National Bank of Ukraine

Inflation Report (October 2018)

Kyiv

November 6, 2018

Monetary policy decision: Summary

In October, the NBU Board decided to keep key policy rate at 18%

- Current and future monetary stance is tight enough to ensure disinflation to 5% in 2020
- Meanwhile, it will take longer than expected to meet the inflation target due to high underlying inflationary pressure. Inflation will approach the target band in 1Q 2020 compared with 4Q 2019 as expected before.
- Such decision ensures the balance between the need to reduce inflation and bring it to the target and the need to maintain the economic growth.

Main forecast assumption: new SBA with the IMF in 2018-19

Key risks:

- inflation expectations worsening due to double elections next year
- external environment deterioration

If inflation pressures remain or build up, the central bank could raise the key policy rate again

MPC members views on IR decision were split equally (5 / 5)

18.0%	18.5%
✓ 5 votes	✓ 5 votes
Current monetary conditions are sufficiently tight	Tighter policy is needed to offset new inflationary factors

Current monetary conditions are sufficiently tight

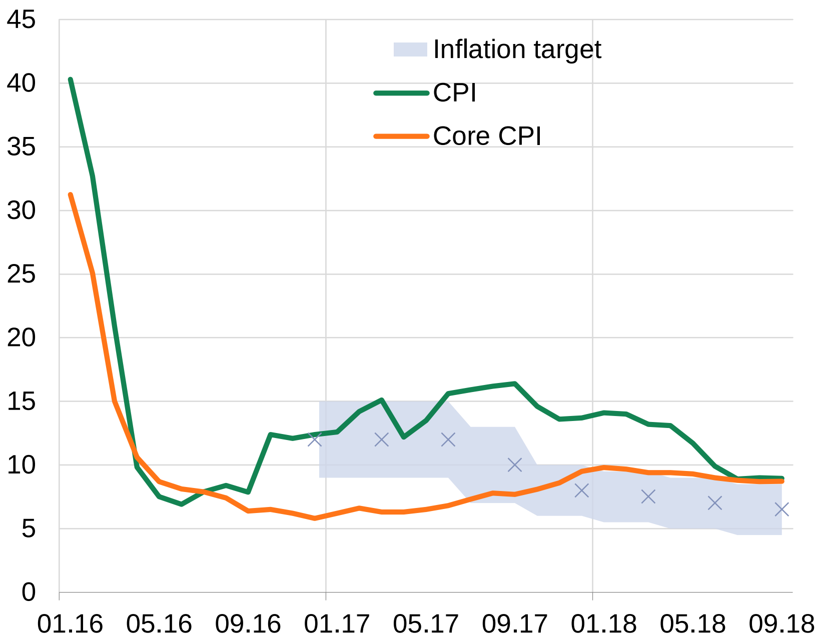
- NBU has already shown its readiness to pursue a tight monetary policy to achieve inflation targets
- The impact of the previous key policy rate hikes on banks' interest rates has not fully materialized and will continue
- Monetary conditions will be tighter due to lower liquidity in banking sector
- New IMF program will have positive influence on expectations

Tighter policy is needed to offset new inflationary factors

- Medium term effects on the inflation trend of such factors as worsening inflation expectations, stronger consumer demand, rapid wage growth, less favorable global financial conditions, and price environment
- Tighter policy would bring inflation to the target band in the end of 2019

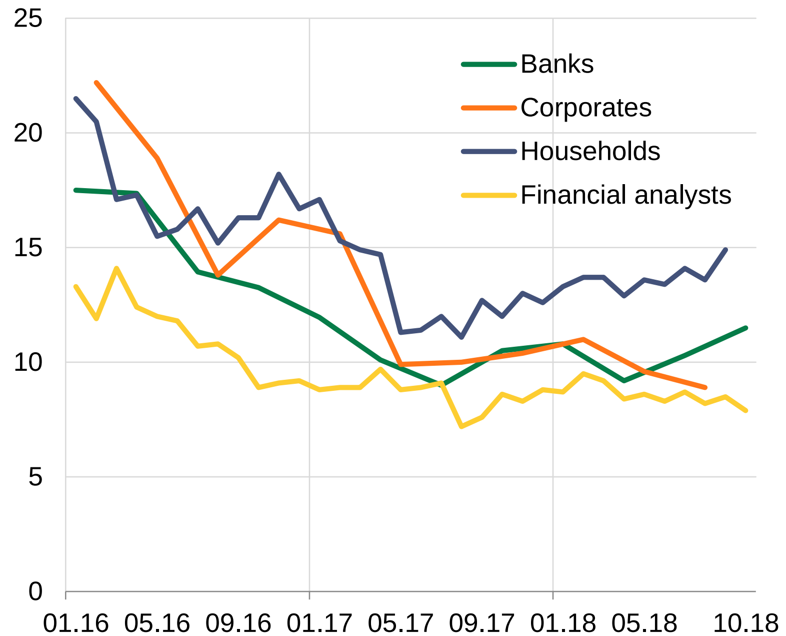
Inflation has slowed down to one-digit level thanks to weakening food price growth

Headline and Core Inflation, % yoy



Source: SSSU, NBU.

Inflation Expectations for the Next 12 Months, %

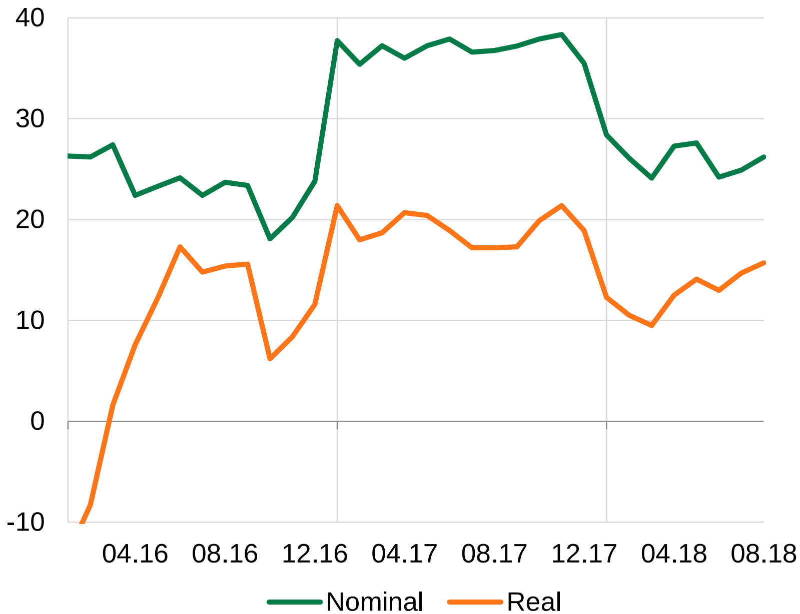


Source: NBU, GfK Ukraine surveys.

- Inflation has been above the target since mid-2017 due to strong domestic demand and rising production costs, including due to labor costs
- On the other hand, tight monetary stance, favorable FX market developments, and more ample supply of food products partially offset the impact of demand-pull and cost-push factors
- Inflation expectations for the next 12 months remained elevated

The growth in real wages pushes up inflation as their pace is much stronger compared with productivity growth rate

Wages growth, % yoy



Source: SSSU.

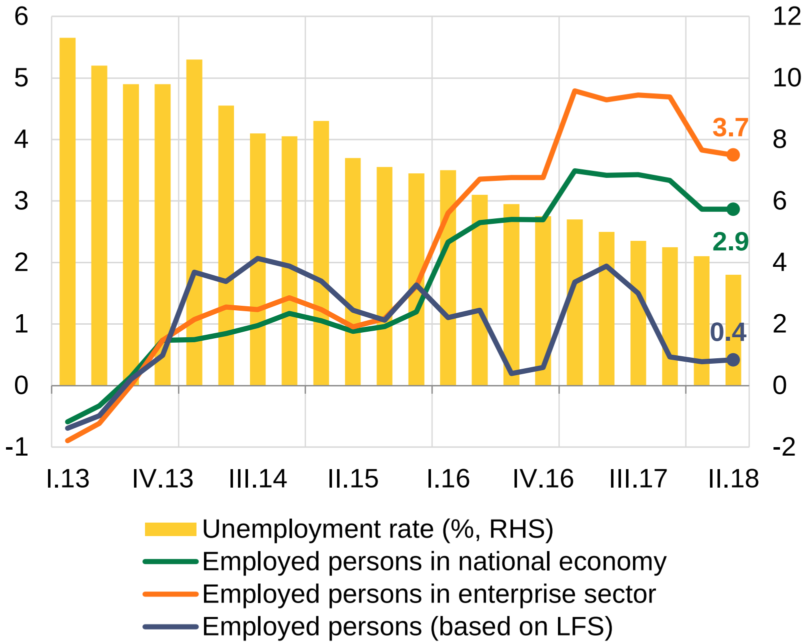
ILO Unemployment, % of the economically active population aged 15-70, and Real GDP, % yoy

Source: SSSU, NBU staff estimates.

- Fast growth in real wages in 2016-2017 can be attributed to their catch-up from a deep decline during 2014-2015. Their growth apparently generates inflationary pressure
- Employment rose for two quarters in a row due to solid economic growth, fast growth in wages and changes in pension legislation
- A further revival of economic activity and improvement in business expectations generates strong labor demand

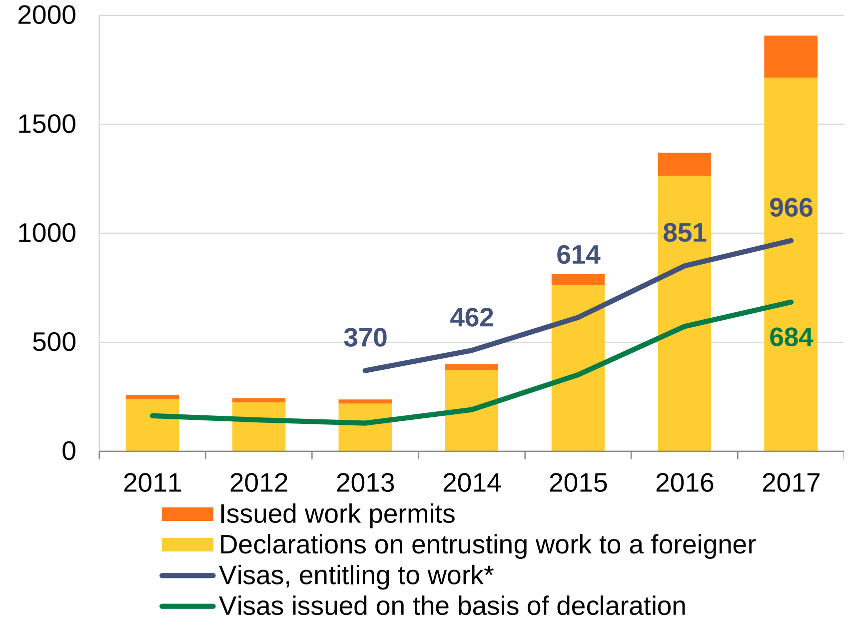
Box. Labor market in Poland remains tight, but the opportunities for Ukrainian workers have been shrinking

Selected Indicators of the Polish Labor Market, % yoy



Source: NBU estimates based on GUS data.

