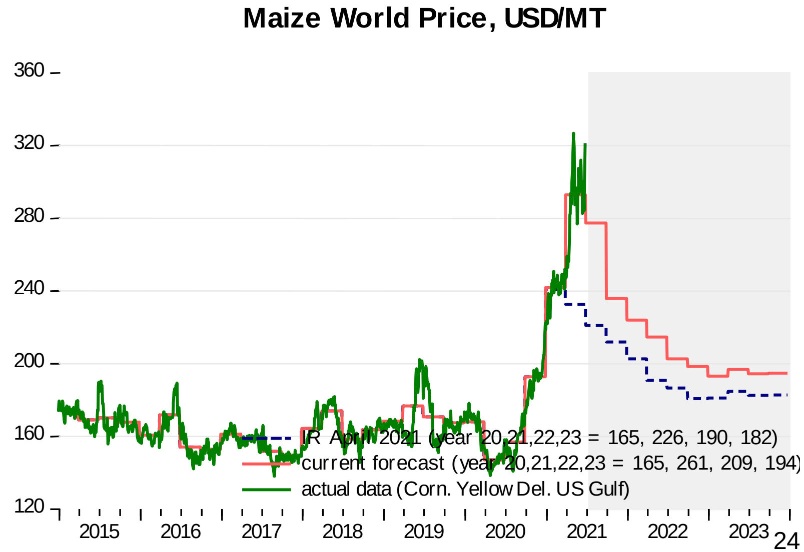
- An additional important factor will be the strengthening of emissions control in the world (due to the intensification of the implementation of the Paris Climate Agreement)
- Therefore, the medium-term price level for most goods will be higher than in previous years

Increasing supply will adjust prices downward, but correction will be slow



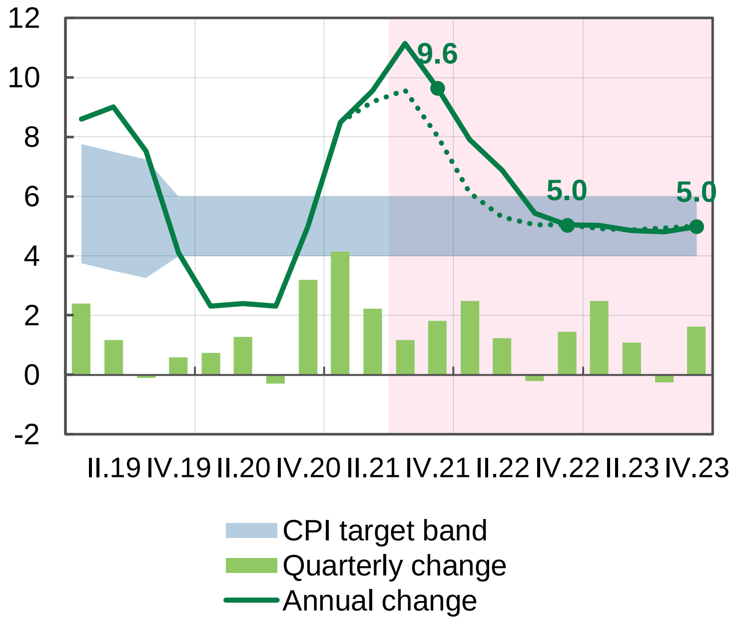




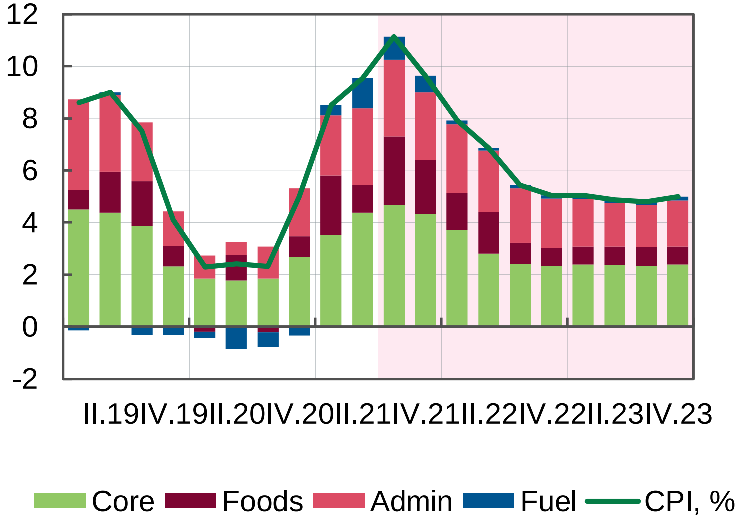


CPI will surge to double-digits in the fall. Due to the global price correction, ample harvests and tighter NBU policy, inflation will slow

