National Bank of Ukraine

Inflation Report (April 2018)

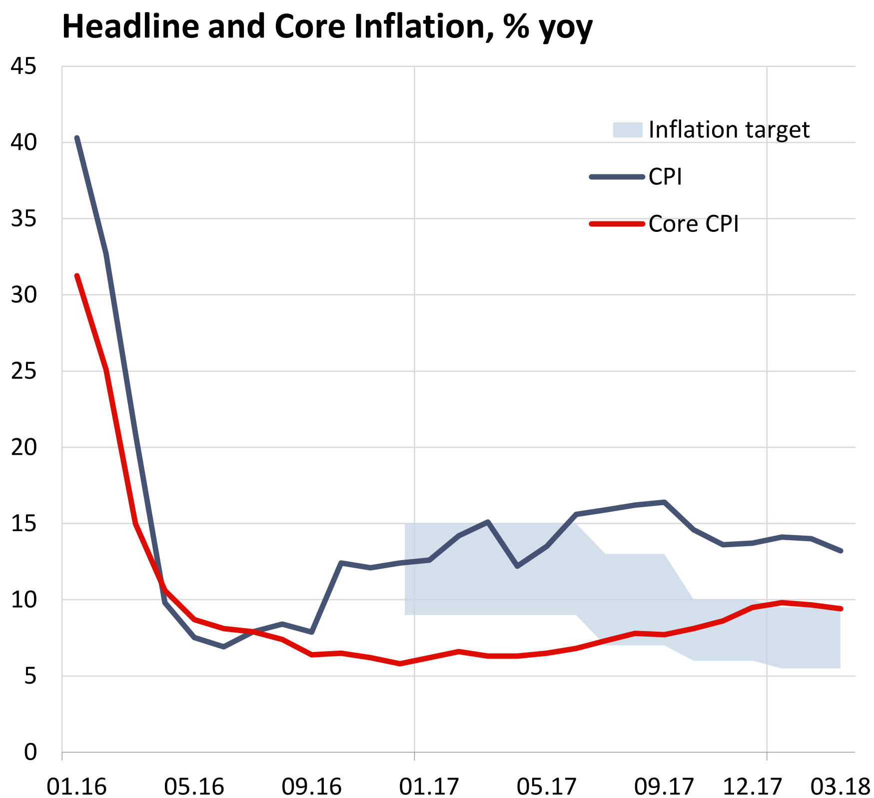
Kyiv

April 24, 2018

Monetary policy decision: Summary

- In April, the NBU Board decided to keep on hold its key policy rate at 17.0%
- After four hikes of the key policy rate, the current monetary conditions are considered to be sufficiently tight in order to ensure disinflation in mid-term
- The previous key policy rate hikes:
  - have expectedly made hryvnia financial instruments more attractive, which encouraged foreign capital inflows and led to exchange rate appreciation
  - will continue to impact deposit interest rates of commercial banks, thus restraining inflation
- Many factors determine high inflation this year, but NBU will pursue a sufficiently tight monetary policy which will bring inflation back to the target range in the middle of 2019 and to the target of 5% in 2020

Following a remarkable disinflation in 2016, consumer inflation hovered at low double digits throughout 2017 and into the beginning of 2018



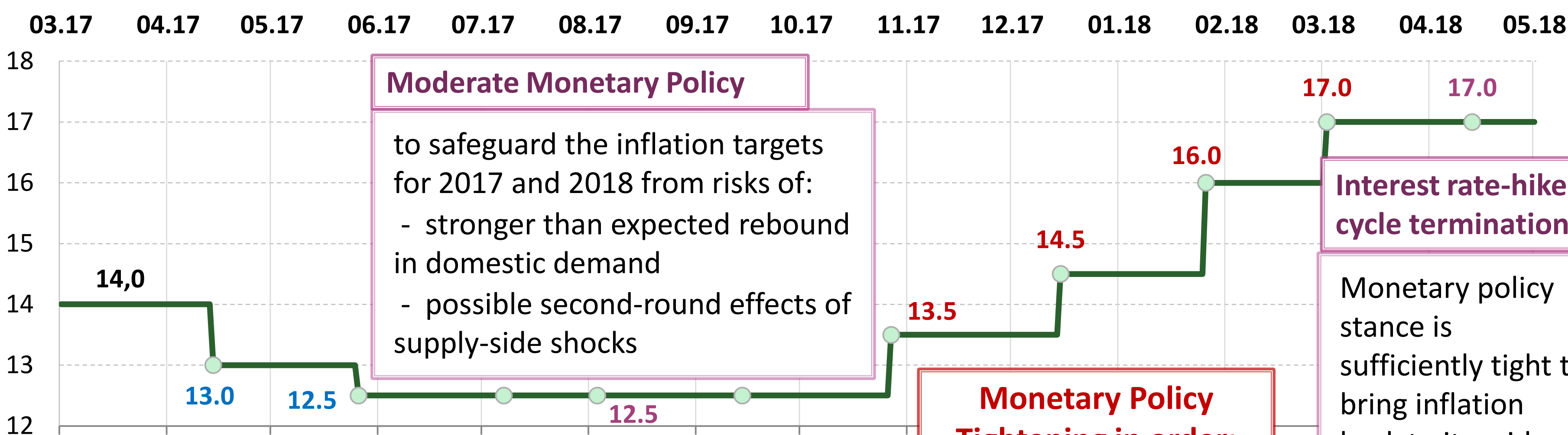
Source: State Statistics Service of Ukraine (SSSU)

Source: NBU; GfK Ukraine surveys; NBU staff estimates

- Inflation has been above the target band since mid-2017 due to food supply shocks, related price movements, higher costs for labor and stronger domestic demand
- On the other hand, favorable FX market developments partially offset the impact of demand-pull and cost-push factors
- Inflation expectations for the next 12 months remained elevated at the beginning of the year, but have recently started to show signs of improvement

Responding to growing inflation risks, the NBU halted an easing cycle of monetary policy in mid-2017 and switched to a tightening cycle in Oct-2017

Key rate, %



Moderate Monetary Policy

to safeguard the inflation targets for 2017 and 2018 from risks of:

- stronger than expected rebound in domestic demand
- possible second-round effects of supply-side shocks

Interest rate-hike cycle termination

Monetary policy stance is sufficiently tight to bring inflation back to its mid-term target

Monetary Policy Easing:

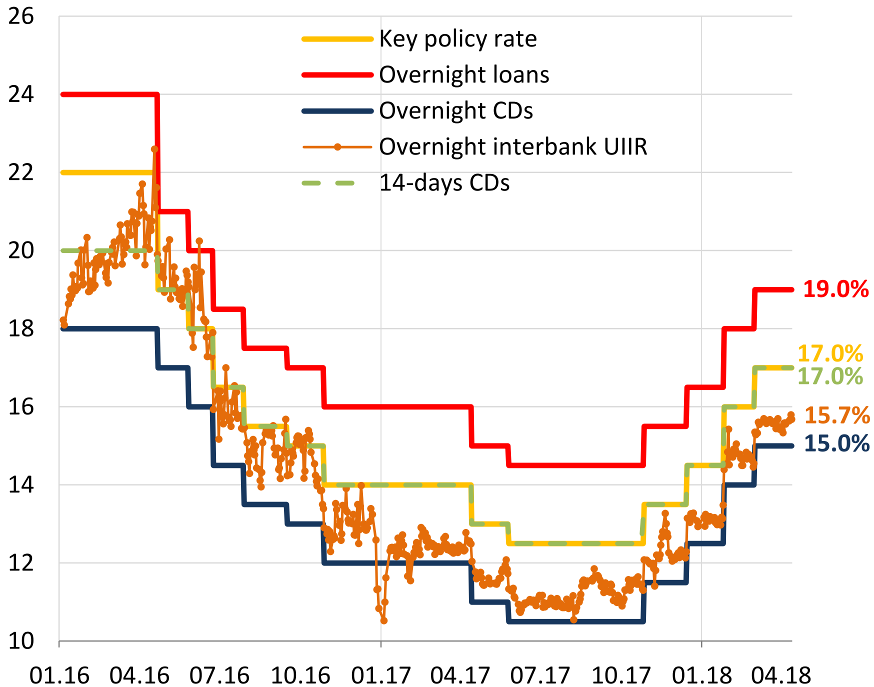
- improving inflation expectations
- the IMF program renewal
- Improving terms of trade
- favorable developments on FX market and exchange rate appreciation

Monetary Policy Tightening in order:

- to reduce impact of pro-inflationary risks:
  - the acceleration of consumer demand due to increase in social standards
  - deterioration of FX-market conditions in the last months of the year
  - delay in official financing
- to prevent further deterioration of inflation expectations
- to decrease inflation and bring it back to the target range in the middle of 2019

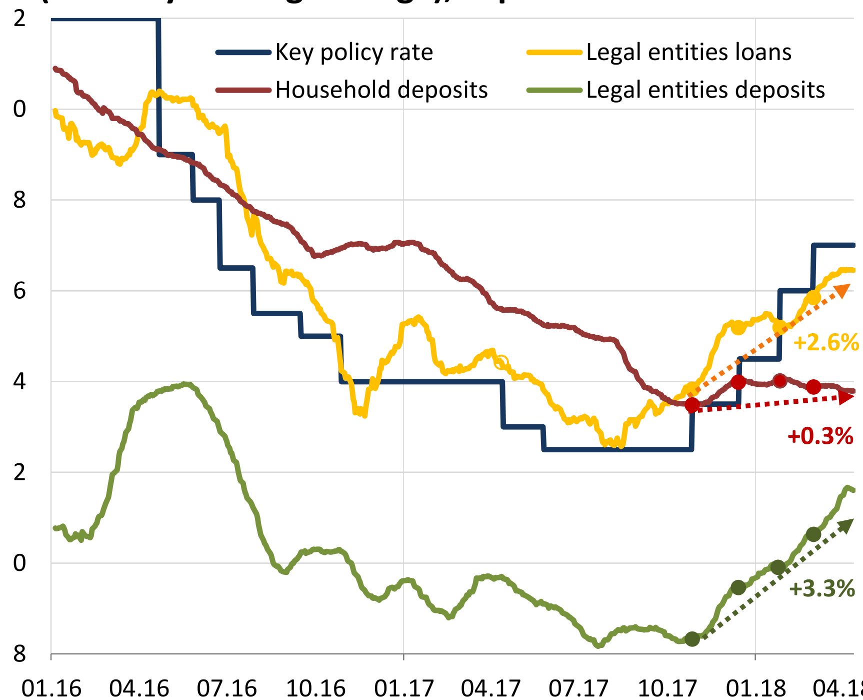
Key policy rate hikes swiftly transmitted into market interest rate increases

NBU Policy Rates and Ukrainian Index of Interbank Rates (as of 13.04.2018), % pa



Source: NBU

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



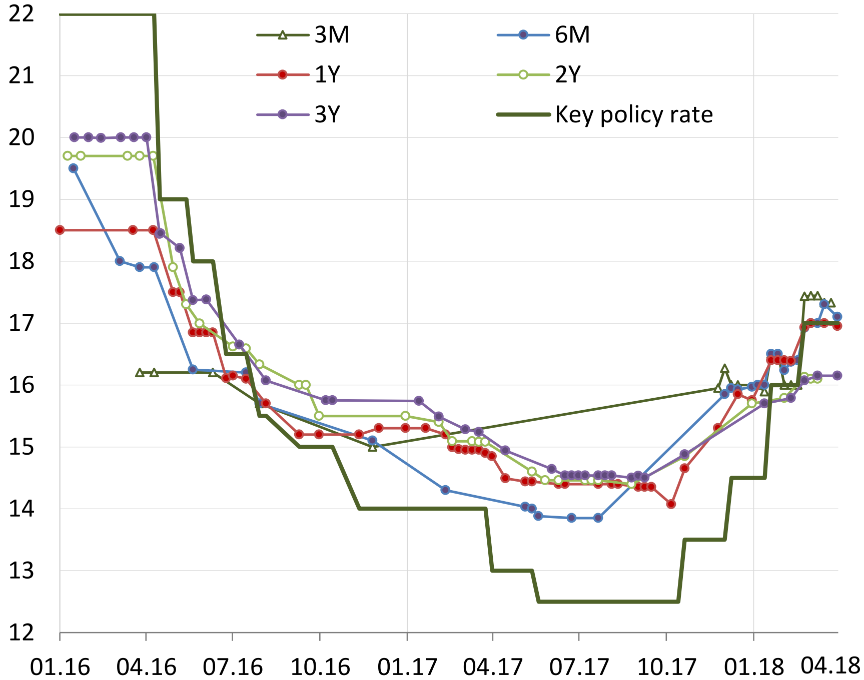
Note: arrows indicate an increase in rate after 26 October 2017 (the beginning of the NBU policy rate hike cycle)

Source: NBU

- In April 2016, the NBU strengthened the role of interest rate policy by defining the key rate as the interest rate on key NBU operations (the provision or absorption of liquidity), setting a symmetric and fixed band for standing facilities, and optimizing auxiliary tools
- Since then, market rates on hryvnia resources have followed NBU key rate changes relatively closely, although hryvnia deposit and lending rates for households have shown a somewhat weaker response