Number of Ukrainian Migrant Workers in Poland, According to Different Estimates, thousand



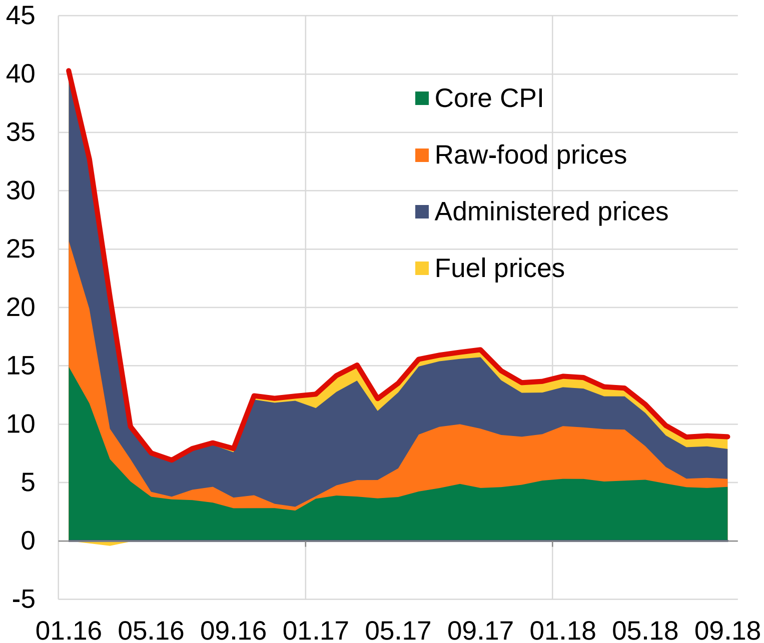
* Official employment for more than 3 months is implied; includes visas issued for work/self empl., Pole's Cards, residence permits.

Source: MPIPS, NBP.

- Employment in Poland has been increasing amid solid economic growth, but it has lost some pace in 2018
- In the medium term, it is expected to slow further given a transition of the Polish economy to deceleration phase and structural imbalances in the labor market
- For Ukrainian workers, employment in Poland remains attractive due to much higher wages (~3.5 times) and geographic proximity. However, as of July 2018, only 16.8% of employers had an intention to hire workers from Ukraine

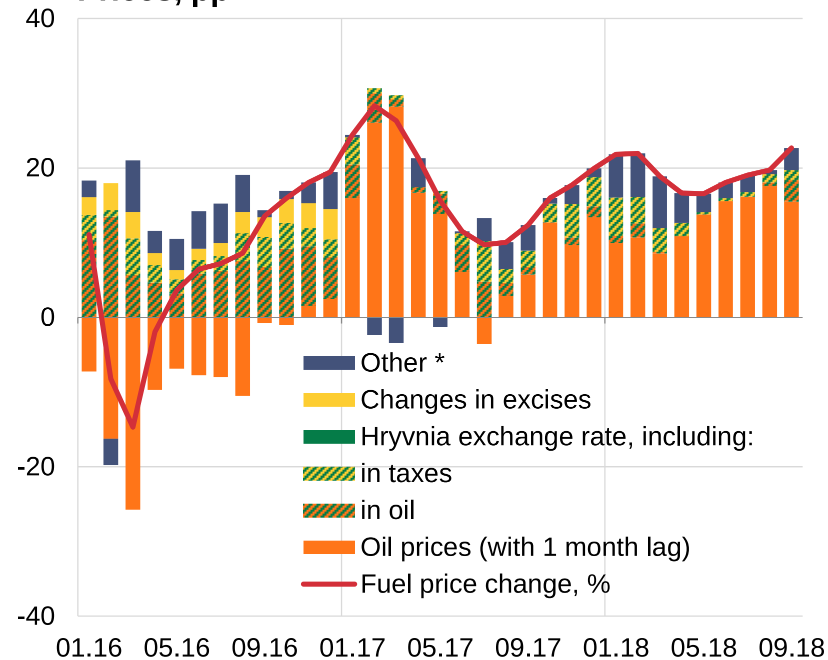
Growth in energy prices and movements on exchange market led to higher growth of fuel prices

Contributions to Annual Consumer Price Growth, pp



Source: SSSU, NBU staff estimates.

Factor Decomposition of Annual Change in Fuel Prices, pp

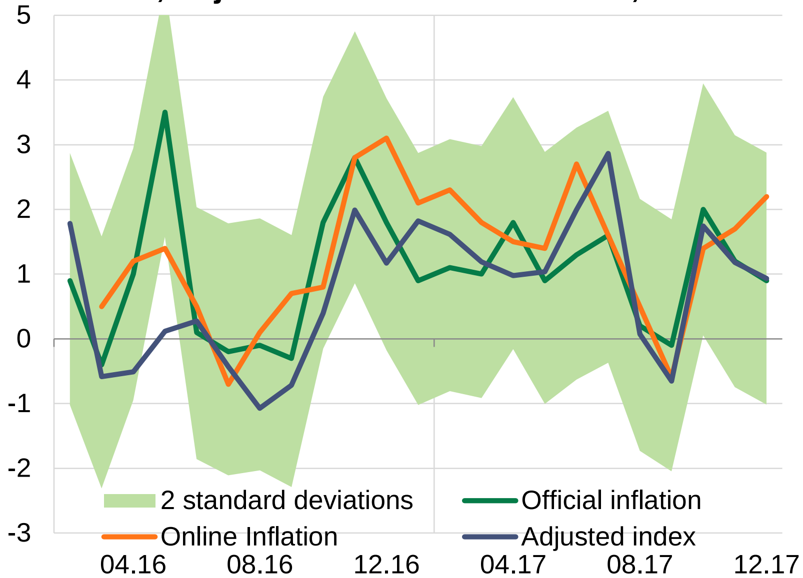


* Includes administrative costs, logistics services, trade margins, etc.
Source: NBU, SSSU, Nefterynok

- Administered and fuel prices had the largest contributions to the deviation of inflation from July forecast
- Fuel price growth sped up amid rising global oil prices and ER developments in previous months
- Underlying inflationary pressure also remained high – contribution of core CPI was almost unchanged since the beginning of the year

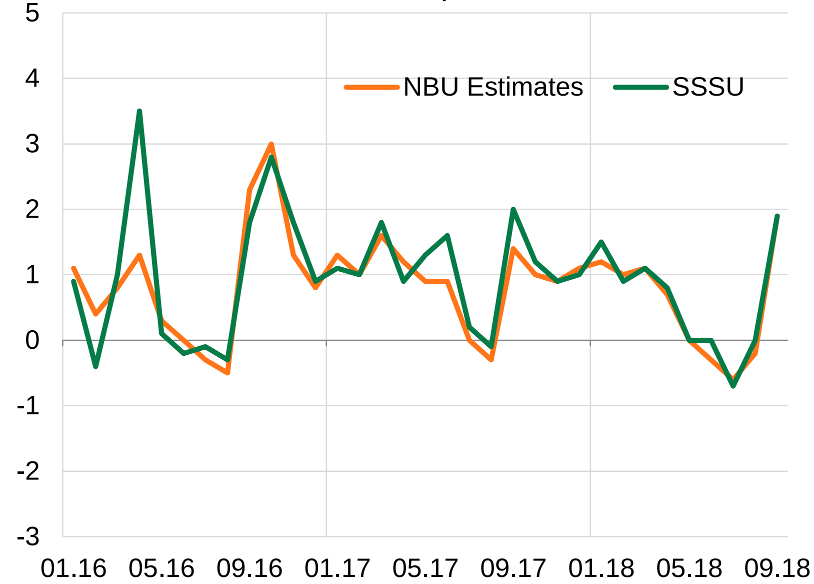
Box. Online inflation based on web-scraping data allows to nowcast inflation two weeks before the official publication

Official, Adjusted and Online Inflation*, % mom



Source: Faryna O., Talavera O., Yukhymenko T. (2018). What Drives the Difference between Online and Official Price Indexes? Visnyk of the National Bank of Ukraine, No. 243, pp. 21-32.

Nowcast and Official CPI, % mom



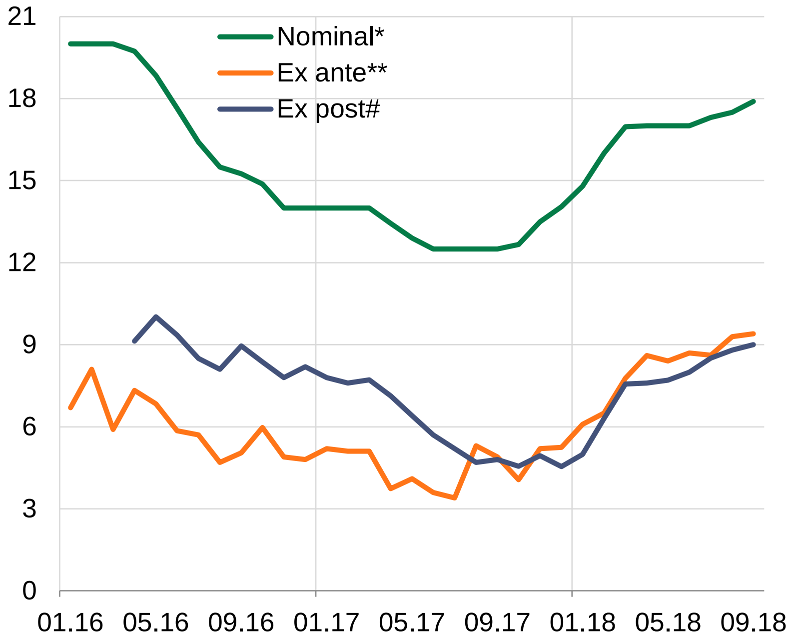
Source: SSSU, NBU staff estimates.