Headline inflation, %



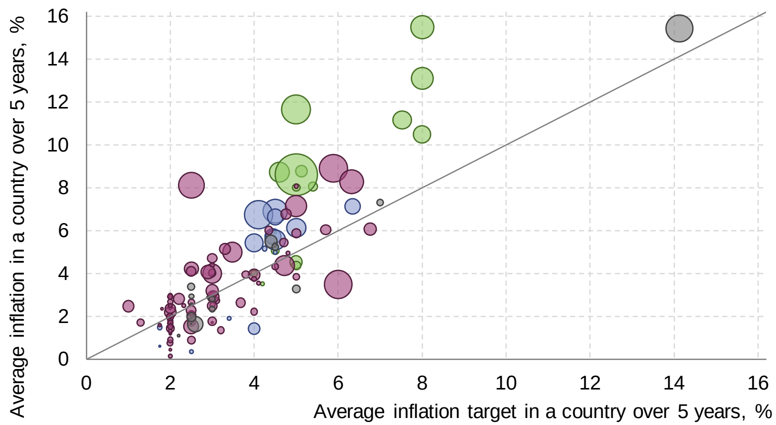
Contributions to Annual CPI Growth by Main Components, pp



change, %	*weight, %*	2020	2021		2022		2023	
CPI	***100.0***	**5.0**	**9.6**	***8.0***	**5.0**	***5.0***	**5.0**	***5.0***
Core CPI	*59.4*	4.5	7.3	*6.5*	4.0	*3.9*	4.0	*3.9*
Raw food	*19.4*	4.1	10.6	*8.8*	3.5	*3.5*	3.6	*3.5*
Admin	*18.0*	9.9	14.2	*10.9*	9.2	*9.2*	8.3	*8.6*
Fuel	*3.2*	-10.5	19.8	*13.5*	4.0	*6.0*	4.8	*5.5*

Box. How inflation targeting design affects the deviation of inflation from the target and target range

The relationship between average inflation, average inflation target, and inflation volatility* in countries with different size of the target range



* The bubbles' size reflects proportionally the degree of inflation volatility.

Determinants of the CPI inflation deviations

Determinants	Absolute deviation of inflation from			
	target center		target range	
	above	below	above	below
1. IT policy design				
Target level	+	ns	+	–
Target range	+	ns	ns	ns
IT age	–	ns	–	Ns
2. Macroeconomic environment				
Real GDP growth	–	ns	ns	ns
Level of economic development	+	+	+	+
Balance of Payment deficit	+	+	+	+
Exchange rate change	+	–	+	–
Terms of trade for commodities	ns	ns	+	+
Trade openness	ns	ns	ns	ns
Financial openness	ns	ns	ns	ns
3. Indexes of institutional quality				
Regulatory quality	–	ns	–	ns
Central bank's transparency	ns	–	ns	–
Central bank's independence	+	–	+	–
Explanatory power (R^2)	0.32	0.05	0.31	0.08
Number of observations	212	228	179	176

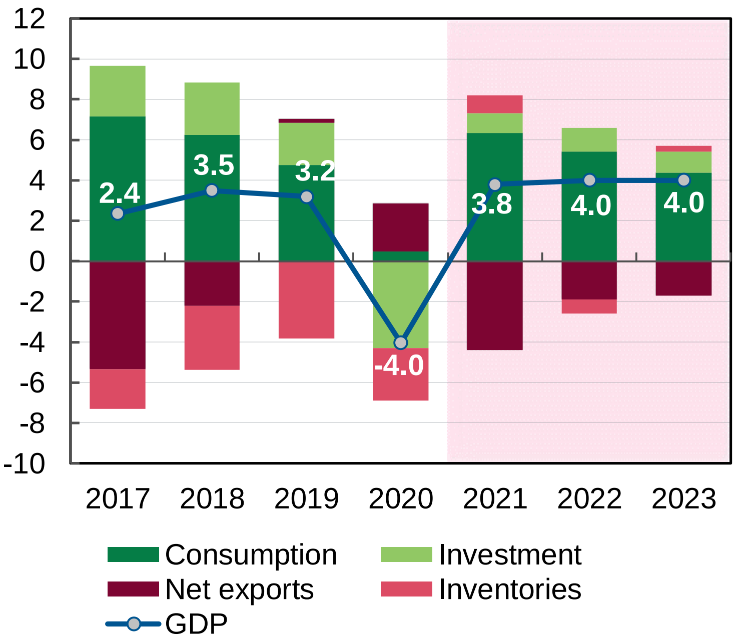
** Signs "+", "–" та "ns" indicate direct, inverse, and statistically insignificant relationship, respectively.