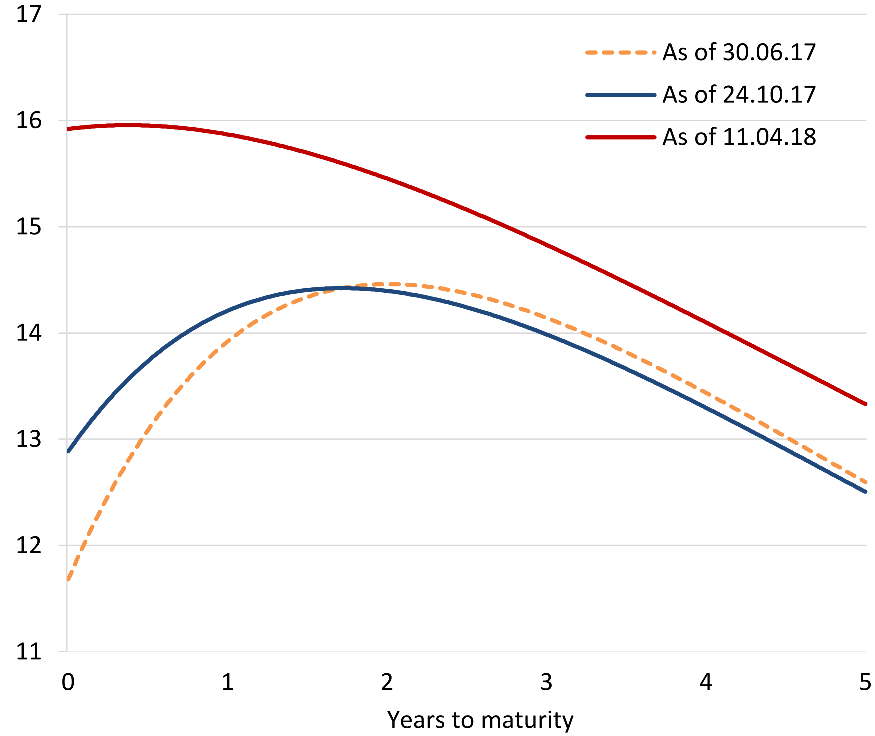
The NBU policy rate is now a key factor determining the short-term end of the yield curve for government bonds

Term Structure of Hryvnia Yields on Primary Market (as of 10.04.2018), % pa



Source: NBU

Zero-Coupon Yield Curve for Hryvnia Bonds*, % pa

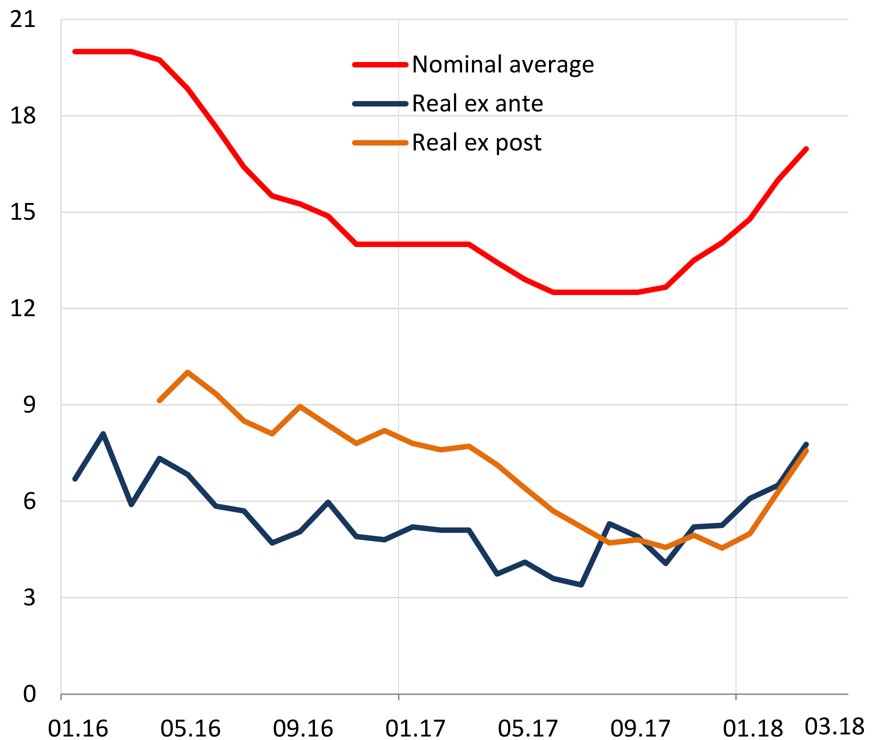


Source: NBU

- Since mid-2017, yields on hryvnia government bonds have grown across all maturities. This increase partly reflected higher government activity in the domestic borrowing market
- The short end of the yield curve for government bonds is most sensitive to changes in NBU policy rates

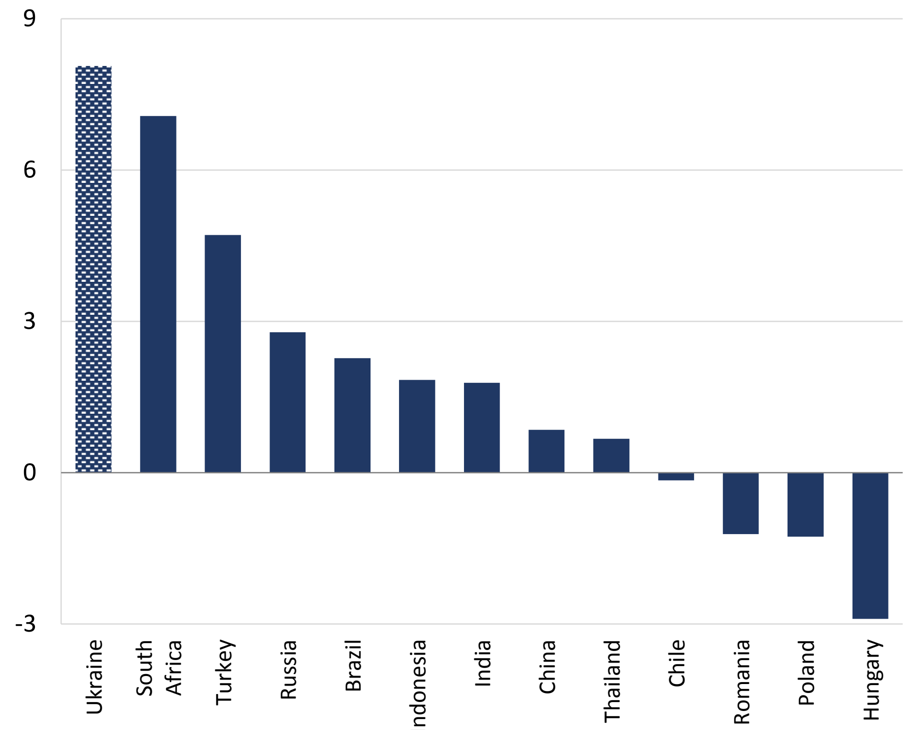
The NBU's monetary policy stance remained rather tight throughout 2017, but further tightening was needed to contain inflationary pressures

Nominal and Real NBU Key Policy Rate*, % pa



*Nominal rate is NBU's rate on 14-day CDs as of end of the month
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

1-Year Real Interest Rates for EM countries, % (as of 10 April 2018)

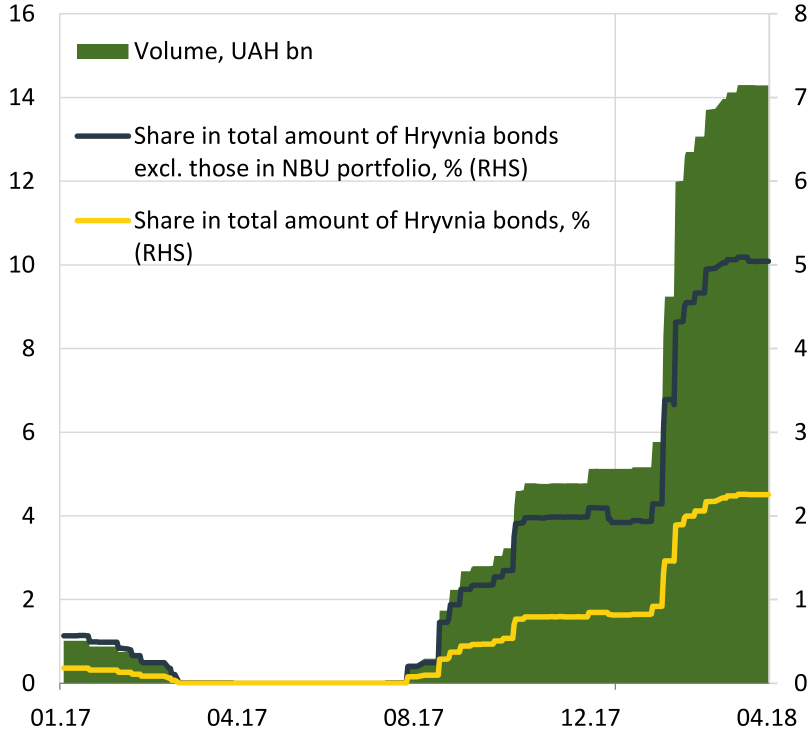


Real interest rate is calculated as the difference between 1-year bond yield (eop) and the 12-month ahead inflation forecast from the IMF's WEO
Source: Thomson Reuters Datastream, IMF WEO, NBU calculations

- Despite monetary policy easing in H1 2017, the NBU's monetary policy stance in 2017 remained rather tight, as the real key rate fluctuated in the range of 3.5-5.0%, and recently reached about 7%
- As of the beginning of 2018, Ukraine's real interest rates were among the highest in the EM countries

Box. Higher interest rates have already contributed to stronger demand for hryvnia financial instruments

Hryvnia Government Bonds held by Non-Residents



Source: NBU

PROS/CONS of increase in the share of foreign investors

Lowers gov. bond yields:↑1% of share ↓yields by 6 bp on average for EM *(Peiris, 2010)*, in a range of 3.2-4.3 for AE *(Andritzky, 2012)*

Increases market liquidity and market efficiency: a greater diversity of investors has played a leading role in enhancing market liquidity and developing secondary markets in several countries *(BIS, 2007)*

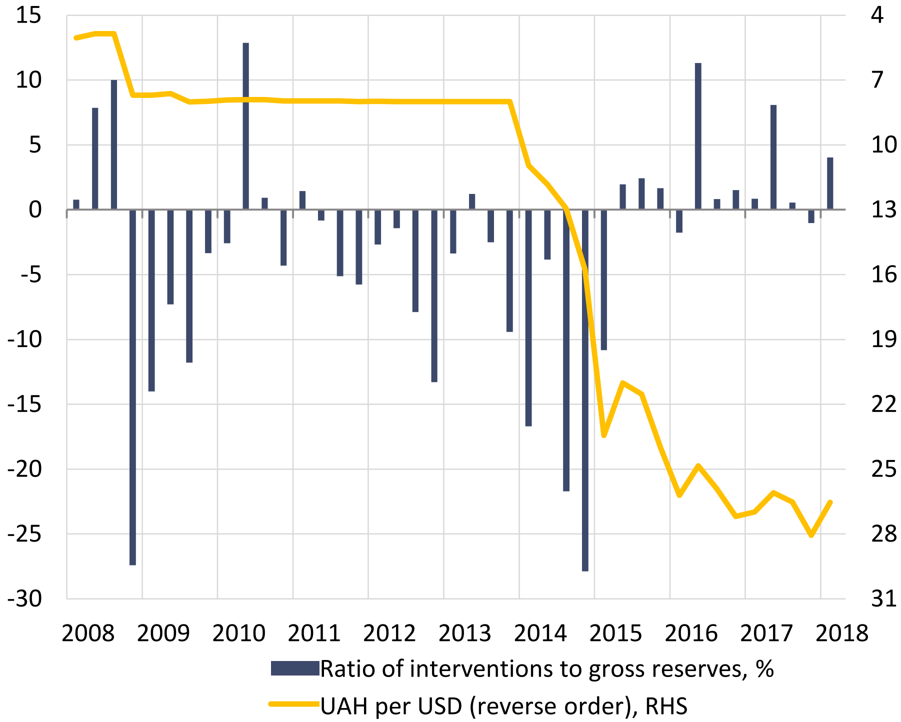
Deepens the market: ↑ of gov. bonds holdings in local currency reduces the reliance on the FX borrowings and risk linked with currency mismatch *(Burger, 2009)*, and contributing to financial stability *(Park et al., 2017)*.

Excessive market volatility: induces volatility in response to changes in fundamentals and market sentiments *(Peiris, 2010, Furceri et al., 2011, Andritzky, 2012)*

- Non-residents' portfolios of hryvnia bonds increased from almost zero in mid-2017 to current UAH 14 bn
- Monetary policy tightening, conducted since October 2018, as well as upgrades of sovereign ratings and tax amendments boosted foreign capital inflows into hryvnia bonds
- The NBU currently assesses the risk of capital outflow as low – the share of non-residents in the total volume of hryvnia bonds in circulation is about 2%, the ratio to GIR - 3%

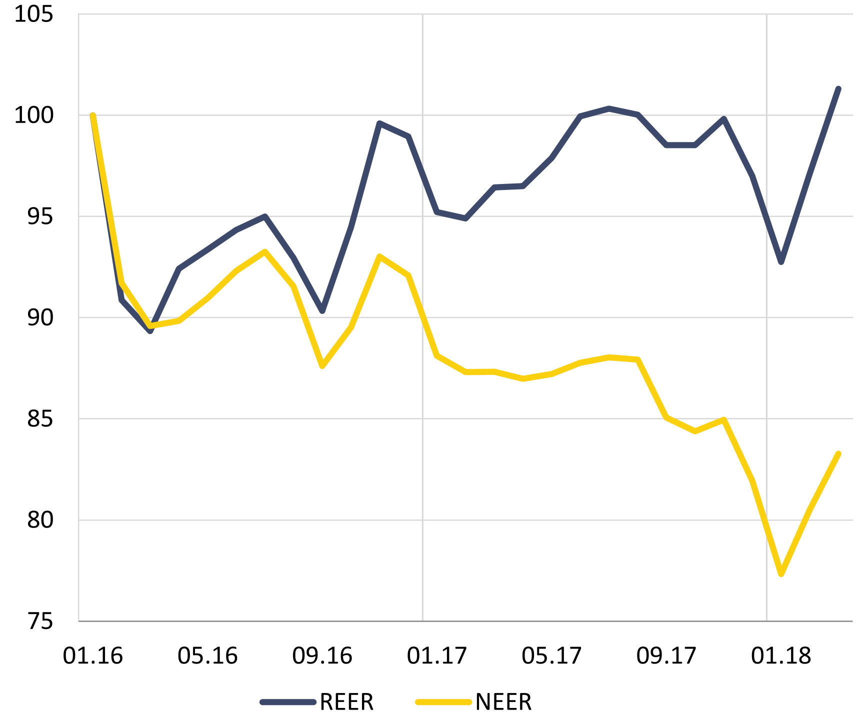
The NBU remains committed to a flexible exchange rate policy. However, it continues to play an active role in the FX market

