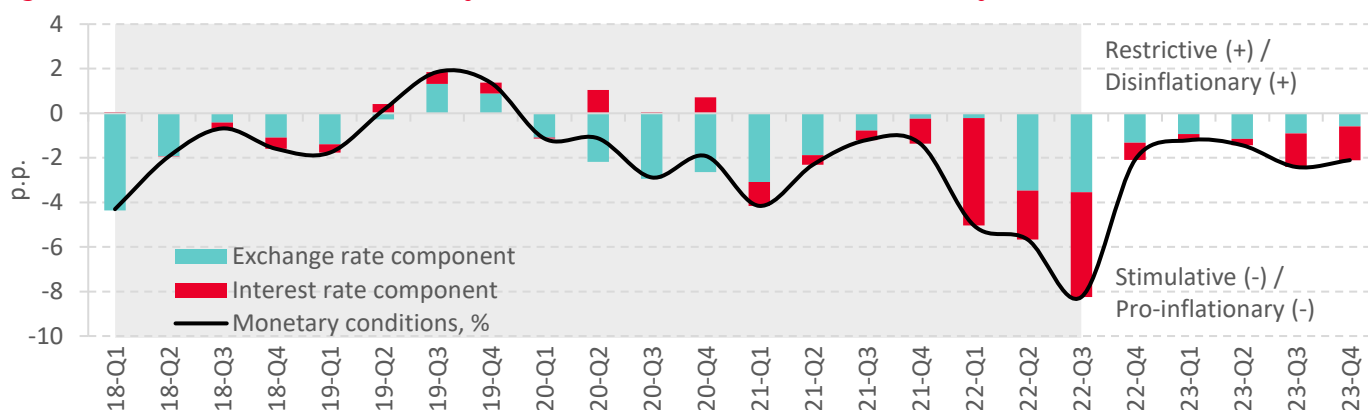**BEROC**

# Monetary conditions remained pro-inflationary in Q3-2022

Monetary conditions remained to be stimulating in Q3-2022, i.e. they supported economic activity and elevated inflationary background (Figure 1). The softness of the interest rate policy has begun manifesting itself in a revival of lending and in a slowdown in the inflow of fixed-term Belarusian ruble household deposits into banks. In turn, the undervaluation of the Belarusian ruble has partially offset the negative effects of the sanctions shock that the Belarusian exporters have been exposed to, but it has had a pro-inflationary effect. The stimulating nature of the monetary conditions may weaken by the year-end. Administrative containment of inflation is likely to have a limited impact on nominal interest rates, and therefore, this will lead to higher real interest rates. In turn, the undervaluation of the Belarusian ruble will decrease as a result of corrective strengthening of BYN against RUB. Monetary conditions are likely to remain loose in 2023 in an attempt by the Belarusian authorities to ensure GDP growth.

Figure 1. The nature of the monetary conditions of the Belarusian economy.



**Source:** The BEROC's calculations are based on the BEROC's Quarterly Prediction Model (QPM) for Belarus.
**Note:** Monetary conditions are estimated as a combination of deviations of real interest rates on the Belarusian ruble assets and of the real effective Belarusian ruble exchange rate from their equilibrium levels. Positive monetary condition values indicate their restraining-economic-activity and disinflationary nature, and negative monetary condition values indicate their stimulating-economic-activity and pro-inflationary nature. We use one of the possible ways to assess monetary conditions, and its results critically depend on the type of the selected macroeconomic model (QPM), its structure, and parameter calibration. We are aware of the limitations of our approach.