Source: NBU staff estimates based on data from the SSSU, the IMF and the web pages of the world's central banks.

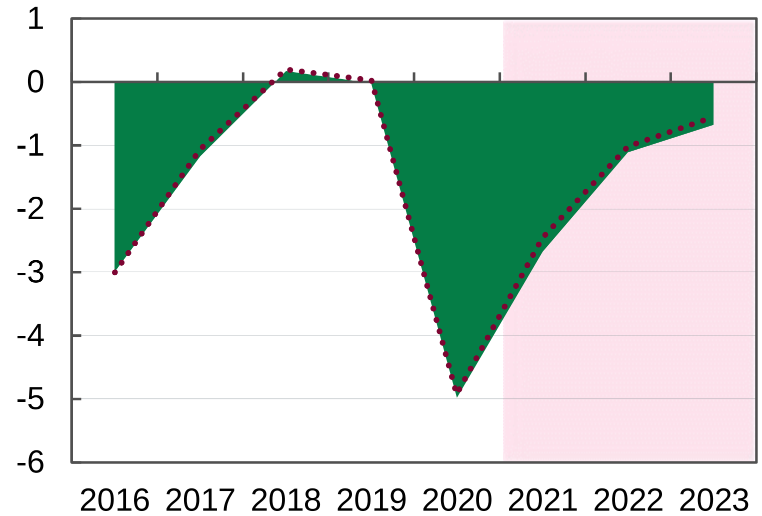
- There is a strong direct relationship between the target level and inflation volatility
- The upward deviation of inflation is more frequent in countries with higher target level
- Countries with grater experience in IT are more likely to reduce inflation deviations from the target and target range
- The level of institutional development is important for achieving the targeted rate of inflation

The economy will grow due to the world economy recovery and favorable terms of trade

Real GDP and contributions, pp



GDP GAP, %



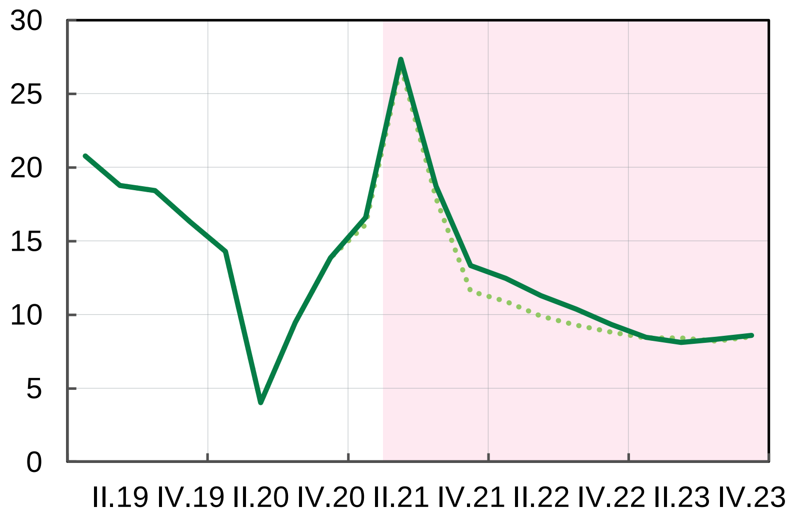
	вага,%	2020	2021	2022	2023
GDP	100	**-4.0**	**3.8** (3.8)	**4.0** (4.0)	**4.0** (4.0)
Consumption	87	0.5	6.8 (6.4)	5.3 (5.3)	4.2 (4.2)
Private consumption	66	1.2	8.0 (7.5)	6.5 (6.0)	4.9 (4.5)
Gross fixed capital formation	16	-24.4	7.5 (7.5)	9.2 (9.2)	8.0 (8.0)
Exports of G&S	48	-5.6	2.7 (2.7)	2.5 (2.2)	2.7 (3.0)
Imports of G&S	56	-9.6	13.6 (13.0)	6.6 (5.5)	6.2 (5.1)