Reaction to FX Market Pressures: Reserves vs Exchange Rate, as of 01.04.2018



Source: NBU calculations

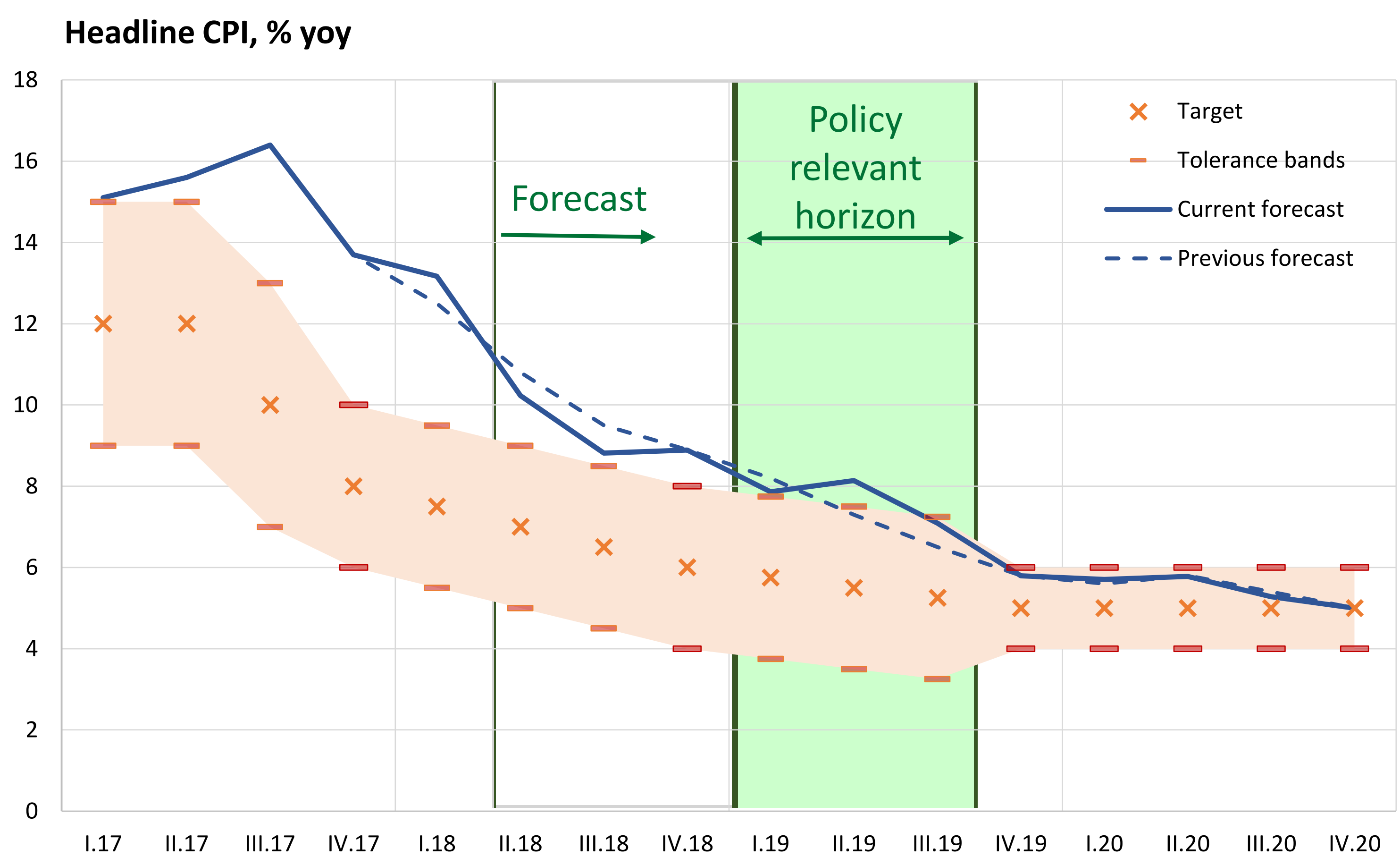
Hryvnia REER and NEER Indices (based on interbank exchange rate), 12.2014=1



Source: IFS, NBU staff estimates

- Interventions are performed to achieve clear and specific tasks (e.g., smoothing ST exchange rate volatility and replenishing international reserves)
- As a result, over the last several years REER has remained relatively flat, while lower FX volatility has helped maintain macroeconomic and financial stability
- Conditional on the situation in the FX market, the NBU has been relaxing FX restrictions

Tighter monetary policy will help bring inflation to the target by mid-2019



- Demand pressure is to be the main inflationary factor, due to rapid household income growth resulting from both higher social standards and a further increase in wages in the private sector amid high demand for labor
- Past increases in prices for raw foods (mainly meat and raw milk) will continue to pass through to the prices of processed foods in core inflation

Forecast summary

- External environment remains favorable: compared with January forecast, stronger global outlook determines higher export prices (metals and iron ore)
- GDP outlook remains unchanged as impact of higher export prices is offset by stronger hryvnia. Fiscal impulse and favorable external factors boost GDP in 2018 (3.4%), but later as the effects of the fiscal easing wear off and tight monetary conditions gain full strength, economic growth slows down (to 2.9% in 2019-2020). Revision of GDP reflect stronger domestic demand in 2016-17. Output gap revised upwards on forecast horizon
- Inflation outlook remains unchanged for 2018-2020. Higher inflation at the beginning of 2018 and slightly stronger demand pressure are compensated by effects of UAH appreciation.
- Revision of remittances data reduced CA deficit to 1.9% GDP in 2017, which is gradual widening to 2.6% GDP in 2020 due to REER appreciation and robust domestic demand
- Among the main risks to the baseline scenario are premature termination of the IMF program amid tough external public debt servicing in the next years, additional fiscal loosening, military conflict escalation, and global trade wars

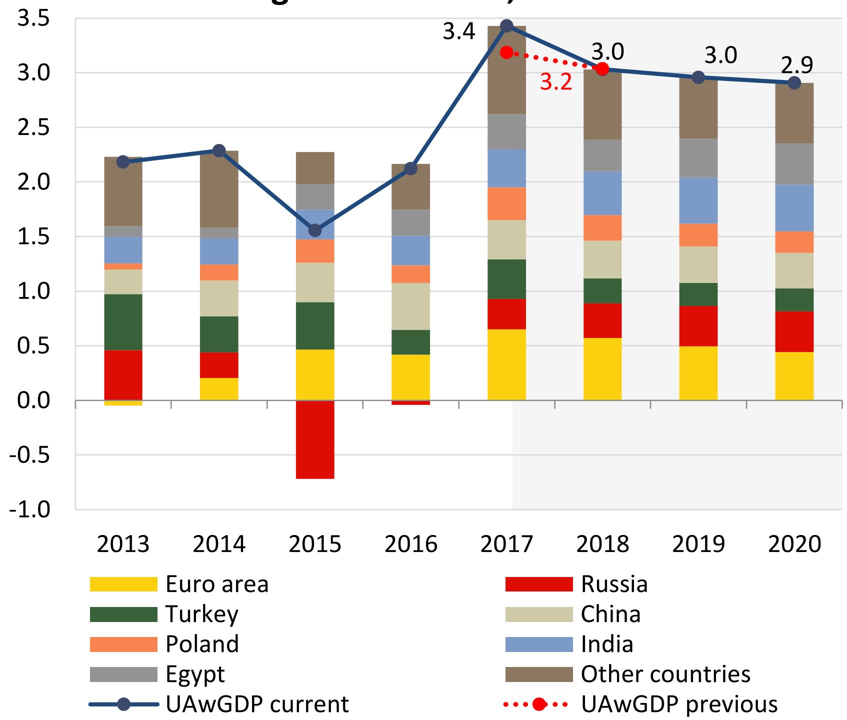
Key macroeconomic indicators

	2017	2018f	2019f	2020f
Real GDP, % yoy	2.5 (2.1)	3.4 (3.4)	2.9 (2.9)	2.9 (2.9)
Nominal GDP, UAH bn	2983 (2930)	3451 (3394)	3842 (3779)	4186 (4117)
CPI, eop, % yoy	13.7 (13.7)	8.9 (8.9)	5.8 (5.8)	5.0 (5.0)
Core CPI, eop, % yoy	9.5 (9.5)	7.7 (8.2)	4.8 (4.8)	3.3 (3.2)
Current account balance, USD bn	-2.1 (-3.8)	-2.4 (-3.5)	-3.2 (-4.2)	-3.9 (-4.7)
BOP (overall), USD bn	2.6 (2.6)	2.6 (1.8)	-0.8 (-1.1)	0.0 (-0.1)
Gross reserves, USD bn	18.8 (18.8)	21.6 (20.5)	19.1 (17.8)	20.0 (18.6)

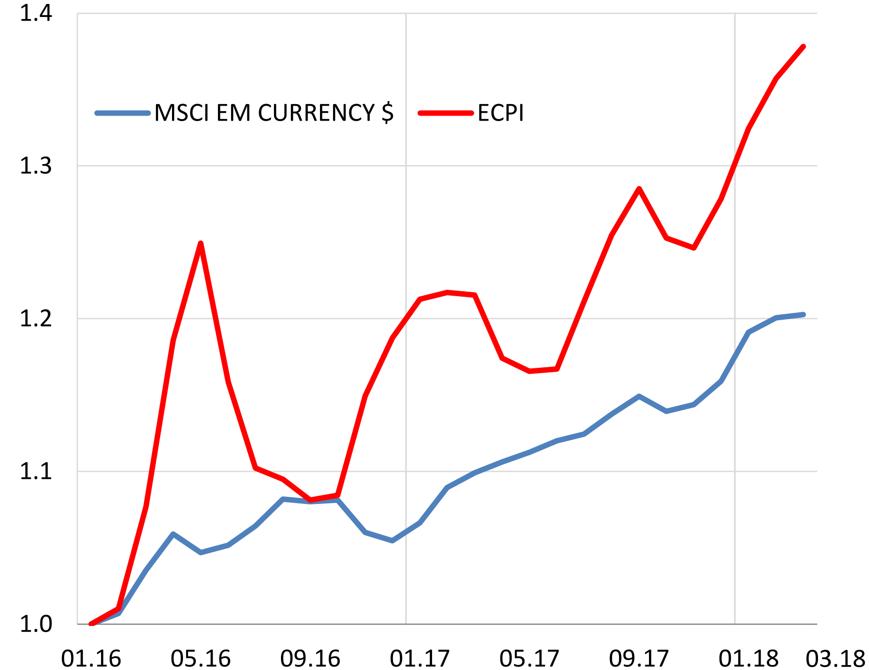
In parentheses: previous forecast (Inflation Report, January 2018)

The external environment remains favorable for Ukraine, given brisk growth in trading partners, rising commodity prices and benign financial conditions

Contributions of Ukraine's MTP[1] Countries to the Annual Change in UAwGDP[2], %



External Commodity Price Index (ECPI[3]) and MSCI EM Currency, Jan. 2016=1

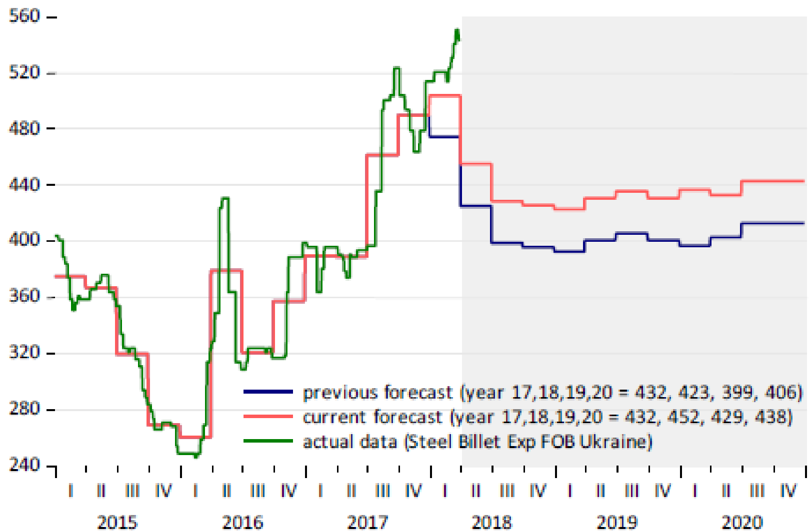


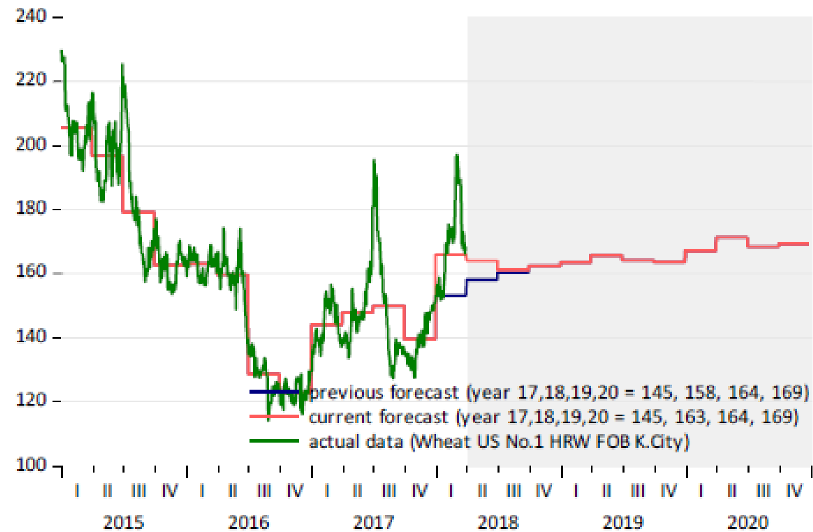
[1]MTP – main trading partners; [2]UAwGDP - the weighted average of annual economic growth rates of Ukraine's MTPs , [3]ECPI - an index of changes in global prices for Ukrainian export commodities.