# 1 Monetary policy: measures, direction, nature

**In Q3, monetary policy continued to focus on the priority of supporting economic activity over curbing inflation.**

The National Bank suspended auction operations in Q3 to regulate the liquidity of banks, including the liquidity withdrawing operations. In the context of a record-breaking liquidity surplus in the banking system in many years (Figure 3.b), this is tantamount to easing monetary policy. This year's increasing Belarusian ruble liquidity surplus is associated with the BYN issue through purchasing foreign exchange (≈$0.7-0.8 billion in ten months) by the National Bank and with lending to non-deposit financial institutions (≈Br1.46 billion in ten months).[1]

The refinancing rate remained at the level of 12% in Q3. This rate level looks low relative to the current inflation, taking into account the indicator dynamics in 2018 – 1H2020 (Figure 2).

Figure 2. Dynamics of the refinancing rate and inflation.
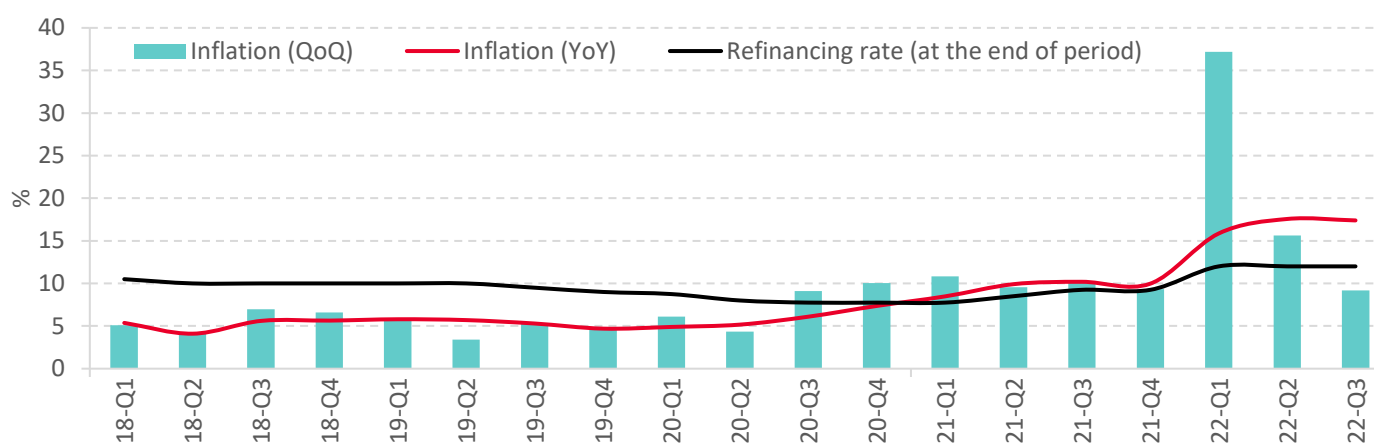


**Source:** The BEROC's calculations are based on the data by Belstat and the National Bank of Belarus.
**Note:** Hereinafter, YoY is the growth rate in the last month of the quarter versus the last month of the corresponding quarter of the previous year; QoQ is the annualized growth rate in the last month of the quarter versus the last month of the previous quarter, seasonally adjusted. The X13 procedure in the JDemetra+ app was applied to make a seasonal adjustment. As new data are published, the indicator dynamics in previous periods can be updated. The annualized price increase is calculated as a seasonally adjusted price increase per quarter raised to the fourth power (an annual inflation equivalent).

**Interest rate policy of the National Bank was extremely soft in Q3.**

The large-scale liquidity surplus in the banking system and the passive policy of the National Bank to regulate it resulted in lowering the overnight interbank market rate in Belarusian rubles (hereinafter, the interbank rate) to the historical average quarterly minimum of 1.4% in Q3 (Figure 3.b).

The interbank rate in real terms is estimated as deeply negative: it is significantly below the equilibrium value estimated through QPM (Figure 3.a). A lower real interbank rate versus its equilibrium level was seen only during the 2011 financial crisis.

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[1] Expanding National Bank's requirements for non-deposit financial institutions (probably, for the Development Bank) can be considered as an unconventional channel for easing monetary conditions.