Favorable terms of trade and, correspondingly, FX inflows will stimulate consumption and imports

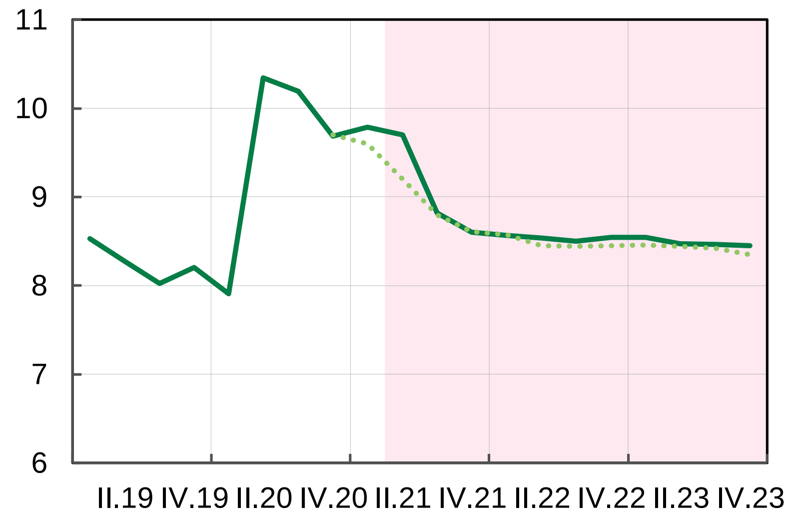
in () – previous forecast

Economic recovery will stimulate wage growth and a return unemployment to its natural level

Nominal wages, annual change, %



ILO unemployment, sa, %

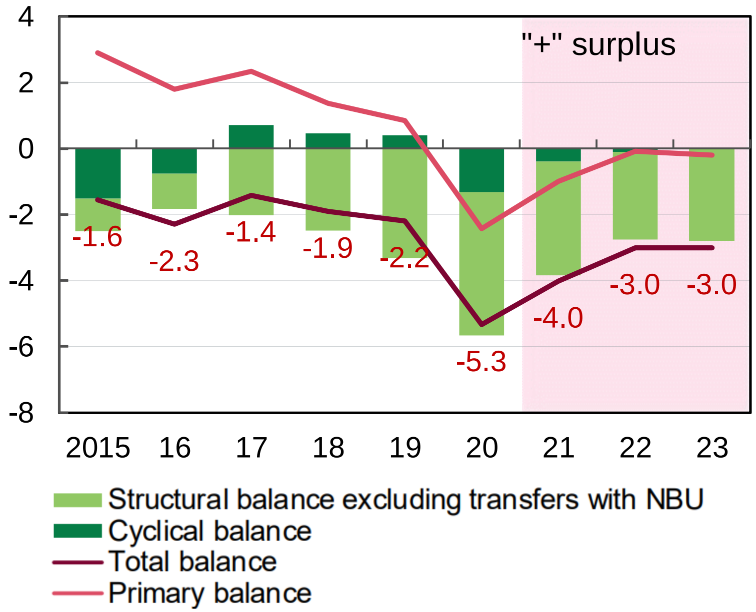


change, %	2020	2021	2022	2023
Real wages	**7.4**	**8.7**	**3.9**	**3.4**
- previous forecast		*8.6*	*3.9*	*3.4*
Nominal wages	**10.2**	**18.8**	**10.8**	**8.4**
- previous forecast		*17.8*	*9.7*	*8.4*