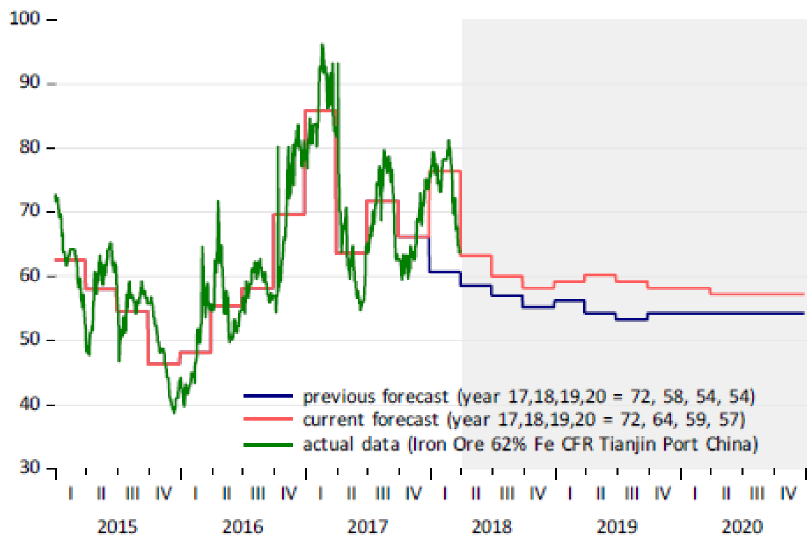
Source: Thomson Reuters, NBU staff estimates

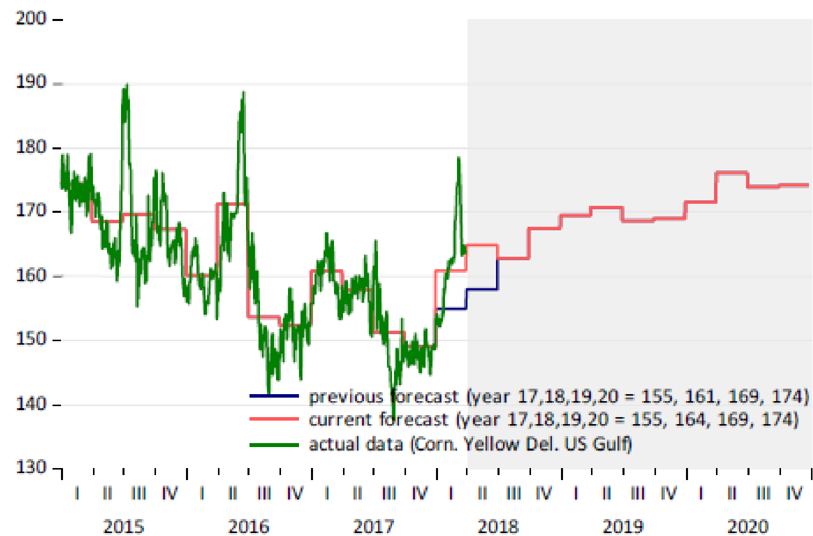
- The global economy is in an expansion phase, thanks to stronger domestic demand and a pickup in international trade
- EM currencies are on the rise amid continued capital inflows, US dollar weakness, and surging commodity prices

Higher steel and ore prices caused by faster global economy growth before plunge in Q2 2018. Weather conditions fuel cereals prices



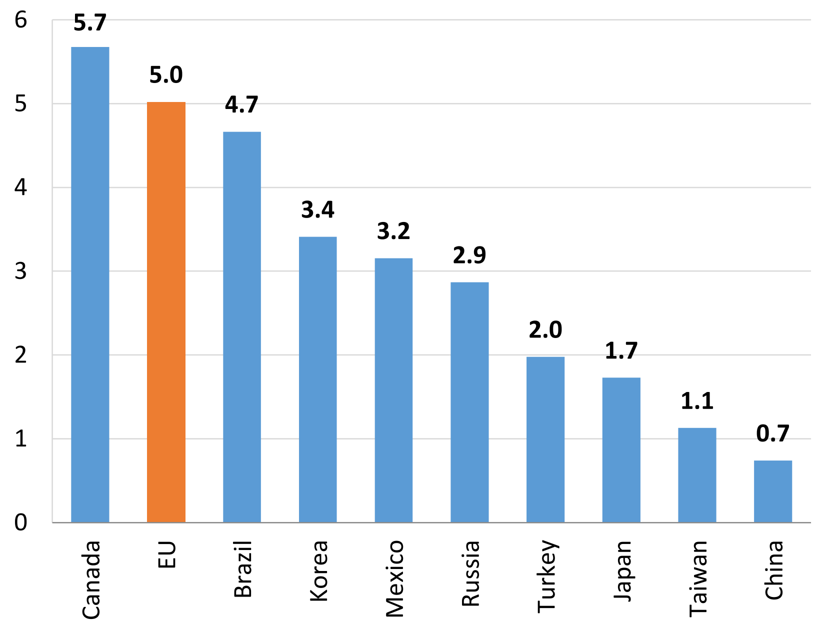






Box. The recent outbreak of protectionism creates downside risks to the global trade and global growth prospects

U.S. Steel Imports, 2017, ml t



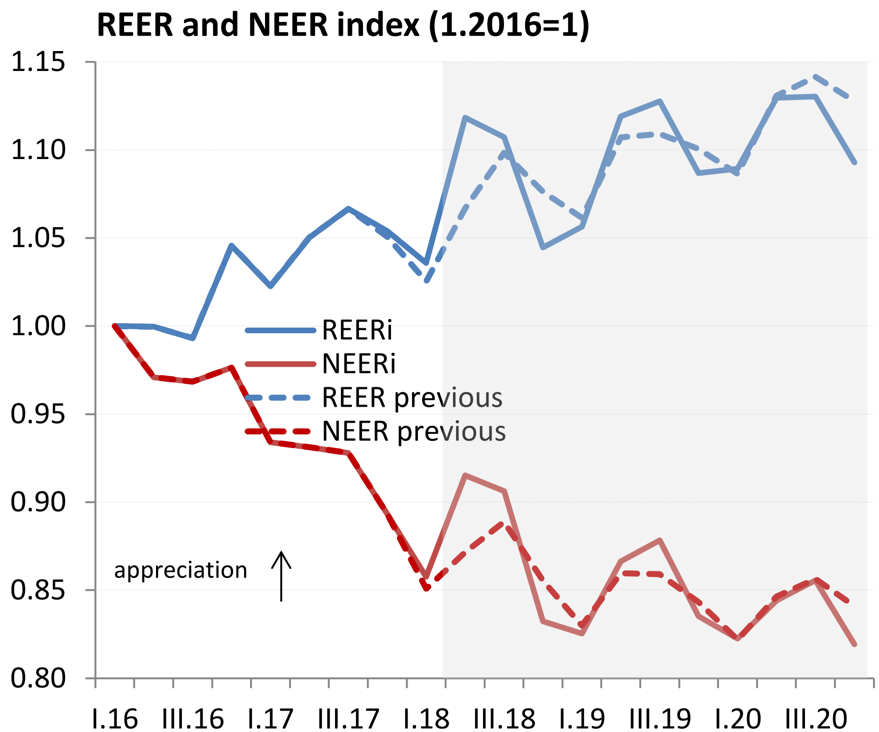
Source: U.S. Commerce Department

What do you consider the biggest "tail risk"?

Source: BofA Merrill Lynch Global Fund Manager Survey

- U.S. introduced additional import duties on steel and aluminum products. Previous experience (2002) shows that such practice is unlikely to revitalize domestic producers while imposing costs on the rest of the economy
- China is not likely to be hit, while EU may suffer significantly as it is a reasonable assumption that the imports deflected by the US will go to the EU market
- Other countries are ready to impose retaliatory measures against US goods which could lead to the unfolding trade wars
- A potential trade war is now seen as the biggest tail risk for global economy and trade

Real effective exchange rate continues to appreciate in 2018-20, even faster that projected earlier

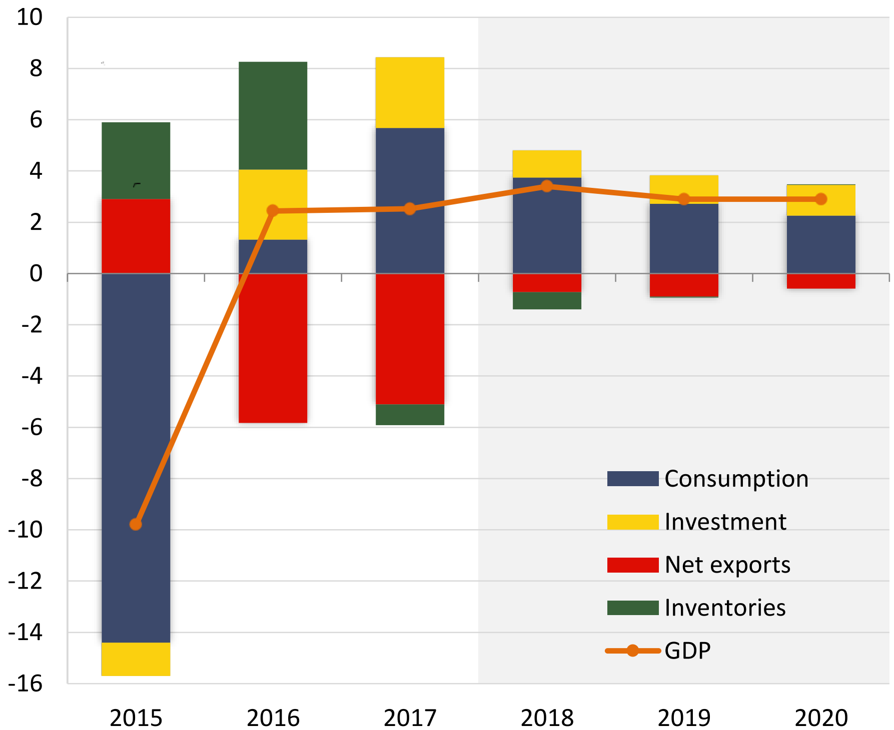


average	2017	2018	2019	2020
REER, % change	+3.8	+2.7 (+1.8)	+2.0 (+2.6)	+1.2 (+2.5)
NEER, % change	-5.9	-4.8 (-6.0)	-3.0 (-2.2)	-1.9 (-0.8)

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

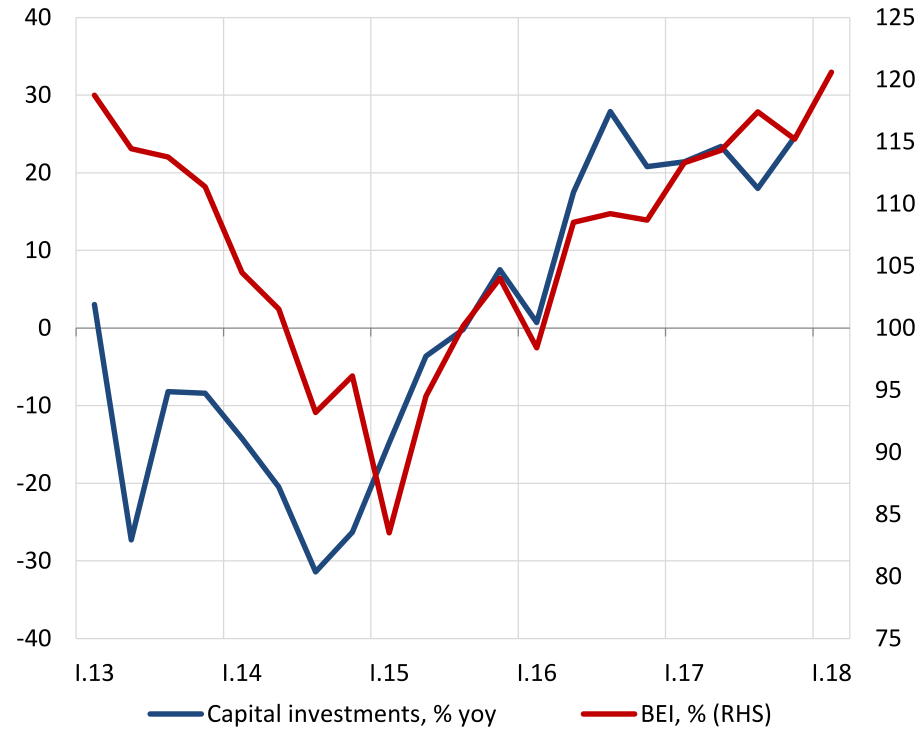
In 2018, the acceleration of economic growth is driven by consumer domestic demand. Tight monetary conditions restrain real GDP growth in 2019-2020

Contributions to Real GDP Growth, pp



Source: SSSU; NBU estimates and forecast (April 2018 IR)

Capital Investments and Business Expectations Index

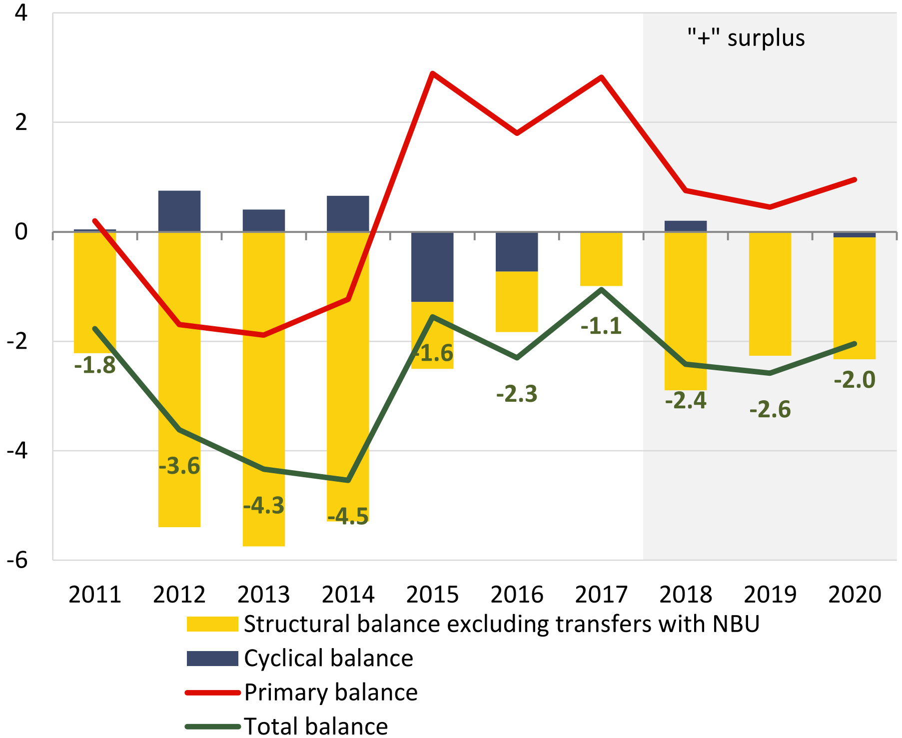


Source: SSSU; NBU staff estimates based on surveys of enterprises

- GDP grew by 2.5% yoy in 2017, underpinned by strengthening consumption and robust investment demand
- Fiscal impulse and a favorable external environment will support real GDP growth in 2018, but tight monetary conditions will have a restraining effect
- Investment activity will stay robust, benefiting among other things from an improving business climate