* *Official index* is officially published by the SSSU (based on data of 328 components); *Adjusted index* - calculated on the basis of individual SSSU data, but contains only components included into online index (> 130 of 328); *Online index* - calculated from individual online indexes (>130 components)

- The NBU targets inflation as measured by the official headline consumer price index, although the latter includes some volatile components, on which monetary policy has little effect
- Meanwhile, strong performance in short-term inflation forecasting is important for central banks' credibility
- In 2015, the NBU launched a web-scraping project aimed at data collection of consumer prices and construction of online indexes. Online inflation is generally consistent with official data, enabling nowcasting

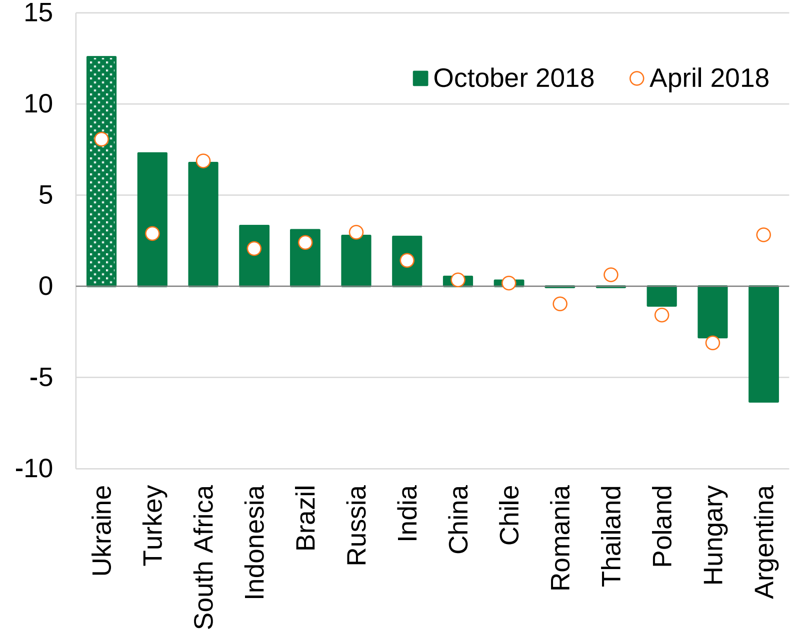
Tight monetary conditions counteract inflationary pressures

Nominal and Real NBU Key Policy Rate*, % pa



** Nominal rate is NBU's average rate on 14-days CDs. Real ex ante is nominal rate deflated by inflation expectations of fin. analysts. Real ex post is nominal rate deflated by current core CPI.*
Source: NBU.

Real Interest Rates* on EM bonds, % pa

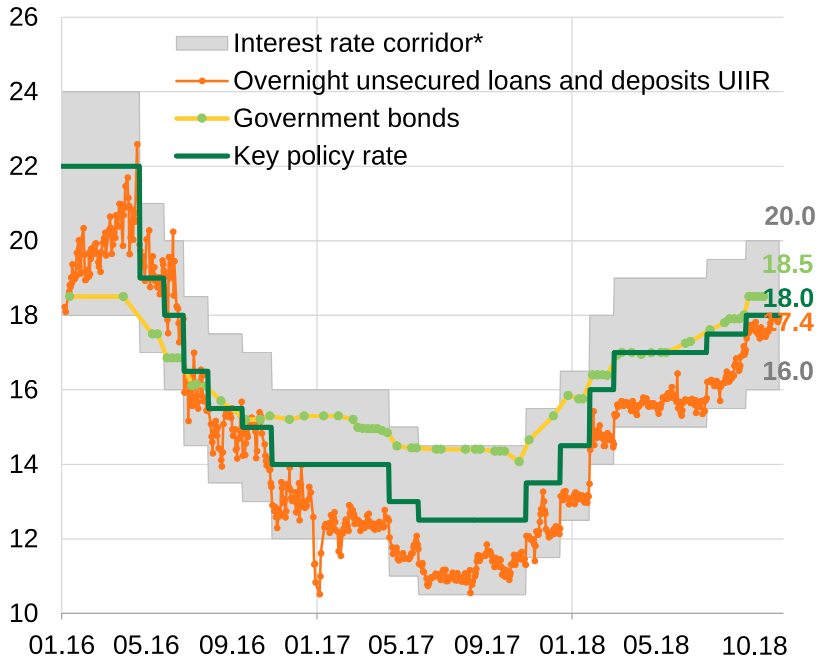


** Real interest rate is calculated as a difference of average monthly 1-year bond yield on the primary market and inflation forecasts (as of end-2019 for October, as of end-2018 for April). For Ukraine – based on NBU`s estimates.*
Source: DekaBank, Consensus Economics, Thomson Reuters, NBU`s estimates.

- Monetary policy stance remained rather tight in 3Q2018. The hike of the nominal rate in September contributed to its growth in real terms – from 5% in the beginning of the year to 9% in September
- As a result of the tight monetary policy, yields on hryvnia government bonds in real terms remained some of the highest among emerging markets

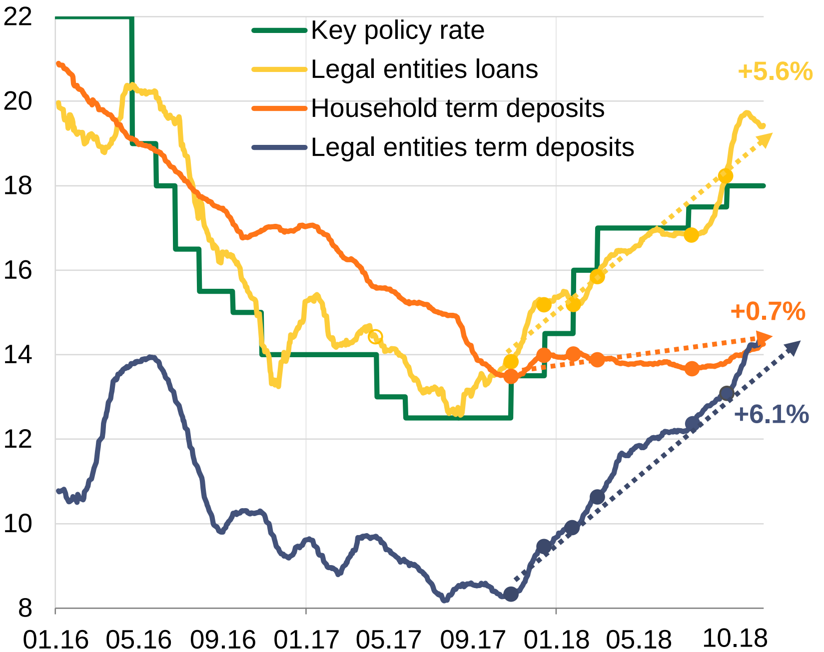
Previous key policy rate hikes and a liquidity shortage stipulated growth of market rates

NBU Policy Rates, UIIR and 1-year Bond Yield on Primary Market, %pa



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

NBU Key Policy Rate and Selected Hryvnia Rates (monthly moving average), % pa

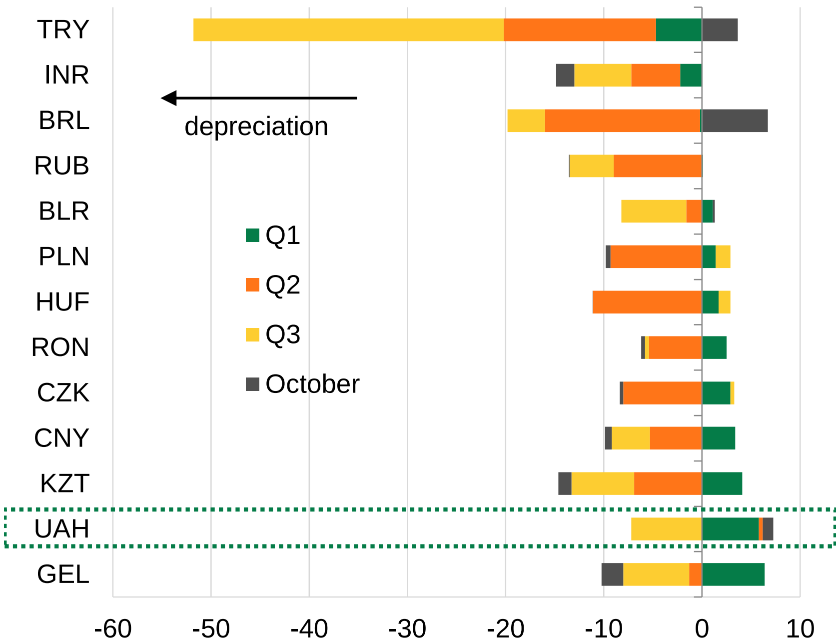


Note: arrows indicate an increase in rate after 26 October 2017 (the beginning of the NBU policy rate hike cycle)
Source: NBU.

- Interest rates on hryvnia interbank loans and government bond yields tracked the key policy rate closely
- Retail interest rates grew after key policy rates hikes, increasing demand for interbank loans and narrowing liquidity of the banking system

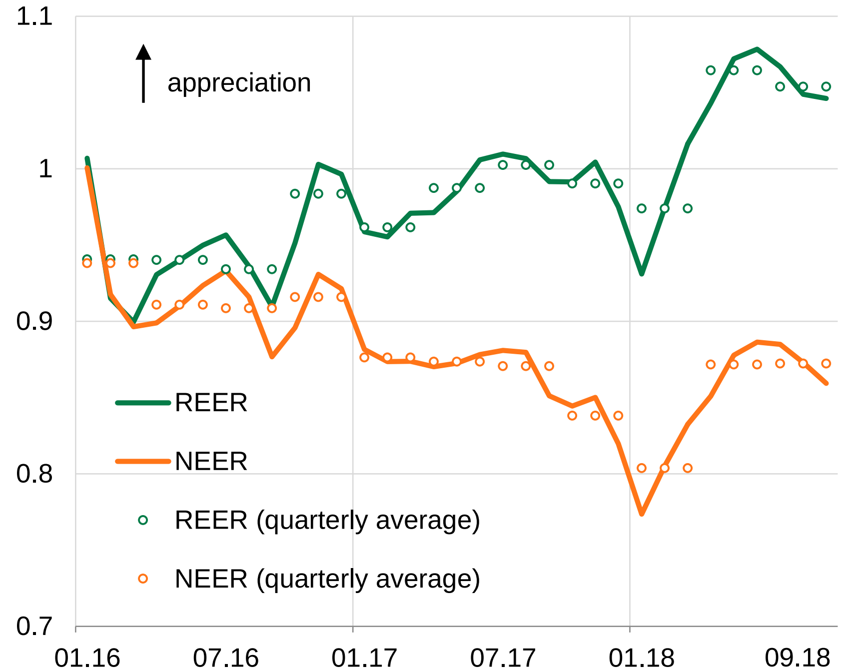
Financial conditions for EMs have tightened significantly in 2018, but in October investors' mood somewhat improved

Exchange Rates of Selected EM Currencies versus USD, % change, eop



Source: Thomson Reuters Datastream, as of 18.10.2018.