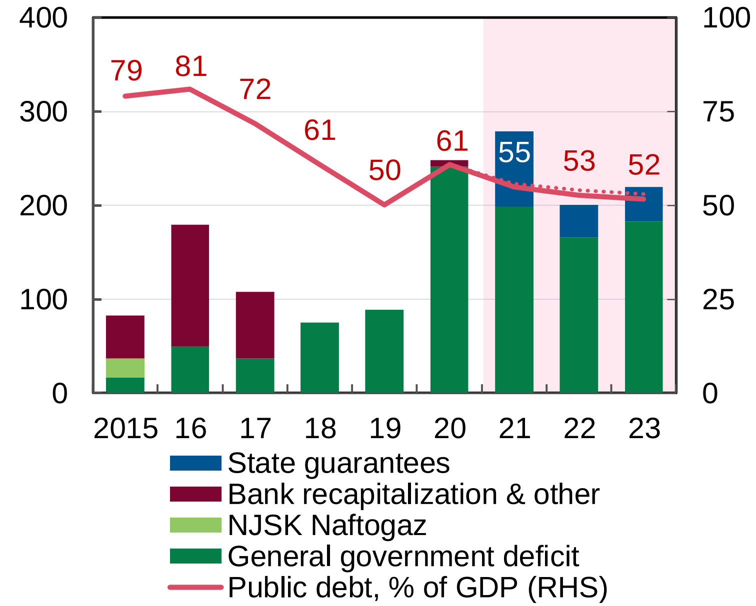
aop	2020	2021	2022	2023
Minimum wage, UAH	**4815**	**6042**	**6550**	**7176**
- previous forecast		*6042*	*6625*	*7200*
change, %	***15.4***	***25.5***	***8.4***	***9.6***
- previous forecast		*25.5*	*9.7*	*8.7*

Rapid economic growth will allow to reduce the budget deficit (to 4% in 2021) and the debt-to-GDP ratio

Consolidated Budget Balance, % of GDP



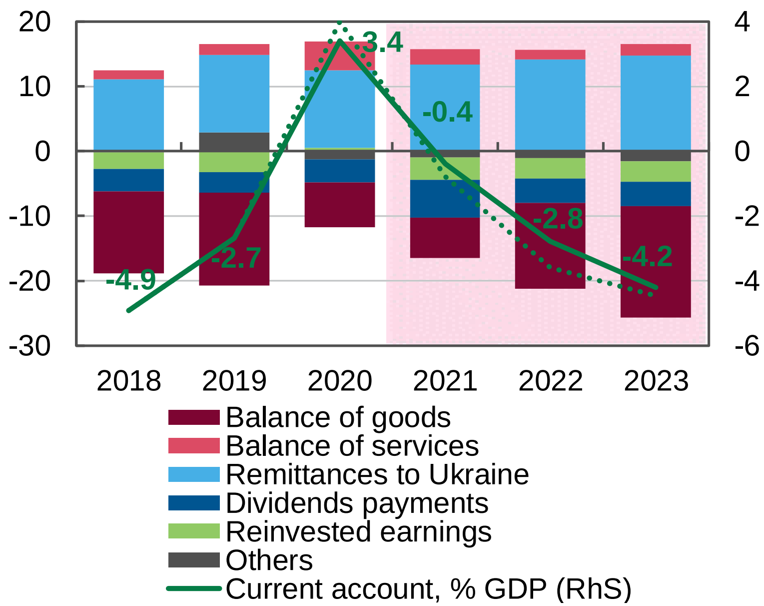
Public sector deficit, UAH bn, and public debt-to-GDP ratio, %



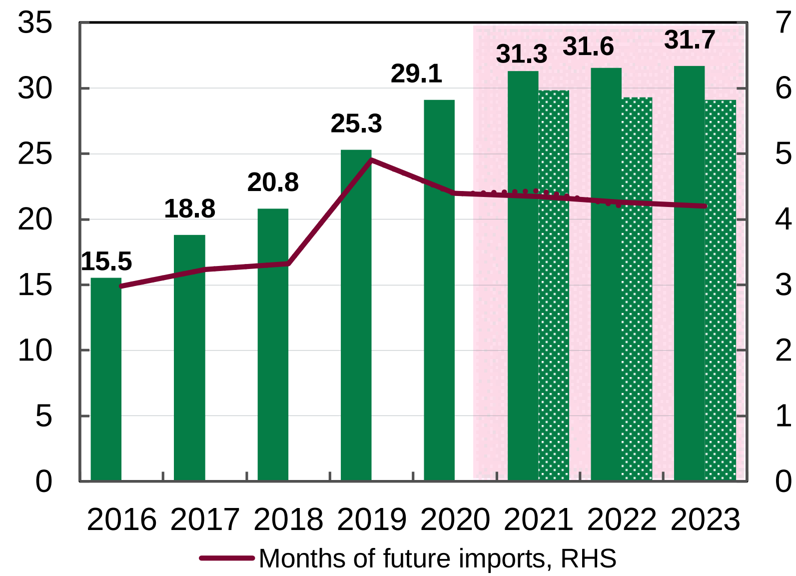
Public debt-to-GDP ratio will gradually decrease from 61% in 2020 due to the rapid growth of nominal GDP and prudent fiscal policy