**Figure 3. Nature of the interest rate policy of the National Bank.**
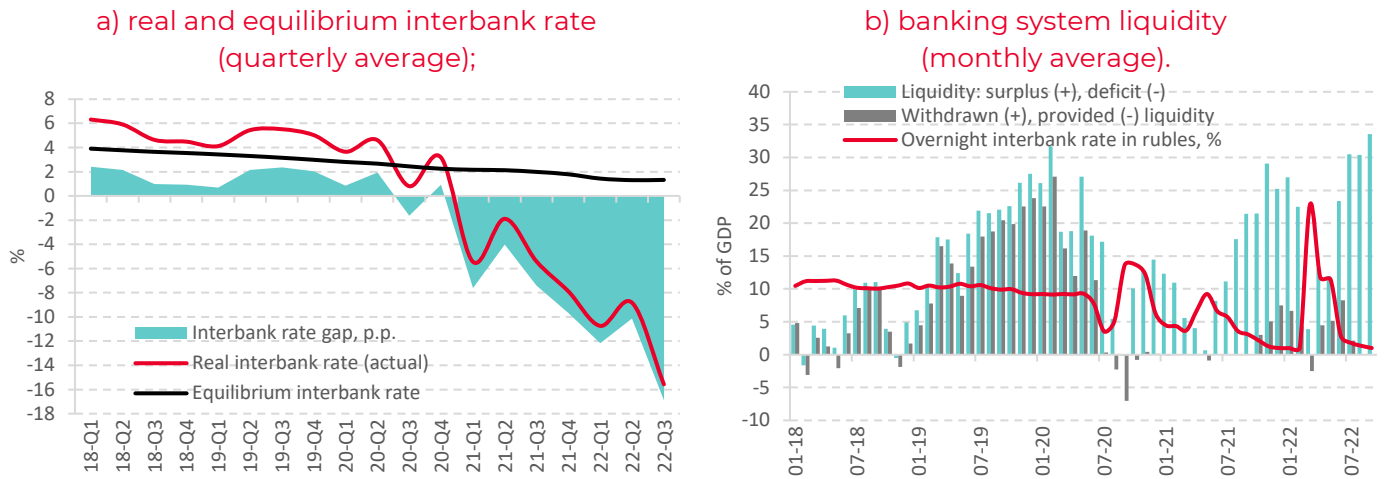
a) real and equilibrium interbank rate (quarterly average);
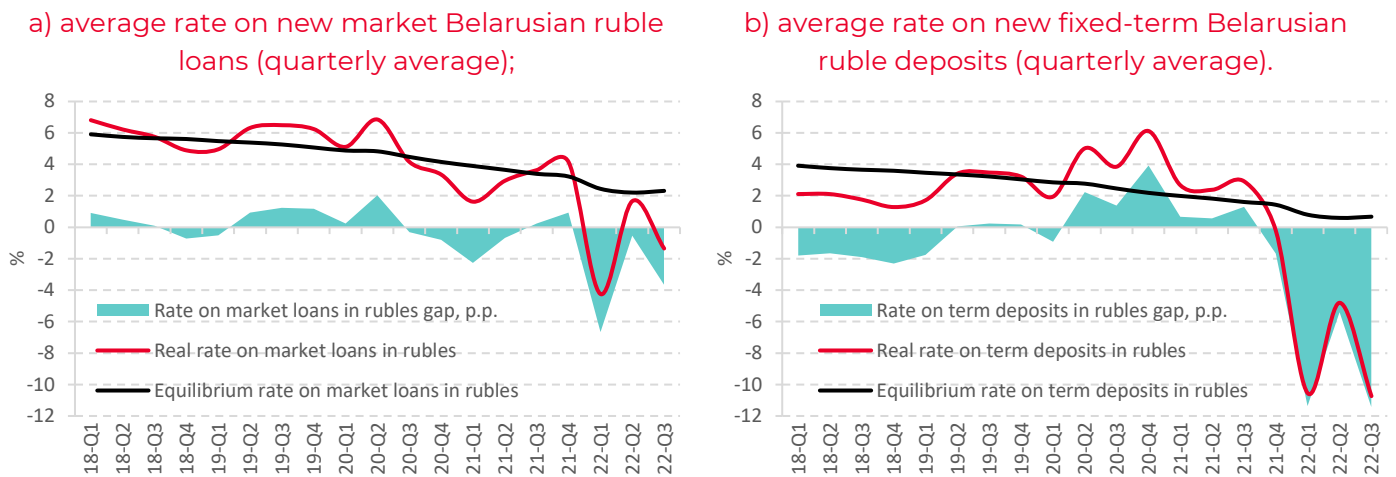
b) banking system liquidity (monthly average).