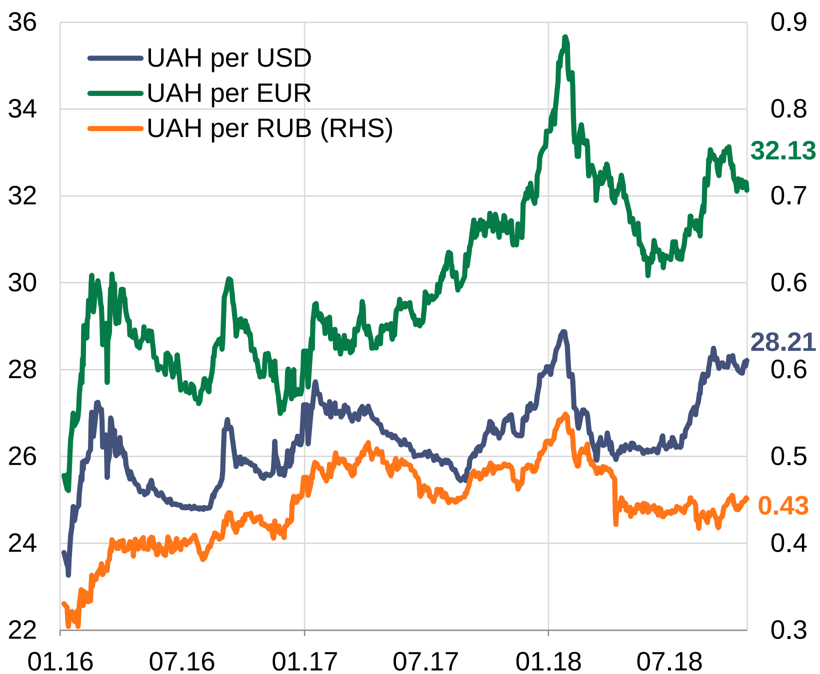
Hryvnia NEER and REER, 12.2015 =1



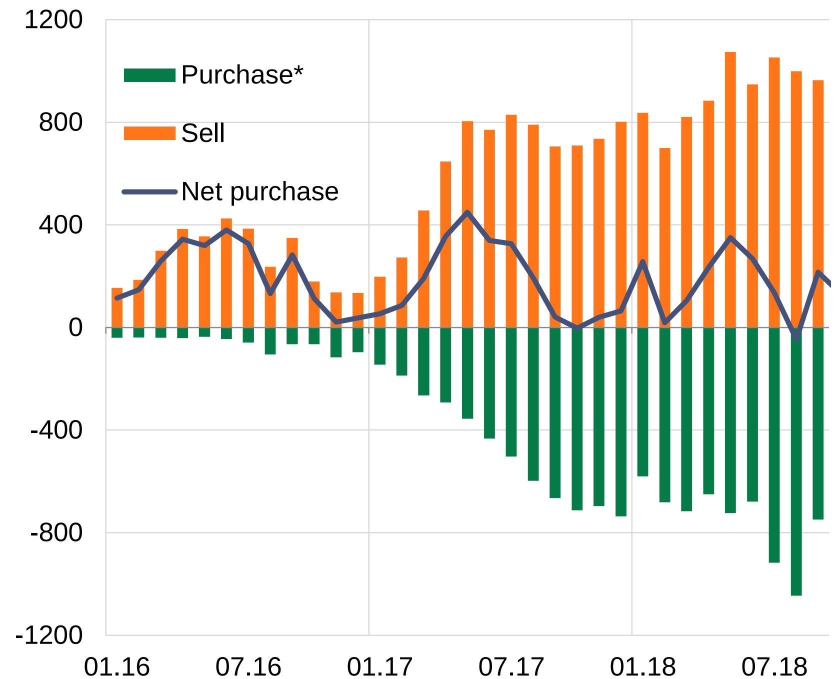
Source: NBU.

- Improvement occurred amid some corrective policy measures in the most vulnerable countries – Turkey (NEP) and Argentina (IMF program)
- Despite official exchange rate depreciation of UAH/USD in July-September 2018, on average for Q3 NEER of the hryvnia marginally changed from the previous quarter. REER slightly depreciated qoq but for lower inflation reason. In annual terms, REER remained stronger than a year ago

In September-October, the devaluation pressure declined against the backdrop of balancing demand and supply on the FX market



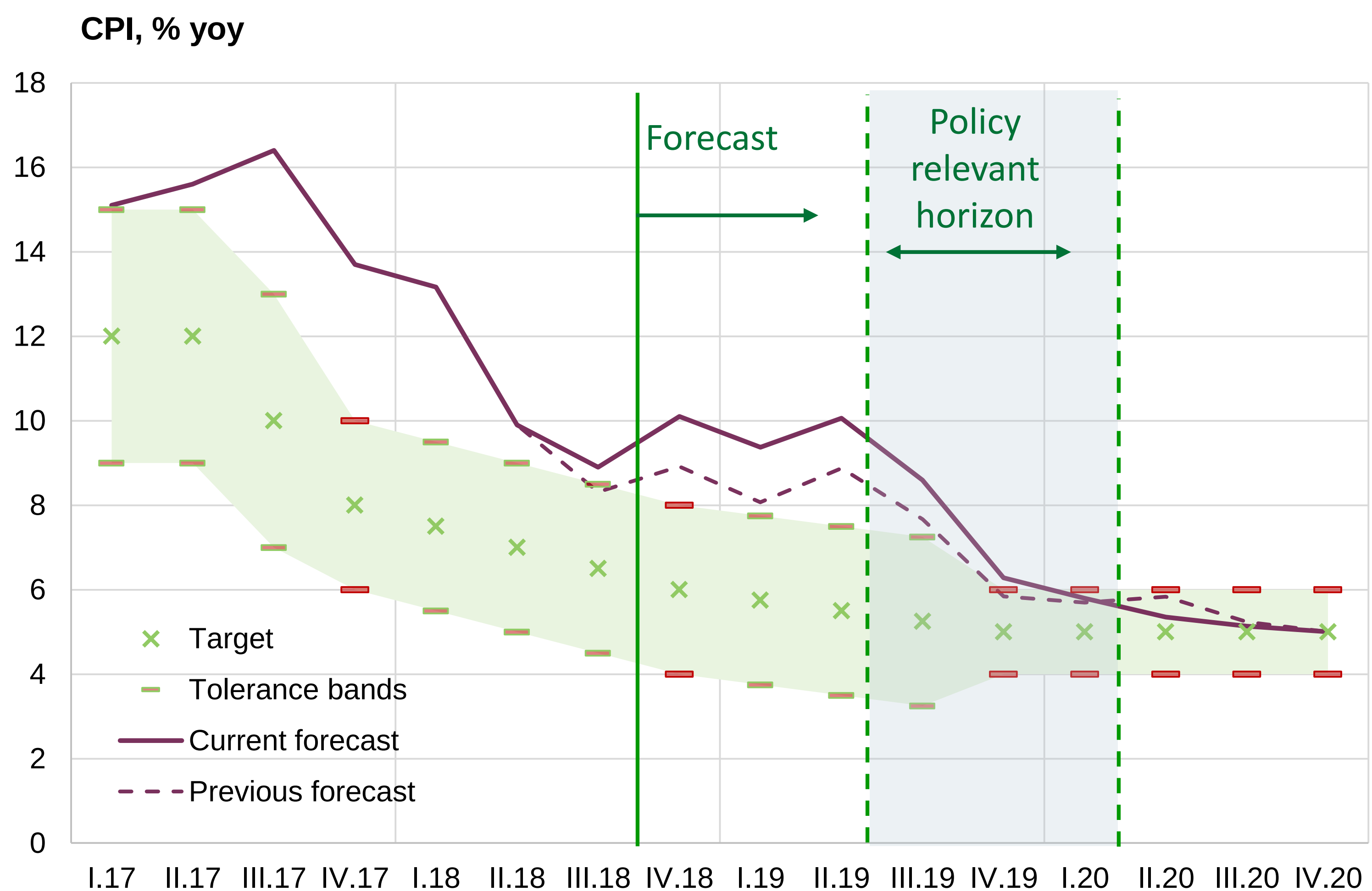
Source: NBU.



* Low purchases in 2016 and further growth are a reflection of the administrative restrictions on the FX market and their gradual liberalization.
Source: NBU.