CA deficit will widen due to the growth of domestic demand and worsening of terms of trade

Current Account Balance, USD bn



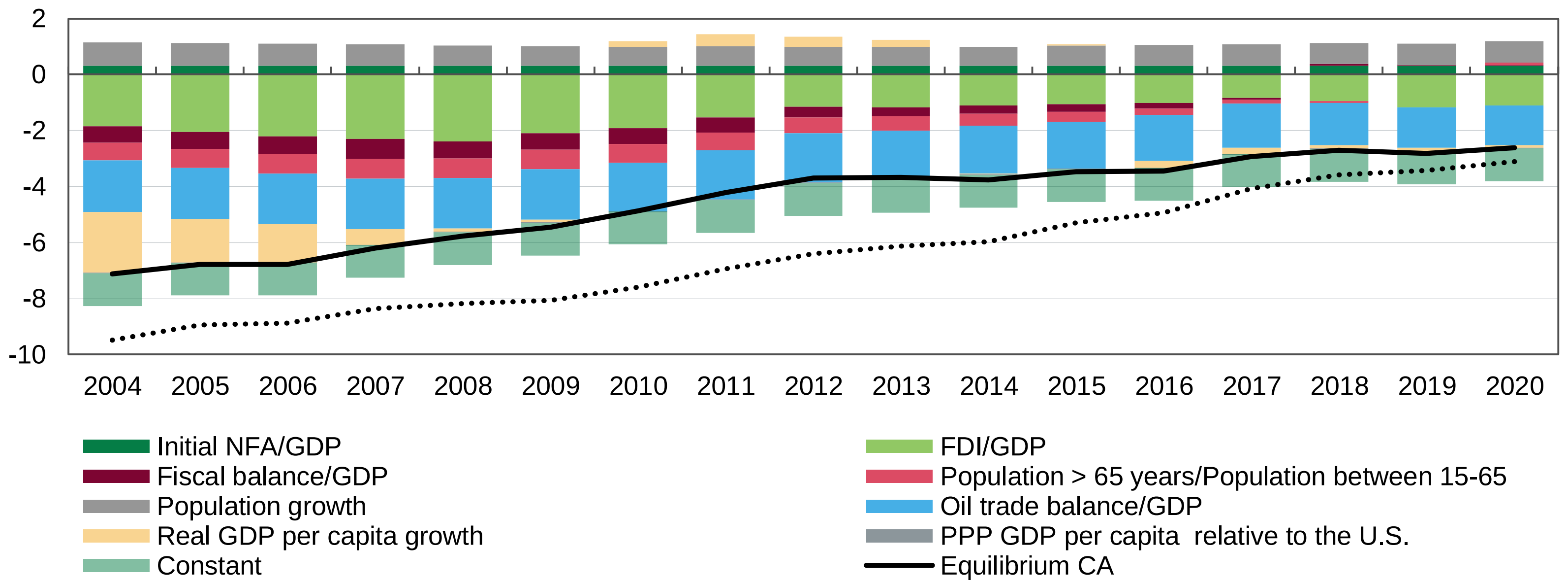
International Reserves, USD bn



Main changes in CAB forecast in 2021-2023 compared with IR April	
Trade in goods	↑↑Terms of Trade (2021-2022)
	Volumes of exports: ↑grains Volumes of imports: ↑machinery, ↑chemicals, ↑agro
Trade in services	↑ Export of IT services
	↑ Import of travel services
Primary income	↑ Reinvested earnings ↑Dividends repatriation