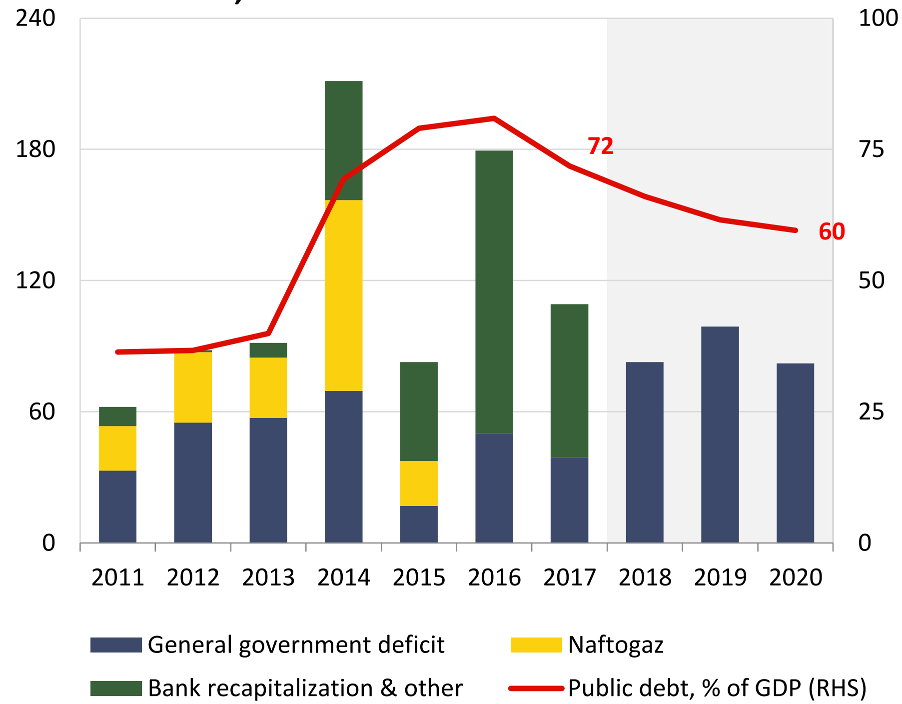
The surge in social spending stimulates economic activity, although generates inflationary pressures

Consolidated Budget Balance, % of GDP



Source: MFU, NBU calculations

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

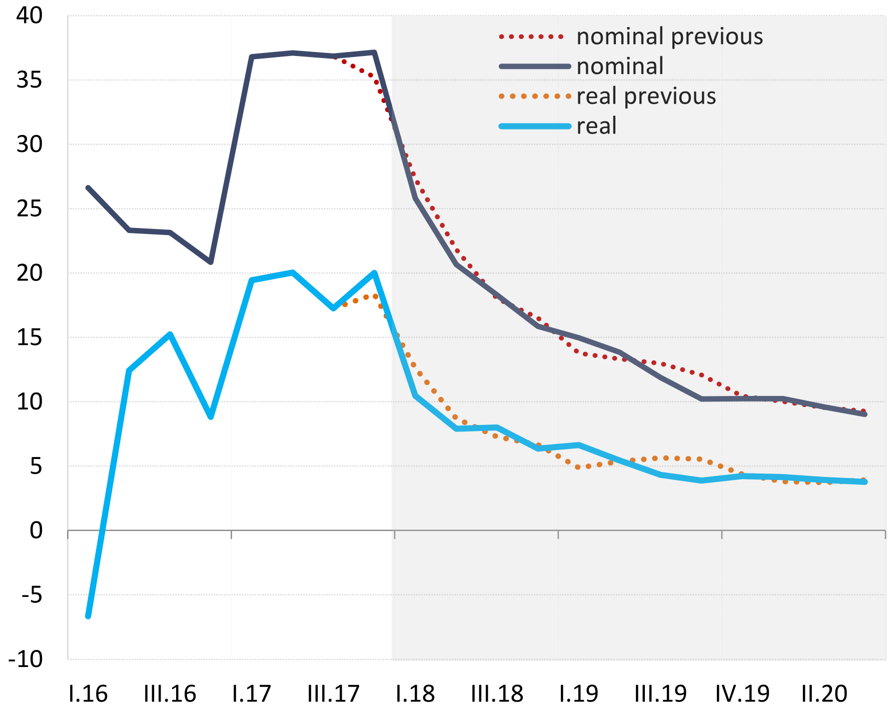


Source: MFU, SSSU, NBU calculations

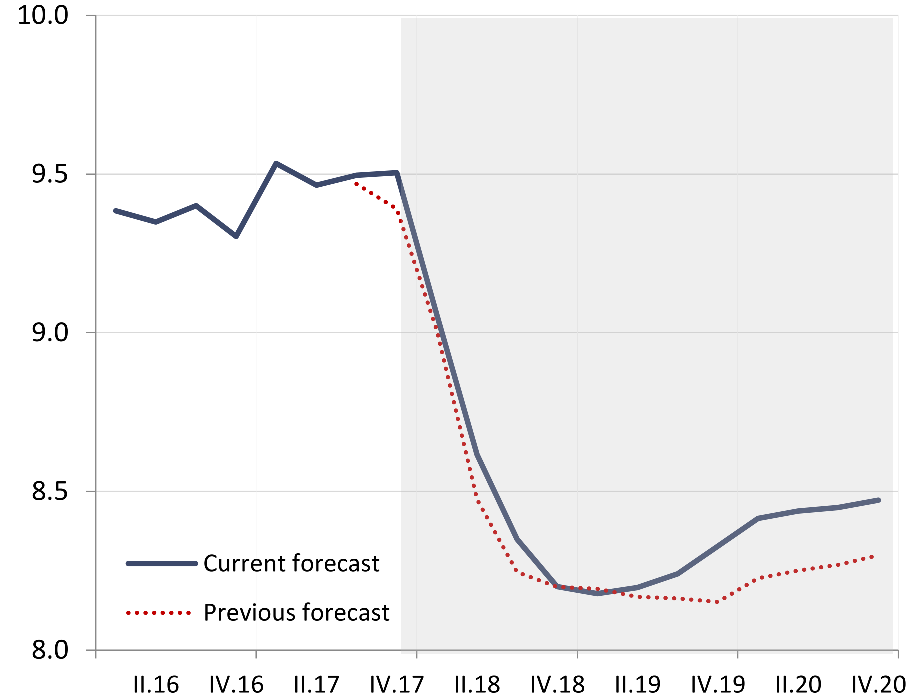
- The fiscal policy has largely been in check over the last three years, although the latest social spending increases (minimum wage hike, pension increases) have pushed inflation up
- The fiscal deficit is to remain in the 2-3% of GDP range in 2018-20, while the public debt to GDP ratio will slide further, gradually approaching the threshold of 60%

Strong domestic and foreign demand for labor determine squeezing unemployment rate and fast but decelerating growth of wages

Nominal and real wages, annual change, %



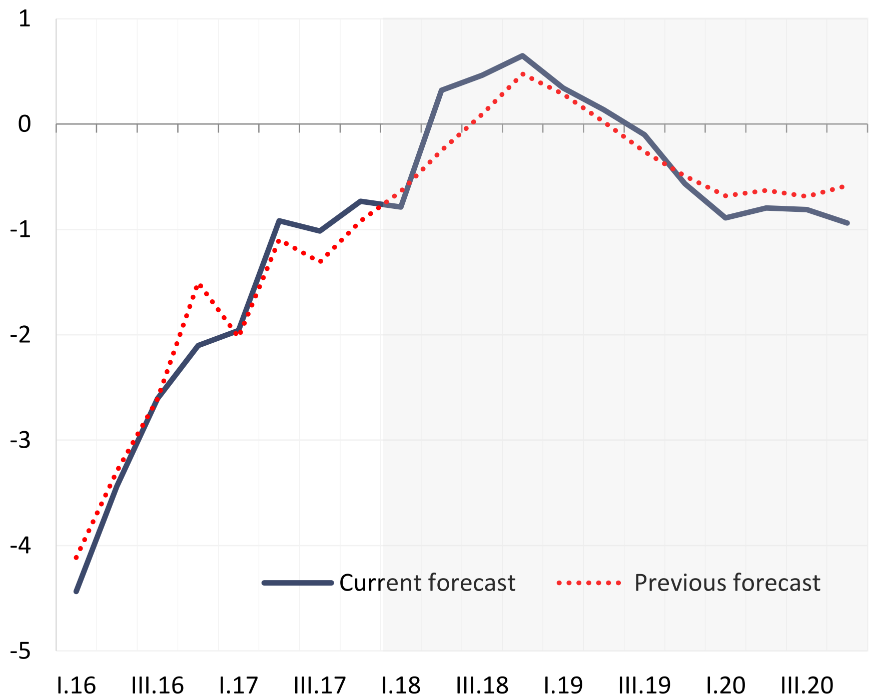
ILO unemployment, sa, %



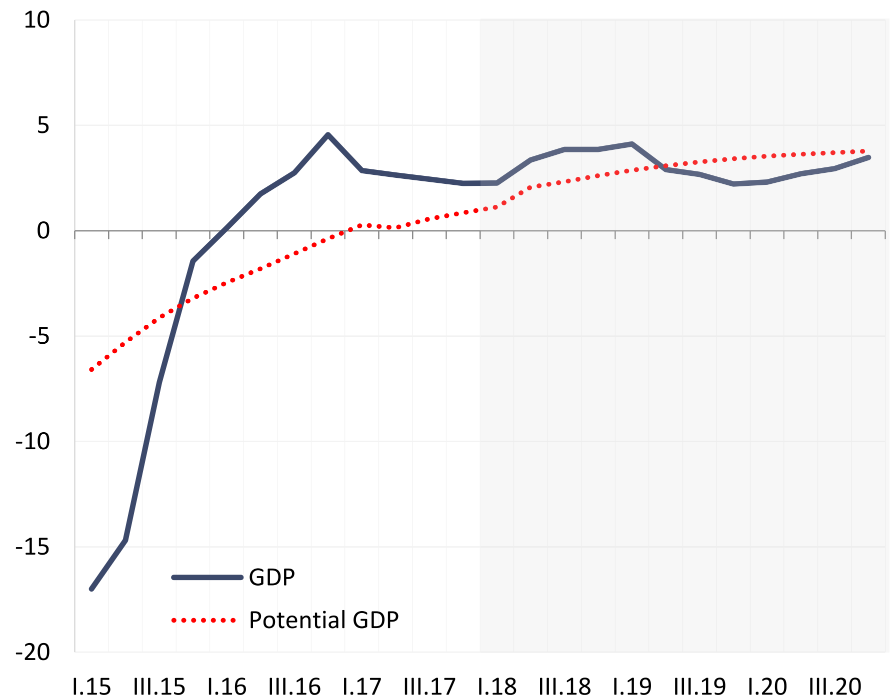
Year average, %	2018	2019	2020
Nominal wages, hrn	8 520 (8 540)	9 600 (9 650)	10 530 (10 580)
Real wages, %	8.1 (8.7)	5.0 (5.4)	4.0 (4.0)
Unemployment, %	8.6 (8.5)	8.2 (8.2)	8.4 (8.3)

Negative output gap closure in 2018 reflects strong fiscal impulse, but negative output gap opens up again in 2019 due to tight monetary policy