- Turnaround of the situation on the FX market is due to improved expectations (progress in cooperation with the IMF and counteracting excessive volatility by the NBU), early harvesting (higher agro supply), rising cost of resources (policy rate hikes and reduction the liquidity surplus)
- Interventions of the NBU have helped to reduce the turmoil demand for FX currency both on the interbank and cash market, without hindering the influence of market factors on the dynamics of the hryvnia exchange rate

Current and future monetary stance is sufficiently tight to ensure disinflation to 5% in 2020



- The increase in consumer demand, robust wage growth, and the recent jump of crude oil prices will continue to impact consumer price inflation next year (6.3%)

Forecast Summary

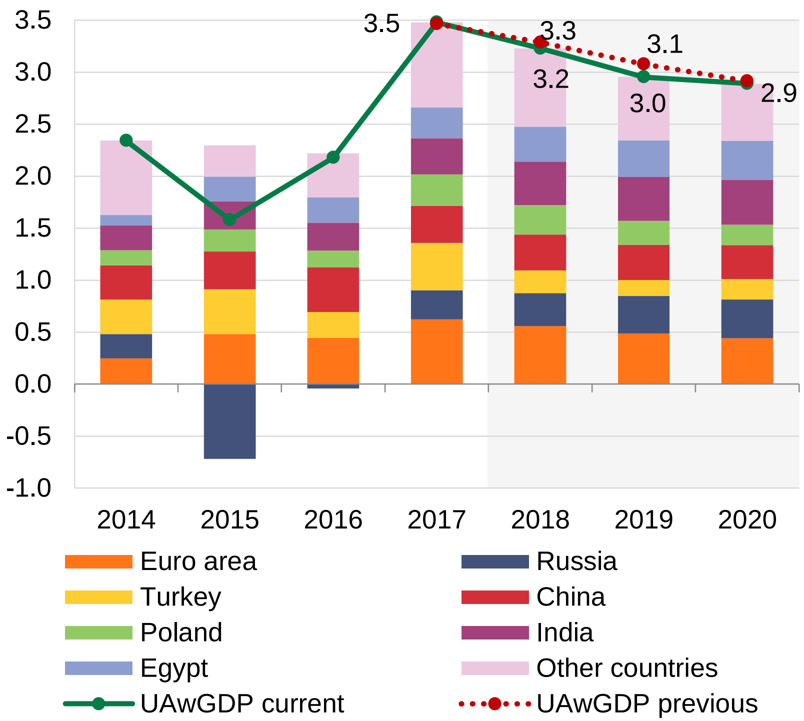
- The main changes in assumptions concern the global environment for EM and outlook for energy (oil, gas) prices significantly revised upwards.
- Worse external environment puts pressure on UAH/USD exchange, while NEER path remains almost unchanged.
- Raising oil prices and other factors push consumer inflation this year slightly higher compared with July forecast (to 10.1% yoy) as well as next year (from 5.8% to 6.3%). Monetary policy will be sufficiently tight to bring inflation to the target in 2020 (5%).
- At the same time, we revise GDP deflator for 2018 and 2019 substantially. It reflects higher oil and gas prices and their pass-through into producer prices.
- Simultaneously, such worsening terms of trade and rising production costs (also coming from elevated wages growth) put drag on real GDP growth. This year, we expect that these factors will be compensated by strong outcome for Q2 and boost for consumption from remittances and wages growth. However, risks for 2019 growth are looming.
- In 2018, the current account deficit widens to 2.7% of GDP due to raising dividends repatriation and effects on trade from robust consumer demand and worsening terms of trade. The deficit will continue to hover between 2.5% and 3% of GDP in 2019-20, and will be offset by official financing and private capital inflows. As a result, international reserves are close to $19 bn on forecast horizon.

Key macroeconomic indicators

	2017	2018	2019	2020
Real GDP, change, %	2.5	3.4 (3.4)	2.5 (2.5)	2.9 (2.9)
Nominal GDP, UAH bn	2983	3 540 (3 460)	3 950 (3 845)	4 320 (4 188)
CPI, y-o-y, %	13.7	10.1 (8.9)	6.3 (5.8)	5.0 (5.0)
Core CPI, y-o-y, %	9.5	7.9 (7.1)	5.1 (4.6)	3.6 (3.6)
Current account balance, USD bn	-2.4	-3.4 (-1.8)	-3.5 (-2.6)	-4.2 (-3.6)
% GDP	*-2.2*	*-2.7 (-1.5)*	*-2.5 (-1.9)*	*-2.8 (-2.4)*
BOP (overall), USD bn	2.6	0.8 (2.0)	-1.6 (-0.3)	-0.4 (-0.1)
Gross reserves, USD bn	18.8	19.2 (20.7)	18.6 (18.8)	19.1 (19.7)

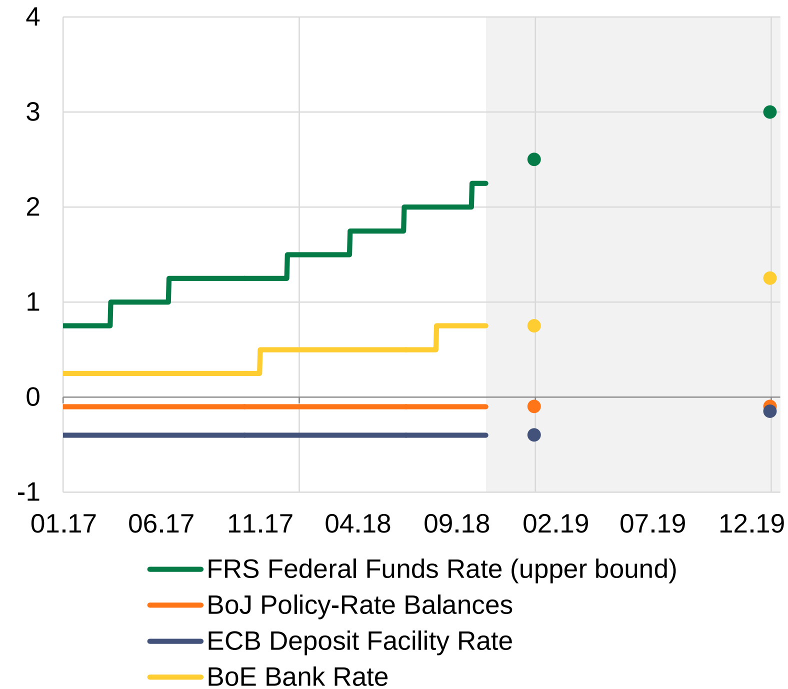
The external environment is more challenging due to the slowdown of global economic activity and worsening financial conditions

Contributions of Countries - Main Trading Partners of Ukraine to the Annual Change of UAwGDP, % yoy



Source: NBU estimate (preliminary data)

Key policy rates of major central banks, %

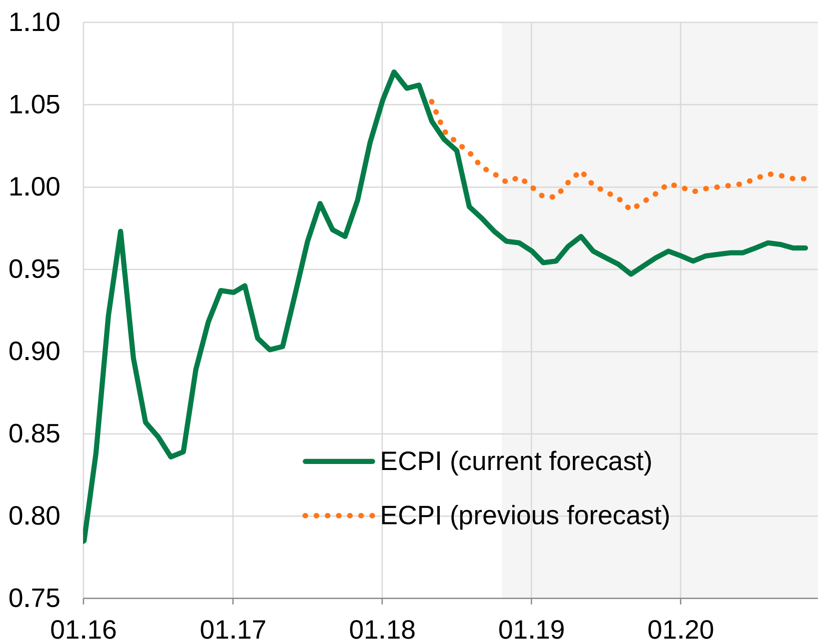


Source: EIU Global Forecasting Service.

- Tightening global financial conditions due to rising rates in advanced economies take their toll on EMs, causing financial turbulences in selected countries
- Trade tensions between the United States and other countries are another source of uncertainty
- Foreign investors flee EMs causes their currencies to weaken against the US dollar. As a result, EM either tighten monetary policy or postpone rate cuts

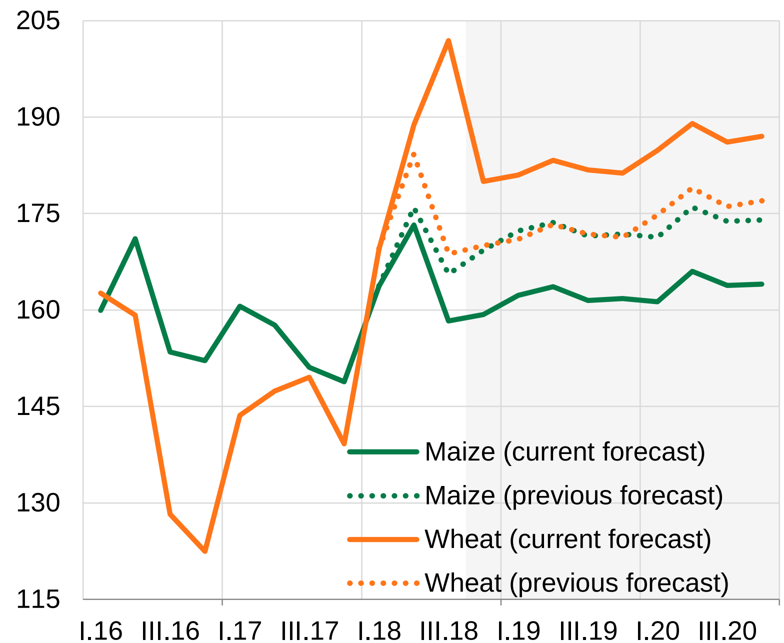
External environment: lower maize price and sunflower oil while wheat price is higher

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



Source: NBU staff estimates.