Box. Current account norm: estimates for Ukraine

Estimates of CA norm for Ukraine and contributions of fundamentals, % of GDP*

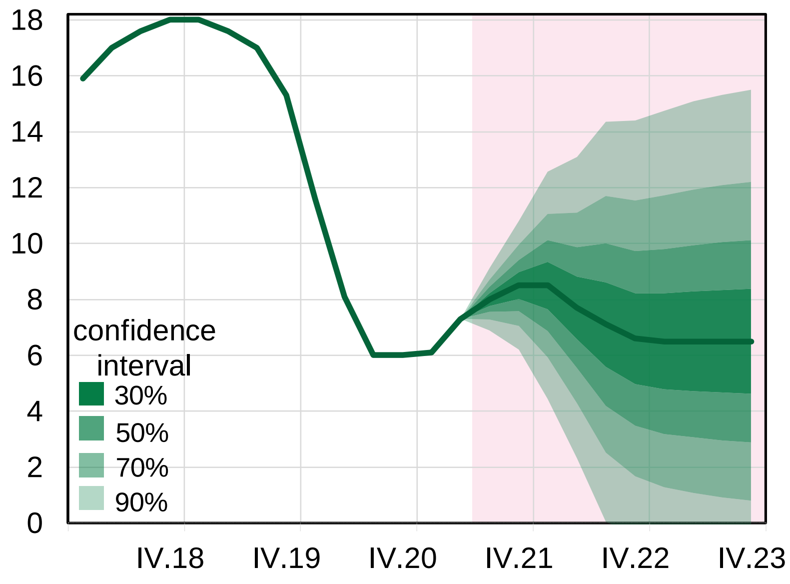


* The dotted line shows alternative estimations considering the natural gas trade balance.

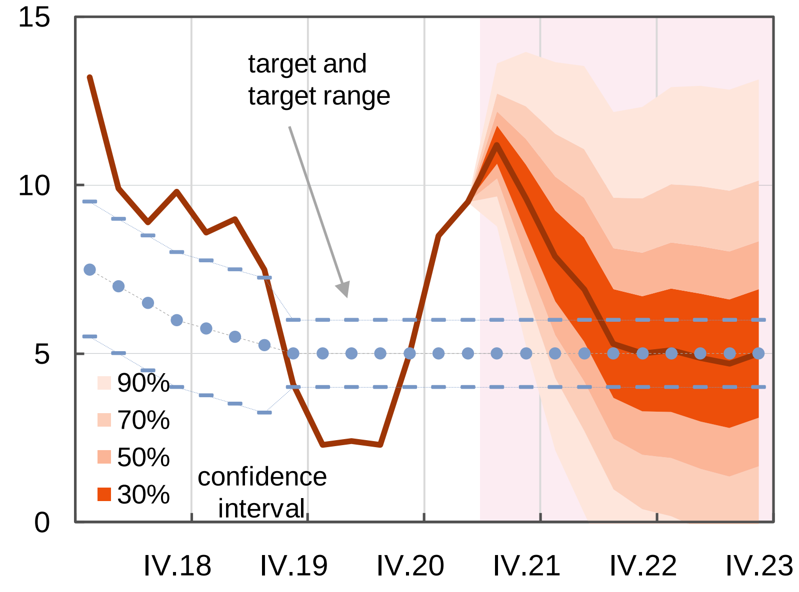
- For recent years the current account norm is estimated at 3-4% of GDP. The estimate has been fairly stable in recent years and has declined significantly since the mid-2000s
- This decrease is primarily due to changes in the age structure of the population, more conservative fiscal policy, the growth of real GDP per capita (all variables are relative to the trading partners)
- In 2016–2019, the actual values of the current account deficit were in the range of 2–5% of GDP, which corresponds to the estimates of the equilibrium level for Ukraine and signals the absence of significant imbalances in the foreign economic position

Tighter monetary policy is aimed at reducing inflationary pressure and preventing the unanchoring of inflation expectations

Key rate, %



CPI, annual change, %



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 indicator 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 indicator will be in the range of the lightest shaded area.

Risks

		Risk probability		
		Low <15%	Middle 15%–25%	High 25%–50%
Influence on baseline	Weak	Higher volatility of global food prices		
	Moderate	Lower harvest	A dramatic worsening in the terms of trade	
	Strong		Escalation of the military conflict in eastern Ukraine Suspension of the cooperation with IMF Capital outflow from EM countries	Longer-lasting coronavirus pandemic Surge in global inflation