Output Gap, % of Potential GDP



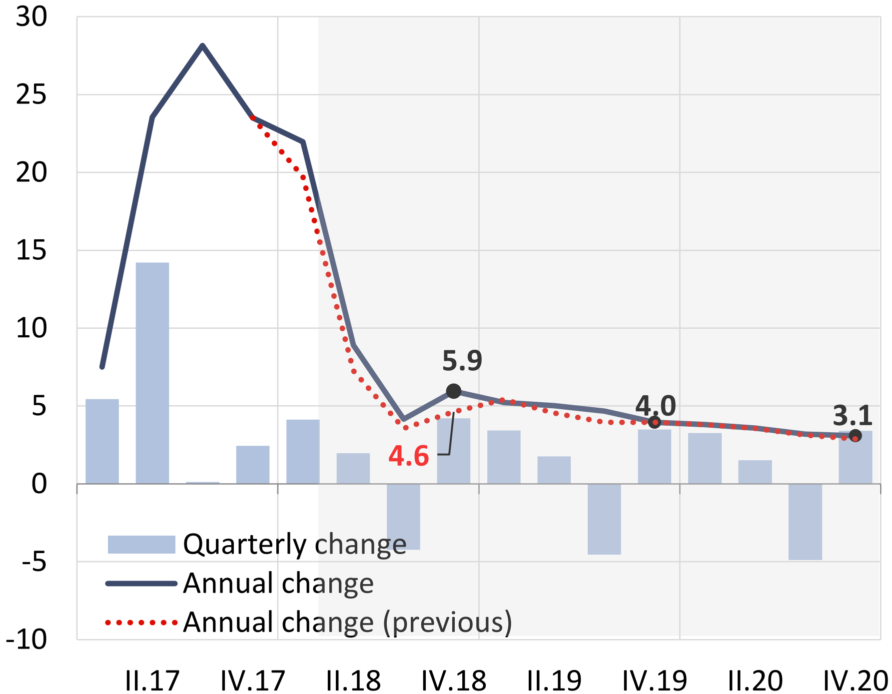
GDP & Potential GDP YoY, %



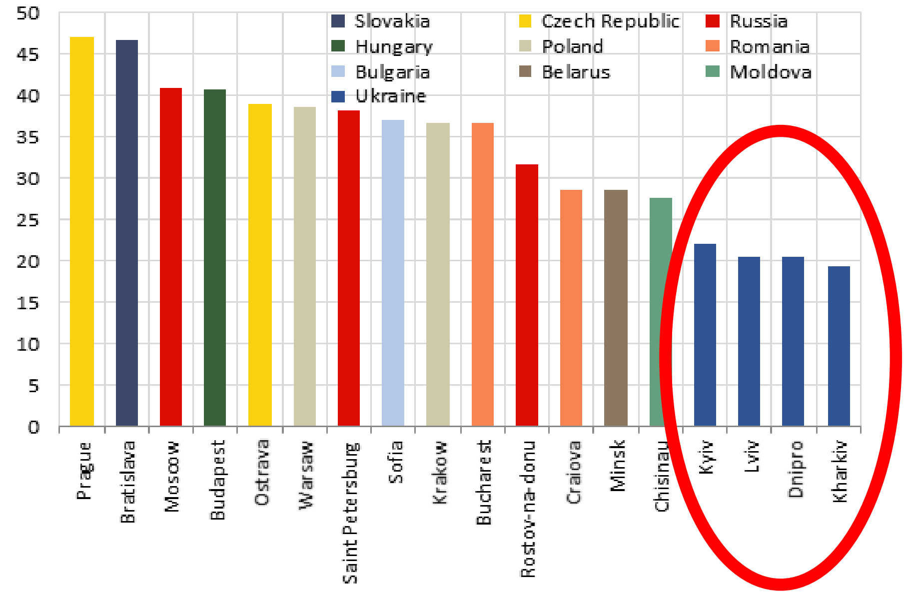
- Acceleration of potential GDP growth is restrained by further labor migration and a relatively slow TFP growth

Raw food inflation will be slightly higher due to lower than expected harvest of vegetables and cereals in 2017

Raw food prices, %



Eastern Europe: groceries index 2018



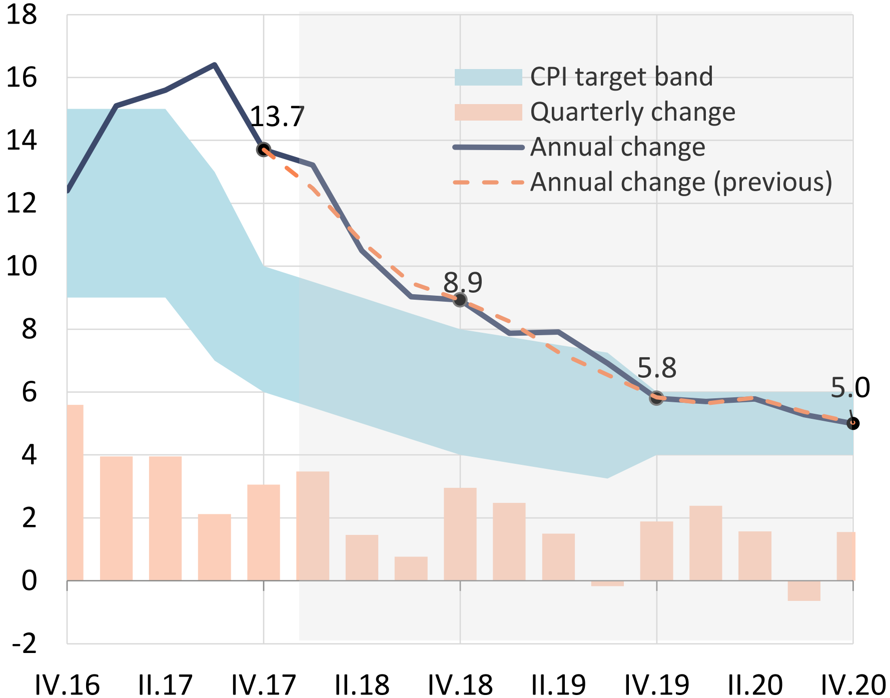
** Groceries Index is an estimation of grocery prices in the city compared to New York City*

Source: numbeo.com

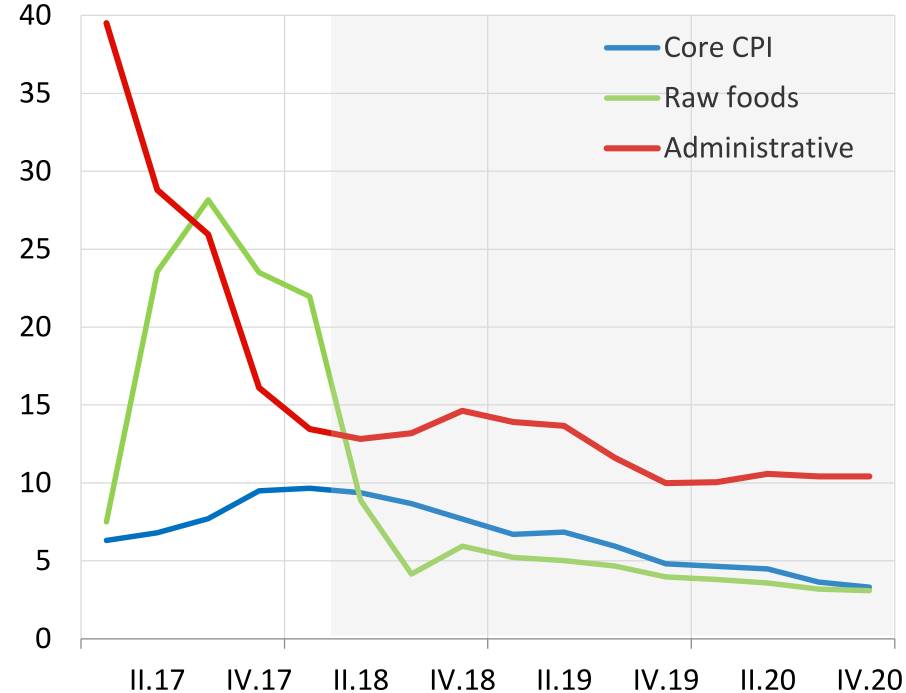
CBs' food inflation forecast, %	2018
Poland	**2.0**
Czechia	**2.7**
Moldova	**4.2**

Growing domestic demand and growth in real wages impose upward pressure on inflation but stronger ER holds back

Headline CPI, %



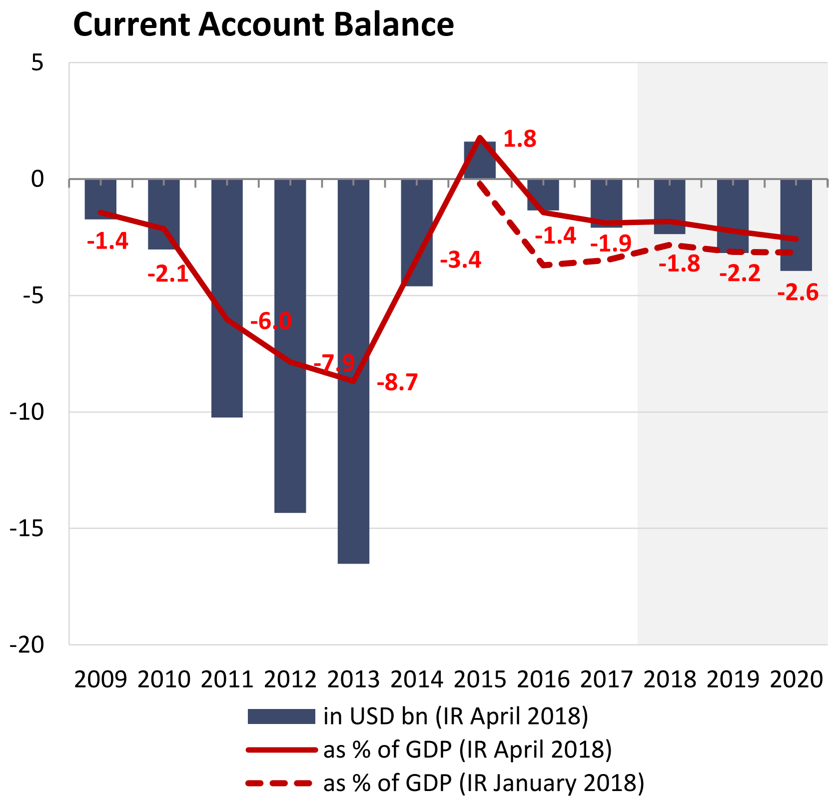
CPI components, annual change%



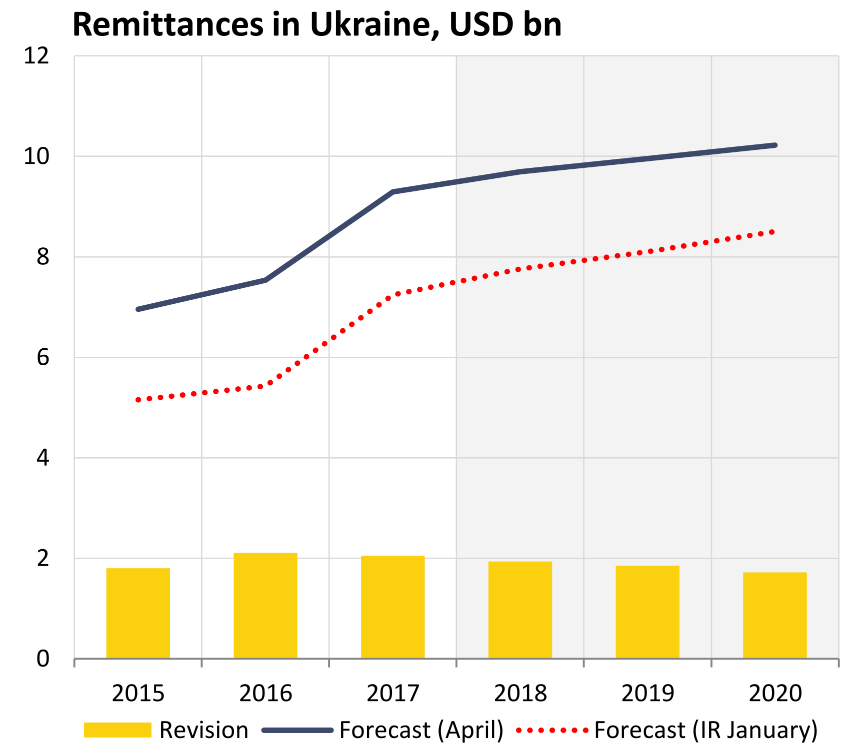
change, %	*weight, %*	2018		2019		2020	
CPI	*100.0*	**8.9**	**(8.9)**	**5.8**	**(5.0)**	**5.0**	**(5.0)**
Core CPI	*58.9*	7.7	(8.2)	4.8	(4.8)	3.3	(3.2)
Raw food	*18.6*	5.9	(4.6)	4.0	(4.0)	3.1	(2.9)
Admin	*18.5*	14.6	(13.8)	10.0	(9.6)	10.4	(10.6)
Fuel	*4.0*	9.6	(10.8)	5.0	(5.5)	5.5	(5.0)

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

The CA deficit has been gradually widening, but is expected to stay in the safe zone thanks to favorable ToTs, strong remittance inflows, and flexible ER policy



Source: NBU

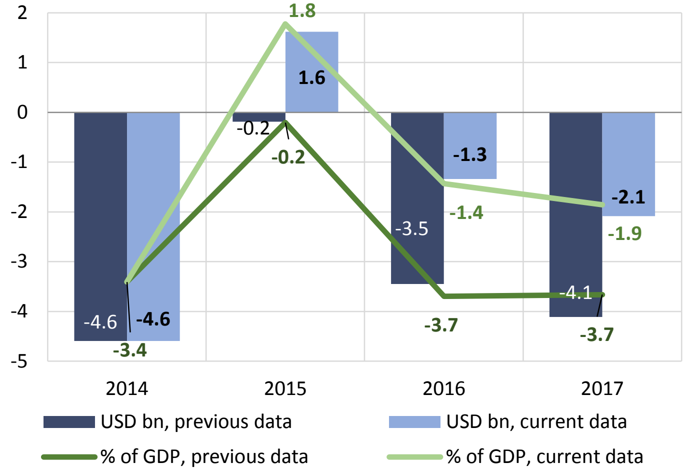


Source: NBU

- In the coming years, exports will be supported by favorable terms of trade, improved competitiveness and growing external demand in MTP countries, but imports will stay elevated too due to robust domestic demand
- A gradual increase in the trade deficit will be offset by an increase in remittances (recently personal remittance data was revised upwards by about USD 2 billion each year in order to reflect increased labor migration)

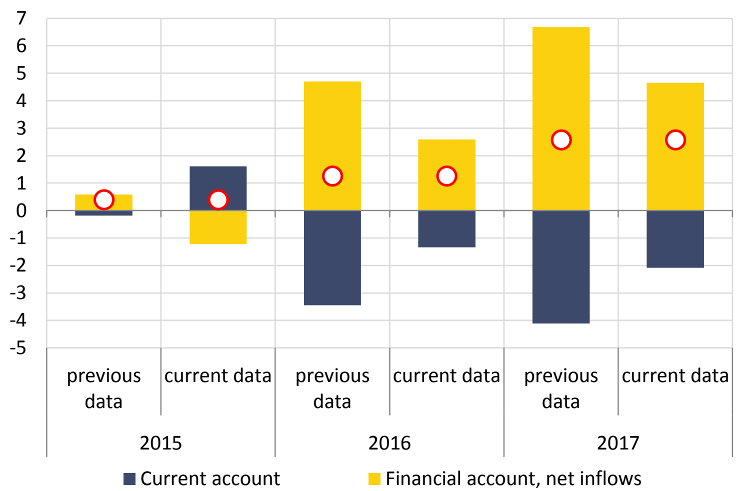
BOX. Private Remittances Data Revision, the Influence on Balance of Payment