**Source:** The BEROC's calculations are based on the BEROC Quarterly Projection Model (QPM) for Belarus.

**Note:** Hereinafter, real rates are calculated by adjusting nominal rates for the projected annual inflation in the coming quarter estimated through the QPM. The QPM specification assumes that the National Bank does not fully control the interbank rate: it is affected by non-sterilized foreign exchange interventions. As a result, the actual rate may deviate from the rate compliant with achieving the medium term inflation target. The latter is modeled in the QPM by adding a premium to the neutral interbank loan rate, which is determined based on the expected deviation of inflation from the target and the current position of the economy in the business cycle considering the rate inertia.

## Pricing conditions for Belarusian ruble lending softened noticeably in Q3-2022.

The real average rate on new market loans to households and organizations in Belarusian rubles fell noticeably below the equilibrium level estimated through QPM (Figure 4.a). An extremely expansionary monetary policy is being gradually translated into lending rates. Perhaps, banks are forced to seek placing their excess liquidity when the National Bank cannot absorb it, thus lowering the cost and softening lending terms and conditions. Eventually, lending rates declined in Q3 even amid continued risks and uncertainties.[2]

**Figure 4. The nature of real interest rates on Belarusian ruble loans and fixed-term deposits of banks.**

a) average rate on new market Belarusian ruble loans (quarterly average);

b) average rate on new fixed-term Belarusian ruble deposits (quarterly average).



**Source:** The BEROC's calculations are based on the BEROC Quarterly Projection Model (QPM) for Belarus.

**Note:** Real interest rates in Figures 4.a and 4.b have been calculated on the basis of average nominal interest rates between organizations and households (according to the National Bank) and the expected inflation.

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[2] The nominal average interest rate on new market Belarusian ruble loans of banks lowered from 19.2% (Q2 average) to 15.6% in Q3, and lending rates for organizations lowered from 19.9% to 15.8%, and lending rates for households lowered from 13.9% to 13.8%.

3

**Deposit market interest rates were below the neutral level in Q3.**

Impact of the loose monetary policy on the Belarusian ruble deposit interest rates in Q3 was much more significant versus the lending rates. The nominal average deposit interest rate on new fixed-term Belarusian ruble deposits for households and organizations fell to its historic low of 5% in September, and then dropped even more — to 3.8% — already in October. Banks are seeking to reduce funding costs in the face of liquidity surplus. Deposit rates for organizations have been lowering especially actively. The yield on household deposits has also decreased.[3]

Decreased nominal interest rates resulted in the real average interest rate on fixed-term Belarusian ruble deposits of households and organizations remaining negative in Q3, which was much lower than the equilibrium level estimated through the QPM (Figure 4.b).

## 2 Forex policy: measures, direction, nature

**Net supply on the FX market supported the Belarusian ruble exchange rate in Q3.**

The Q3 average value of the basket of 4 foreign currencies exceeded the Q2 average by 2.2%. Such dynamics mainly reflects the effects of significant weakening of BYN against RUB in late Q2, which led to a high average value of the RUB/BYN currency basket in Q3. More frequent data indicated a gradual strengthening of the Belarusian ruble against the basket of currencies versus the peak level in early July (Figure 5.a).