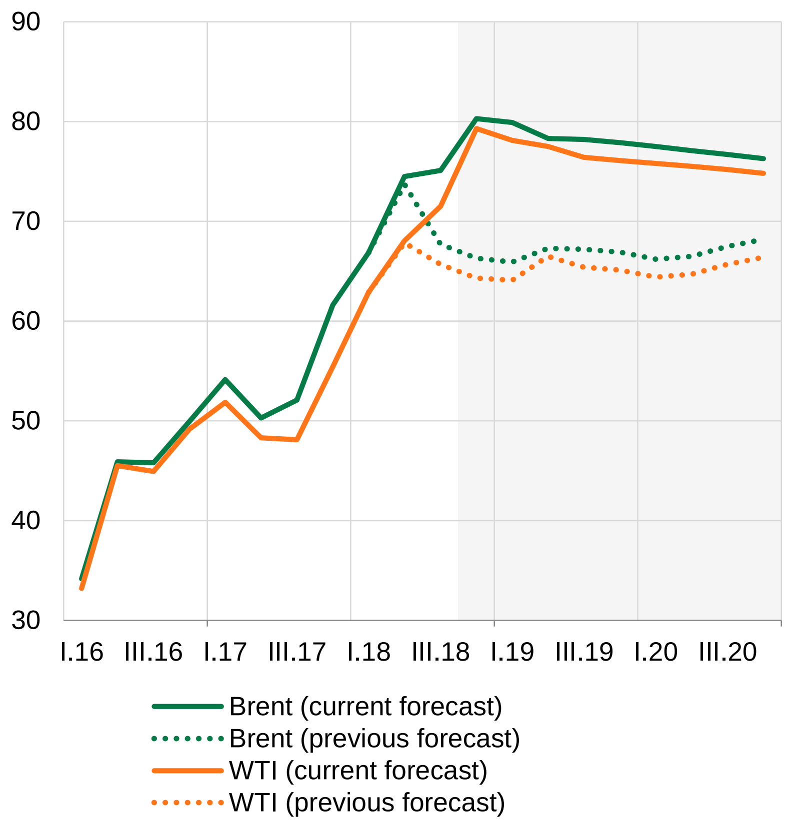
World Cereal Prices, USD/MT, quarterly average



Source: NBU staff estimates.

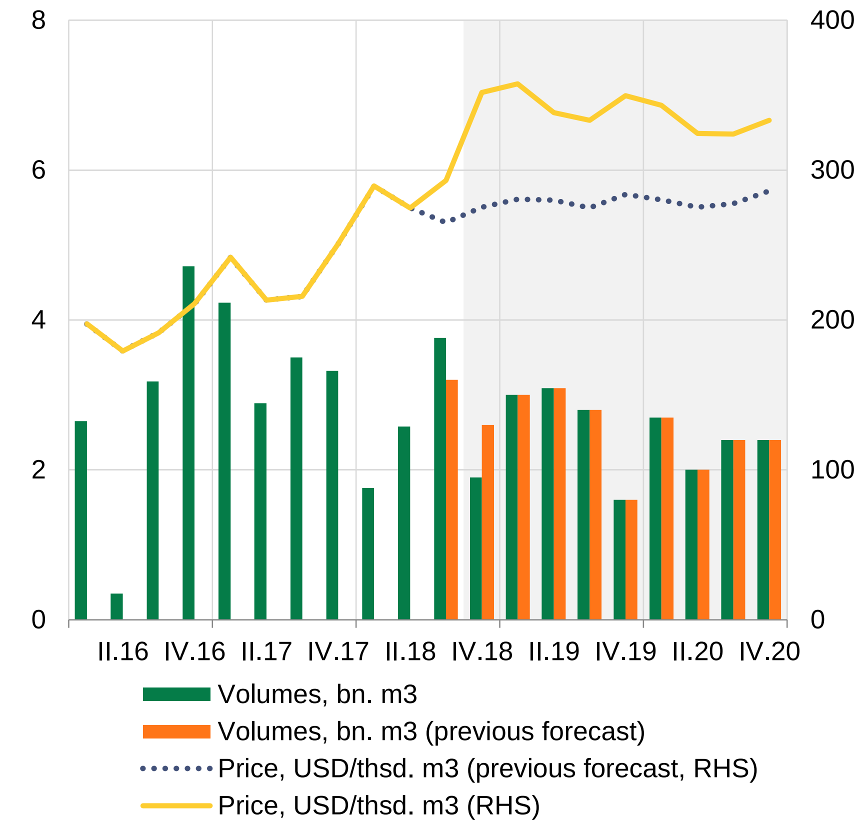
External environment: energy prices revised upward due to supply shocks and strong demand

Brent and WTI Crude Oil Prices, USD/bbl, quarterly average



Source: NBU staff estimates.

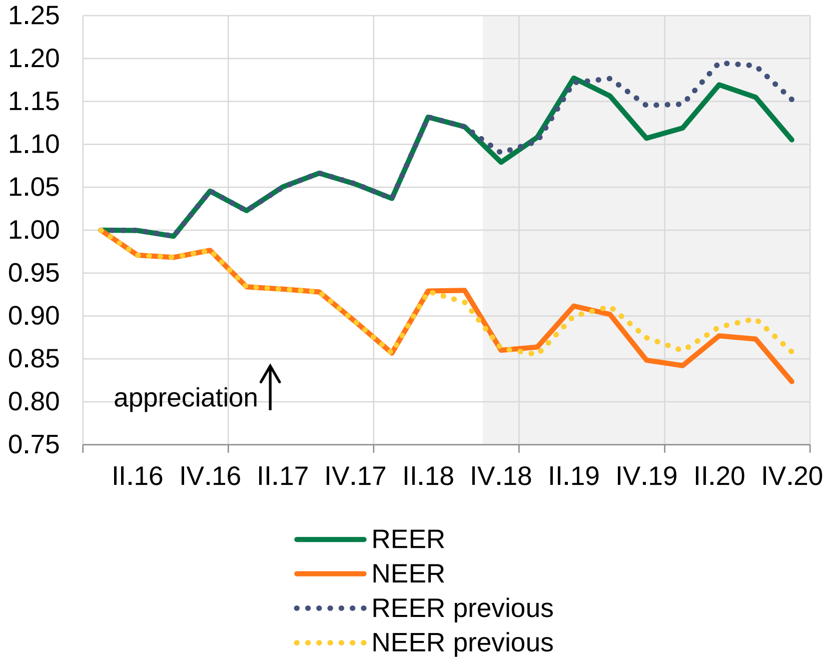
Gas Imports Price and Volumes



Source: NBU staff estimates.

Worse environment for EM puts pressure on UAH/USD exchange rate but NEER and REER outlook remained broadly the same

REER and NEER index (1.2016=1)



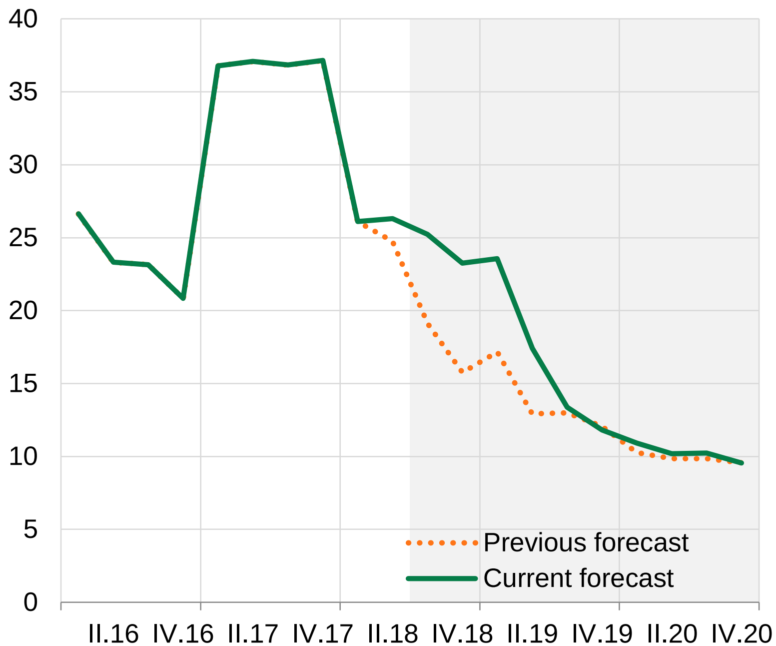
Source: NBU.

average	2017	2018	2019	2020
REER, % change	+3.8	+4.2 (+4.4)	+4.2 (+5.0)	0.0 (+1.9)
NEER, % change	-5.9	-3.0 (-3.3)	-1.4 (-0.6)	-3.1 (-1.1)

in ( ) – previous forecast (IR, July 2018)

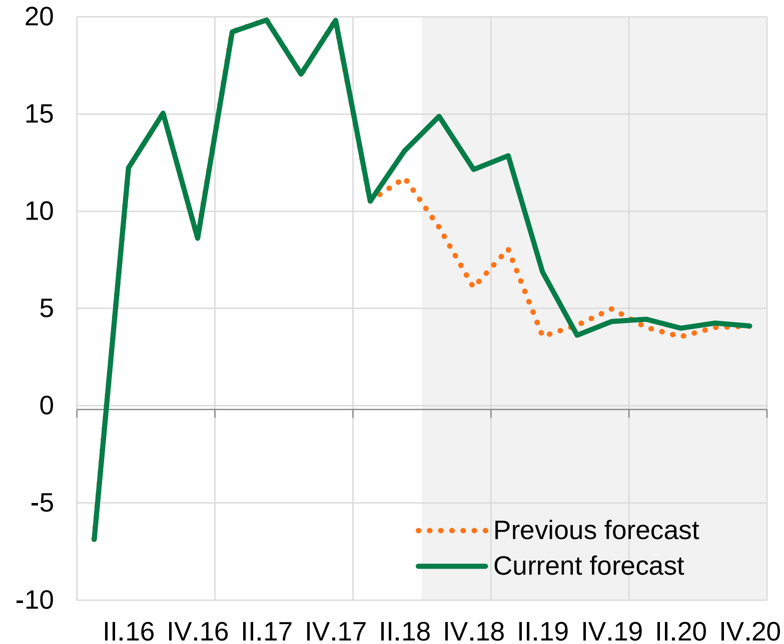
High wages growth reflects labor migration effects on local labor market

Nominal wages, annual change, %



Source: NBU.