Current Account Balance



Source: NBU

Overall Balance of Payments, USD bn



Source: NBU

Reasons

- Underestimation of informal channels:
  - Significant structural changes in the migration processes in Ukraine since 2015, the sharp increase in amount of Ukrainians working in Poland
  - New sources of labor migration data coming from Poland, Russia, as well as official Ukrainian statistics office

Results

- + about USD 2.0 bn each year in remittances and current account balance in 2015-2017
- The overall BoP balance did not change due to mirror adjustments in FA items, mainly ‘FX cash outside banks’

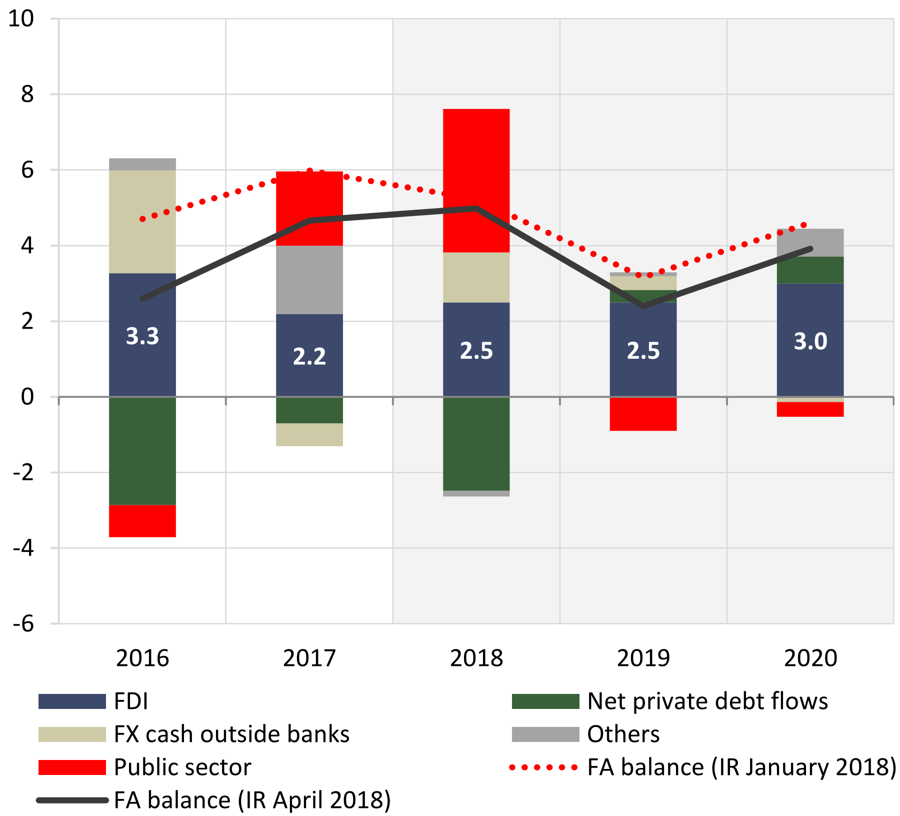
Macro Impact of Remittances

Advantages	Risks
• Significant source of FX inflows • Private consumption smoothing • Macro and financial stability support • Potentially, a source of investment	• Reduction in personal motivation and labor productivity • Overheating in several sectors of economy (real estate) and inflation

The macroeconomic stability, favorable business environment and investment climate will foster the more productive using of migrants' money, in particular by investing

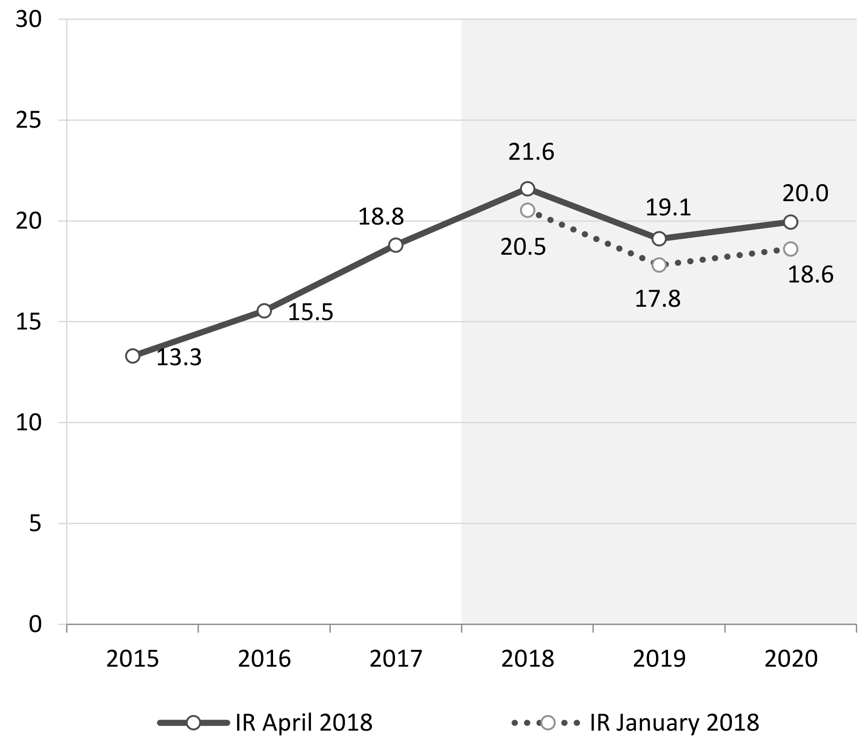
Private capital inflows are to rise modestly, while the public sector will switch from net borrowings to net repayments in 2019-20, putting a drag on reserves

Financial Account (FA): Net Inflows, USD bn



Source: NBU

Gross International Reserves, USD bn

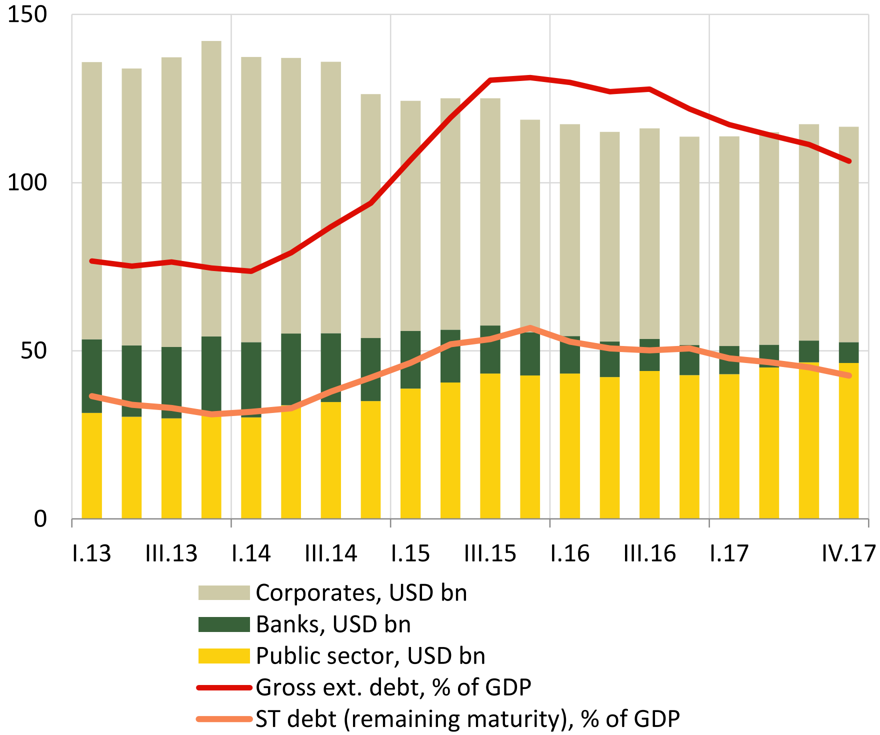


Source: NBU

- In 2018-2020, FDI and debt capital inflows to the private sector are forecast to increase. However, due to peak repayments of external public debt in 2019-20, the overall balance of payments is expected to be in deficit, limiting the building up of reserves

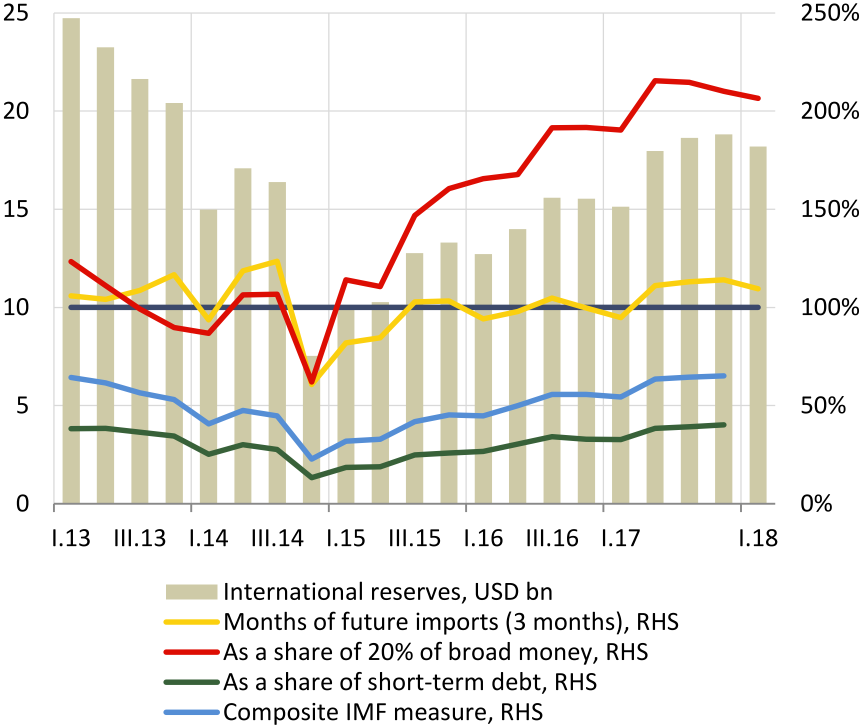
The gradual recovery of the economy and the relative stability of the exchange rate has led to an improvement in external sustainability indicators

External Debt



Source: NBU

International Reserves and their Adequacy Criteria, %

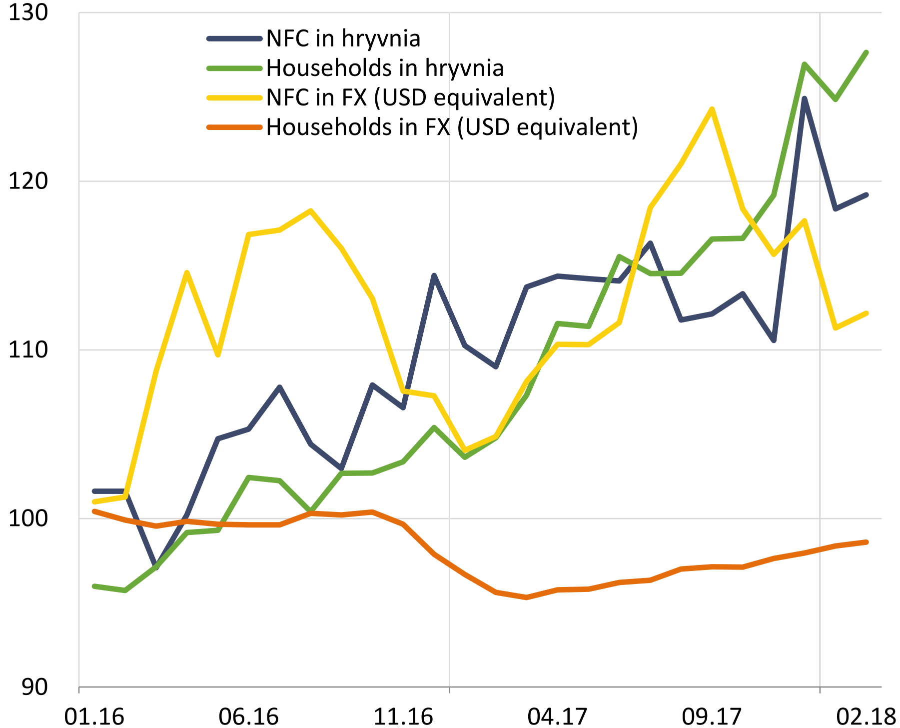


Source: NBU

- The growth of gross external debt and short-term external debt by residual maturity were both backed by the public sector
- In Q1 2018, there was a decrease in international reserves, mainly due to repayments of IMF loans
- Despite the improving external sustainability indicators, Ukraine remains extremely vulnerable to external shocks, in particular due to the significant debt burden on the public sector in the medium term

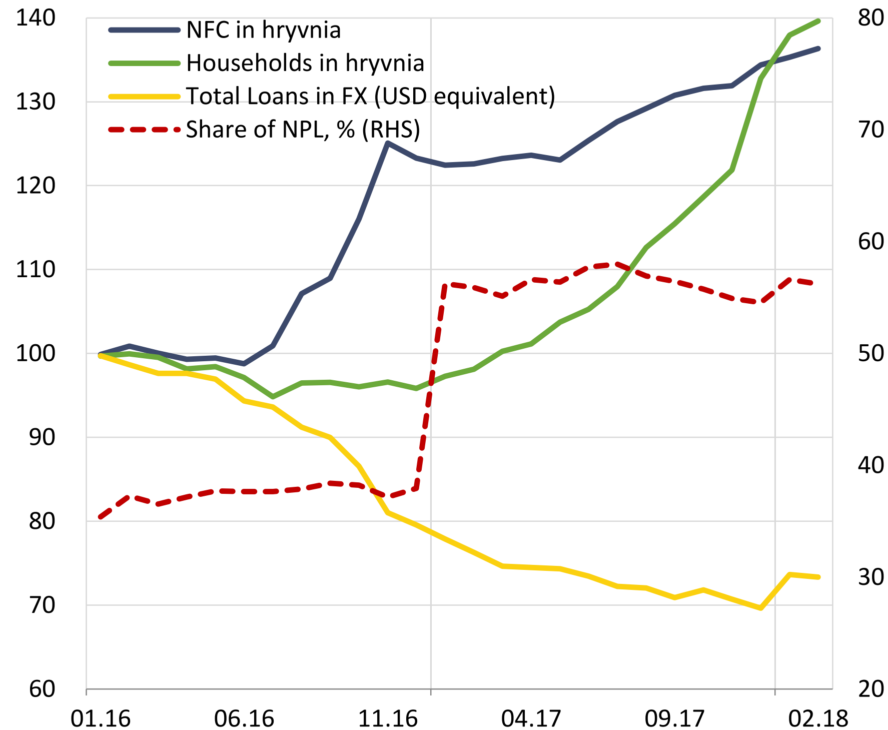
The banking system has been gradually recovering from crisis

Deposit developments, 12.2015=100%



NFC – non-financial corporations; FX – foreign currency; NPL – non-performing loans
Source: NBU

Loan developments, 12.2015=100%

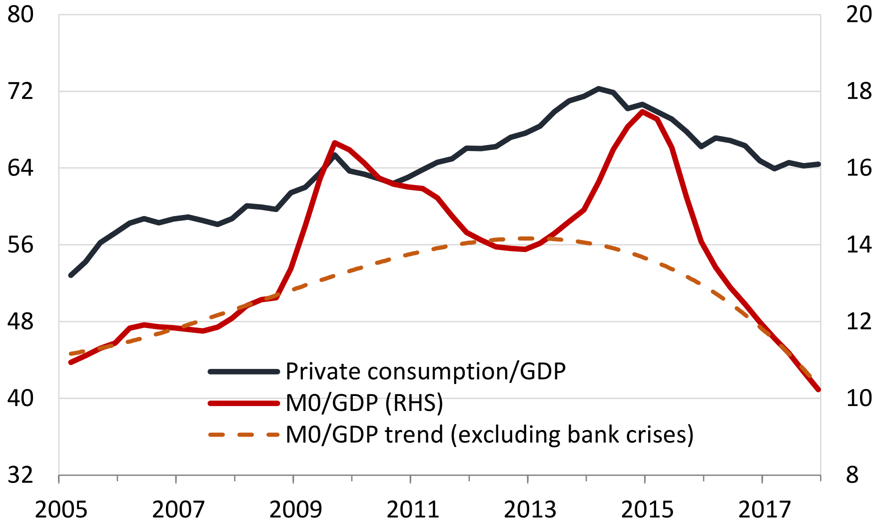


Source: NBU

- In 2017, nearly all of the key performance indicators improved: the inflow of deposits continued and lending revived, with consumer loans reporting remarkable growth
- The spike in the share of NPLs at the start of 2018 was mostly a reflection of new methodology, and the share of NPLs thereafter continued to be nearly flat
- We expect that high real rates in UAH will ensure further robust growth of deposits in UAH, while restrain credit activity. Meanwhile, the active lending recovery will be contained by high structural risks

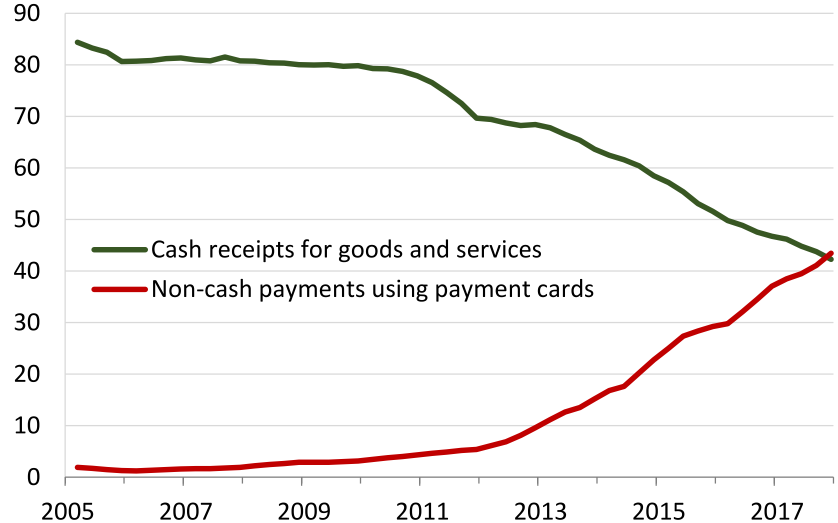
Cashless developments has substantially reduced cash demand

Cash-to-GDP and Private-Consumption-to-GDP Ratios, %, 4-quarter Moving Average



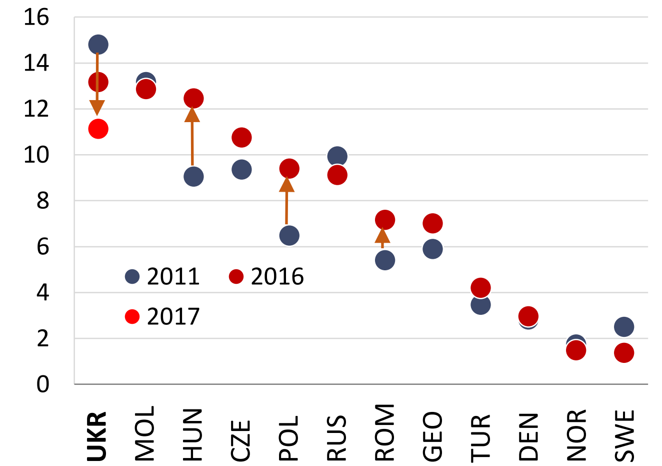
Source: NBU

Ratios of Payments to Private Consumption, %, 4-quarter Moving Average



Source: NBU

M0-to-GDP Ratio in Select Countries, %



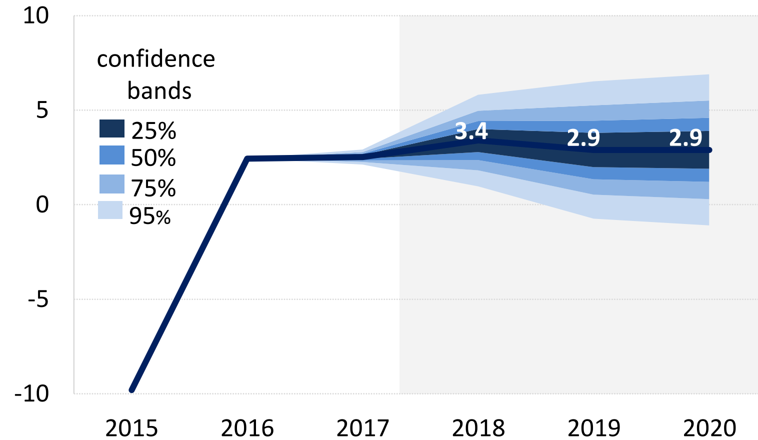
- Ratio of cash-to-GDP increased by 4 pp over 2004 – 2013 due to growing private consumption. Temporary sharp surges in the ratio are attributed to crisis periods
- Rapid increase in non-cash transactions depress cash demand and reduce steady state of cash-to-GDP ratio
- Despite a sharp decrease in cash demand over the last 6 years, Ukraine is still one of the most cashed societies
- However, it`s still too early to state the ‘death of cash’

Key risks and challenges

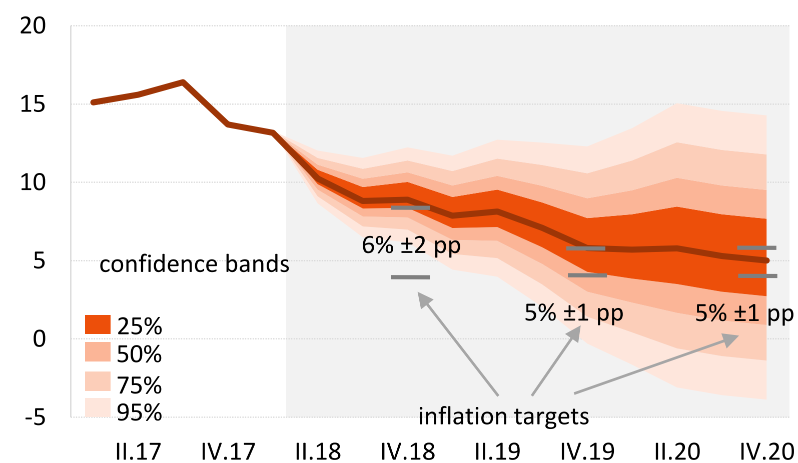
Key risks to the baseline macroeconomic scenario:

- Halt in IMF program due to delays in structural reforms (while Ukraine approaches high debt repayments)
- Further loosening of fiscal policy
- Escalation of the military conflict in eastern Ukraine
- Turbulent external environment (high risk of “trade wars,” geopolitical risks)

Real GDP Growth, %

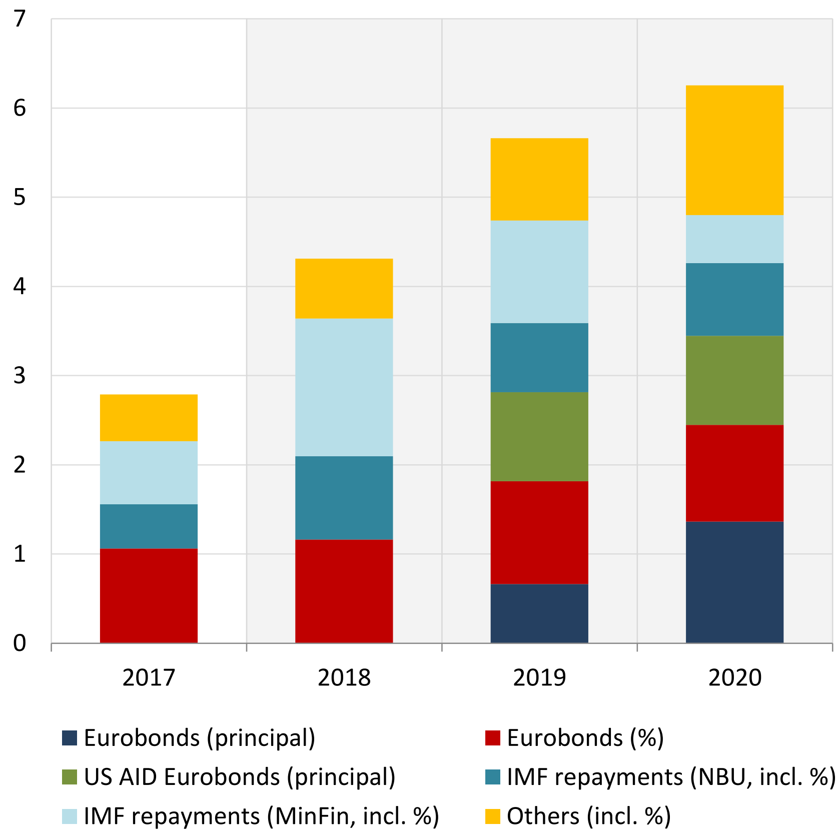


Consumer inflation and targets, %



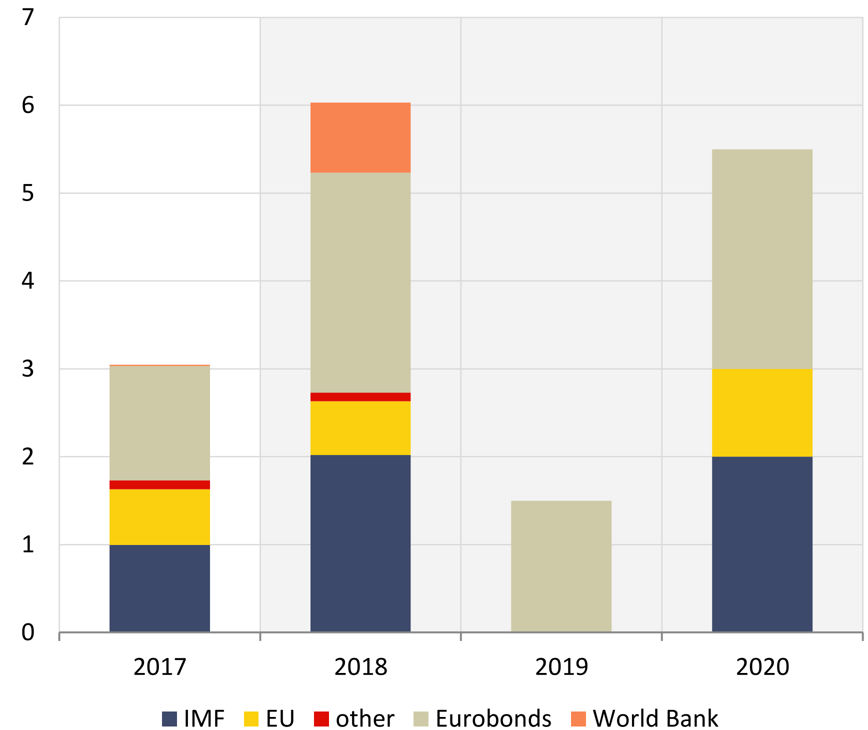
Public external debt repayments significantly exceed official disbursements in 2019-2020

Public external debt repayments, USD bn



Source: IMF, C-bonds, NBU

Official and market financing, USD bn



Source: NBU

The NBU's press releases and MPC minutes explain the factors that may drive the next decision

The NBU raised its rate in October, December 2017 and January, March 2018. In April, the NBU kept its rate on hold

December 2017

If fundamental inflation risks increase further, **the NBU may resort to further key rate hikes** to bring inflation back to the target range

January 2018

In the absence of indications of lowering inflationary pressures, **the NBU may further increase the key policy rate** to return inflation to its medium-term target

March 2018

The current monetary conditions are sufficiently tight to bring inflation back to its mid-term target

However, if underlying inflation risks increase further, **the NBU may raise the key policy rate again** in order to bring inflation back to its mid-term target

April 2018

Most MPC members reckoned that the key policy rate is unlikely to be decreased this year

National Bank
of Ukraine

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