Real wages, annual change, %

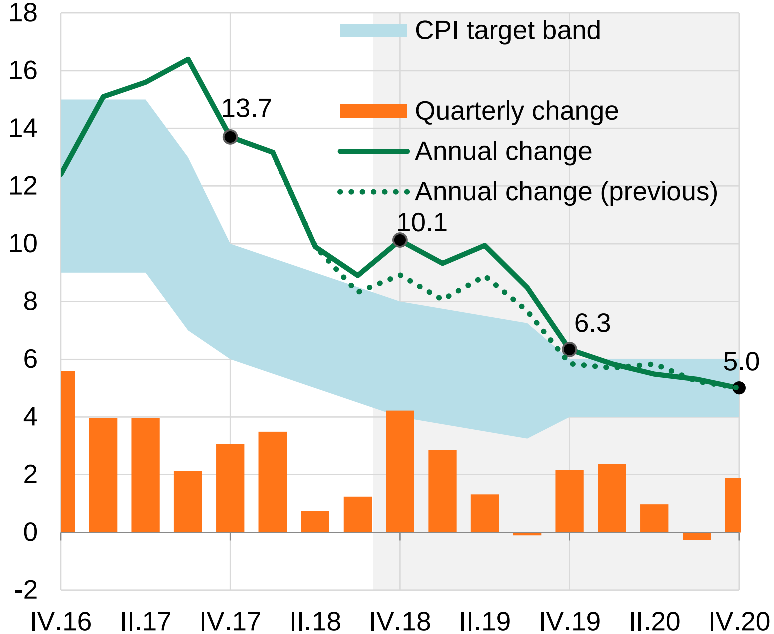


Source: NBU.

change, %	2017	2018	2019	2020
Real wages	**19.1**	**12.9**	**7.0**	**4.5**
- previous forecast		*9.5*	*5.6*	*4.2*
Nominal wages	**37.0**	**25.1**	**16.2**	**10.2**
- previous forecast		*21.1*	*13.7*	*10*

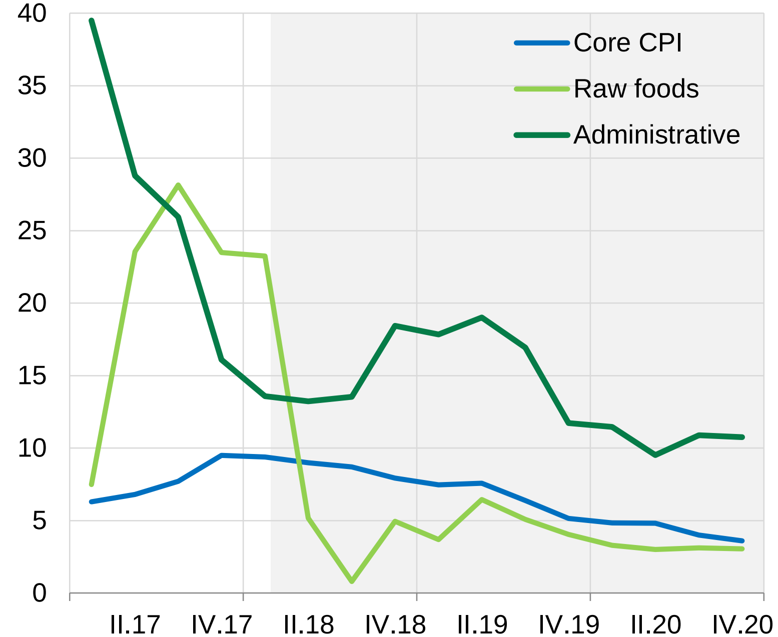
Higher inflation in 2018-2019 is driven by cost-push and demand-pull factors.

Headline CPI, %



Source: SSSU, NBU staff estimates.

CPI components, % yoy



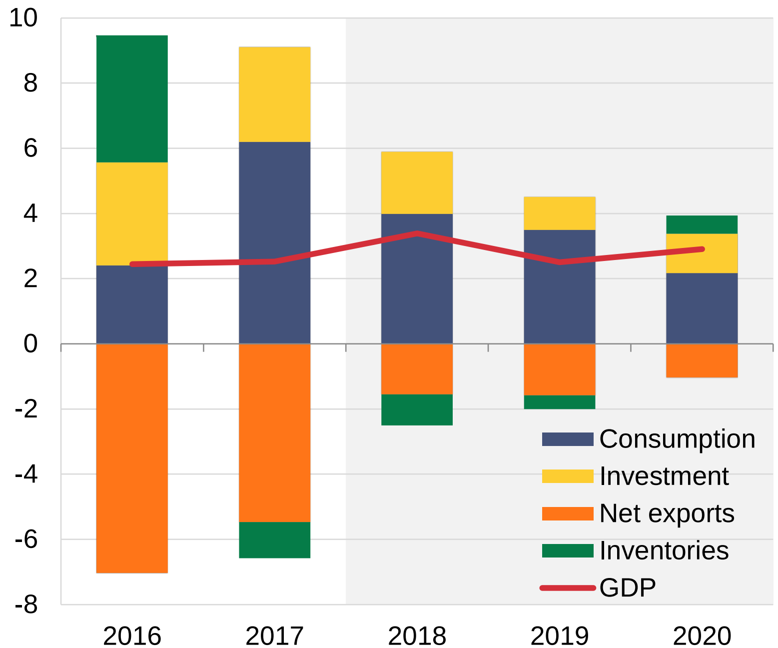
Source: SSSU, NBU staff estimates.

change, %	*weight, %*	2018		2019		2020	
CPI	***100.0***	**10.1**	***8.9***	**6.3**	***5.8***	**5.0**	***5.0***
Core CPI	*58.9*	7.9	*7.1*	5.1	*4.6*	3.6	*3.6*
Raw food	*18.6*	4.9	*5.4*	4.0	*4.0*	3.1	*3.5*
Admin	*18.5*	18.4	*16.6*	11.7	*11.6*	10.8	*10.4*
Fuel	*4.0*	17.5	*10.1*	7.4	*4.2*	5.0	*4.0*

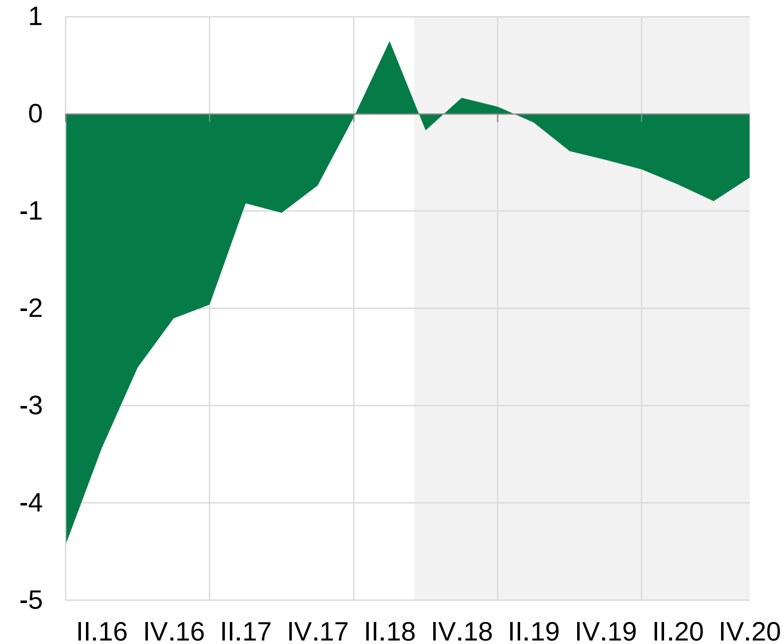
(gray color) – previous forecast (IR, July 2018)

GDP outlook is unchanged. Higher wages growth offsets worse terms of trade and lower demand from Turkey

Contributions to Real GDP Growth, pp



Output gap, % of potential GDP



	W,%	2017	2018	2019	2020
GDP	100	**2.5**	**3.4** (3.4)	**2.5** (2.5)	**2.9** (2.9)
Consumption	87	7.1	4.5 (4.5)	4.0 (3.0)	2.5 (2.5)
Private consumption	66	8.3	5.5 (5.5)	4.9 (3.7)	3.0 (3.0)
Gross fixed capital formation	16	18.2	10.9 (6.8)	5.7 (6.9)	6.7 (7.3)
Exports of G&S	48	3.5	1.3 (2.3)	1.0 (2.0)	1.2 (2.3)
Imports of G&S	56	12.8	4.2 (4.0)	4.3 (4.7)	3.2 (4.2)

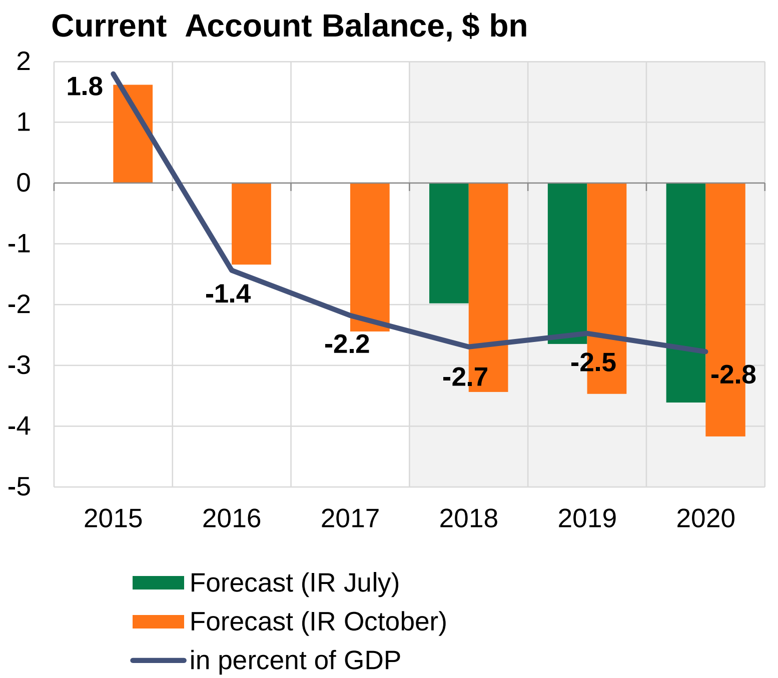
Grain harvest, mln. T	**65 (2018)** **65 (2019)** **65 (2020)**

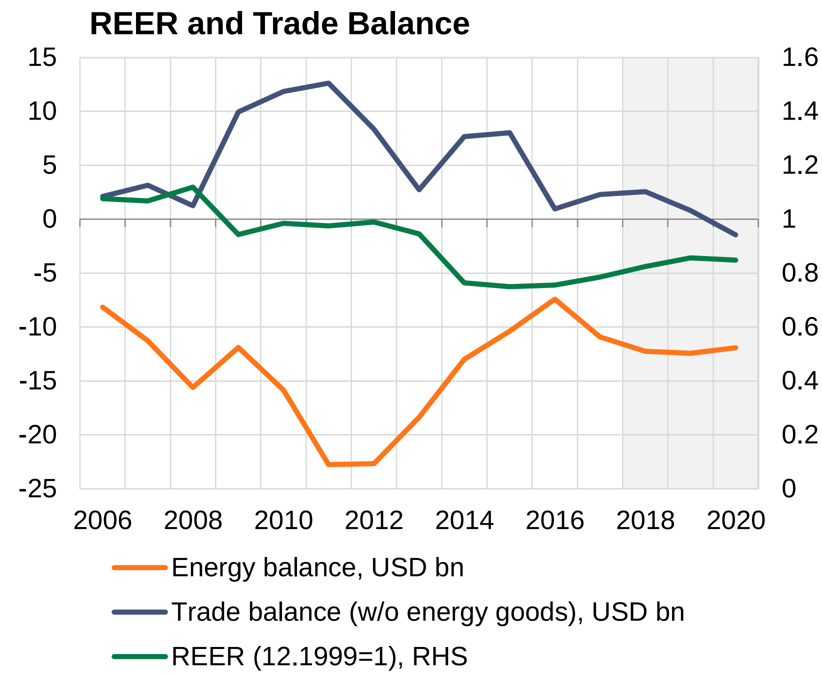
GDP factors:

- ↑ Wages growth
- ↓ Terms of Trade and External demand
- ↓ Tight monetary policy

in ( ) – previous forecast (IR, July 2018)

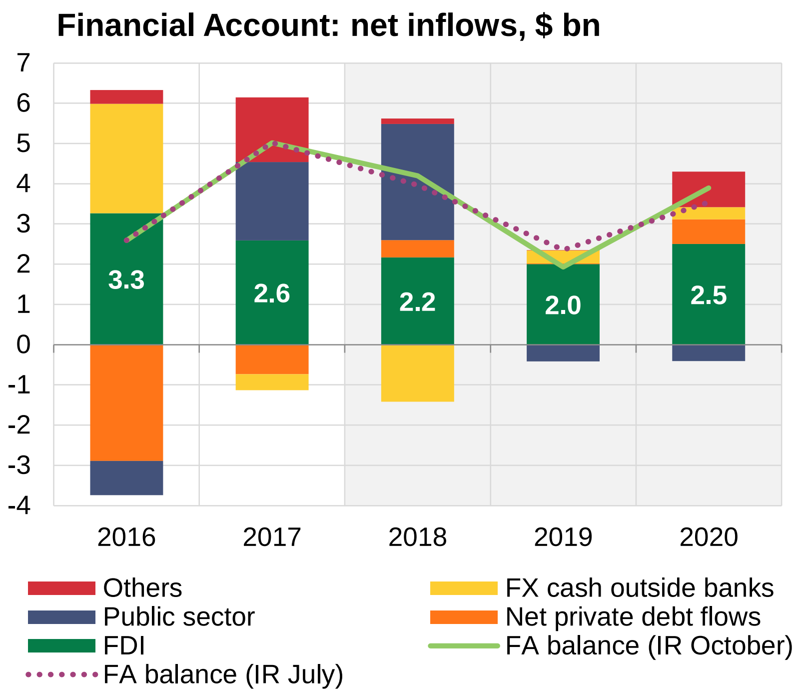
After widening of CA deficit in 2018, it remains at 2.5-3.0% of GDP amid growing remittances and lower dividends repatriation

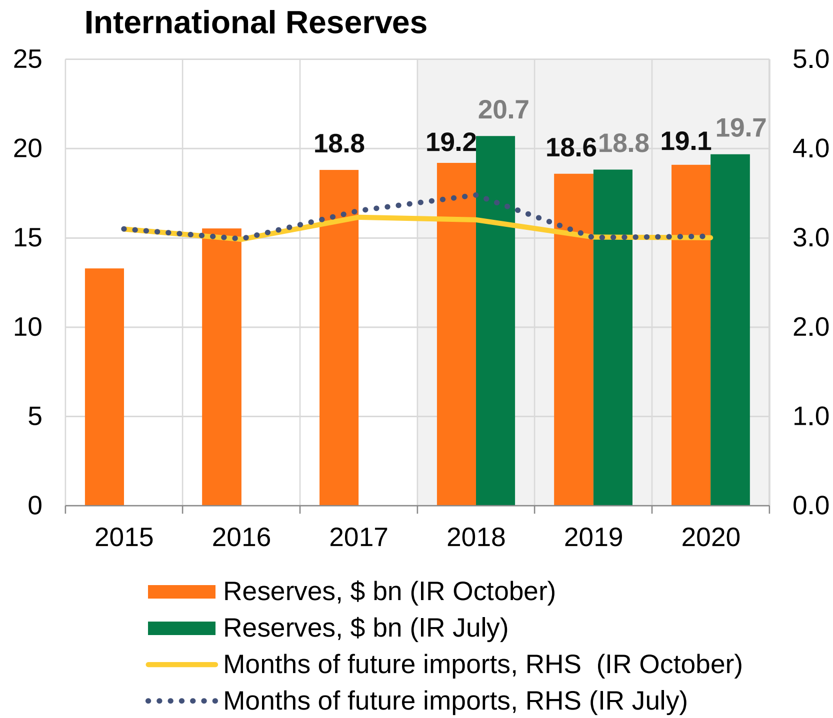




Main changes in CAB forecast in 2018-2020	
↓ Trade in goods	↓↓Terms of trade: ↑energy prices, ↓sunflower oil price
	↓ Volumes of exports: ↑Sunflower oil, ↓Metals, ↓Machinery
	↓ Volumes of imports: ↓Machinery, ↓Chemicals, ↑Metals
↑Services	↑ Price of gas transit
↑ Dividends	↑ Strong financial results

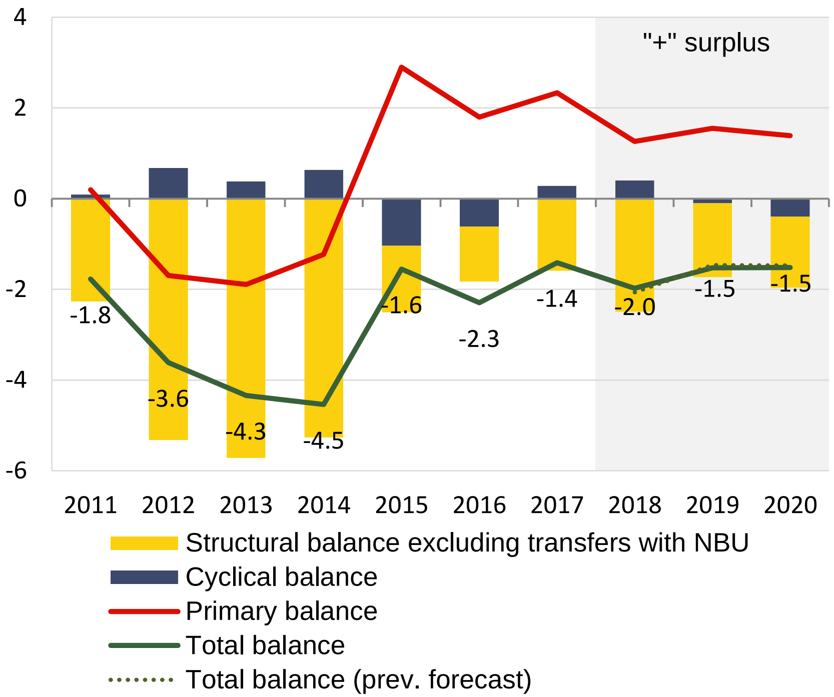
In 2019-2020, financial account's inflows will be primarily directed to the private sector



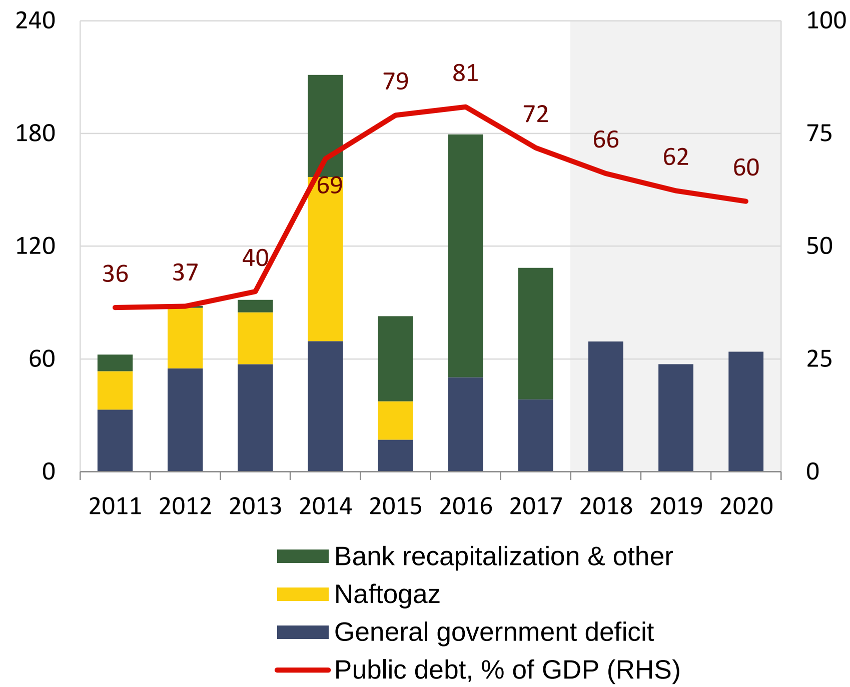


Fiscal policy will be tight due to lack of financing. Public debt decreases thanks to primary surplus and low official borrowings

Consolidated Budget Balance, % GDP



Public Sector Deficit, UAH bn, and Public Debt-to GDP Ratio, %



Key risks

Key risks to the baseline macroeconomic scenario are worsening of **inflation expectations** and **external environment**

- **inflation expectations** could deteriorate amid the approaching presidential and parliamentary elections in 2019

- **turbulent external environment**, in particular:
  - faster cooling of the world economy
  - the outflow of capital from EM, as a result of the rapid transition to tighter monetary policy of AE central banks
  - lower world prices for commodities
  - the further rise in energy prices
  - high risk of “trade wars”
  - geopolitical risks

- Further intensification of **labor migration** to the EU

! In case of inflationary pressure to maintain or strengthen, the National Bank of Ukraine **may increase the key rate**