Strengthening of the Belarusian ruble in Q3 and in early Q4 was of a corrective nature and this occurred in the context of a net supply of foreign currency (Figure 5.a). The National Bank was smoothing the trajectory of the exchange rate by buying foreign currency out: c.a. $414 million was bought in Q3 (both by the National Bank and the Ministry of Finance), and c.a. $290 million was bought in October.

Figure 5. The state of the forex market and the dynamics of the Belarusian ruble exchange rate.



a) forex market and foreign currencies basket;       b) forex market, seasonally adjusted.
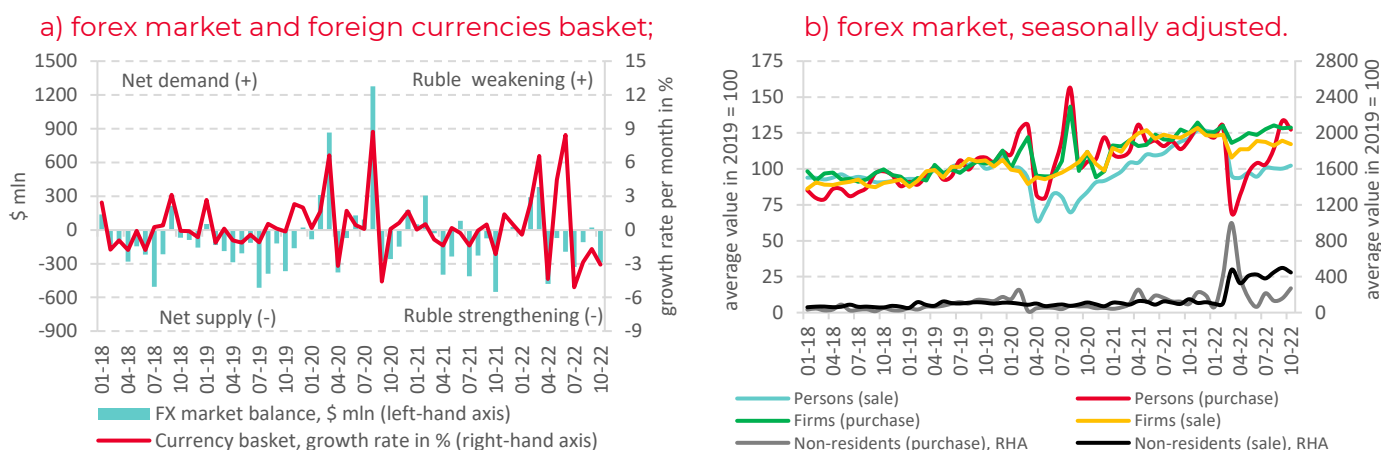
**Source:** The BEROC's calculations are based on the data by the National Bank of Belarus.
**Note:** Figure 5.a shows the basket of 3 currencies (US dollar, euro and Russian ruble) from January 2018 to June 2022, and the basket of 4 currencies (US dollar, euro, Russian ruble, and Chinese yuan) from July 2022 onwards. The X13 procedure in the JDemetra+ app was applied to seasonally adjust the forex market indicators presented in Figure 5.b. As new data are published, the dynamics of the indicators for the previous periods is updated. It should be taken into account that the seasonal factor of some indicators of the foreign exchange market is unstable.

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[3] The nominal average interest rate on new fixed-term Belarusian ruble deposits fell from 12.7% (Q2 average) to 6.2% in Q3, and deposit interest rates for organizations fell from 11.4% to 3.8%, and deposit interest rates for households fell from 18.5% to 13.7%.

**Net supply on the Belarusian foreign exchange market in Q3 and in early Q4 was secured by non-resident transactions.**

Non-residents tremendously increased foreign currency sales in 2022 (Figure 5.b). The basic assumptions to explain this phenomenon are as follows: 1) an increase in speculative transactions related to the use of foreign accounts and bank cards to convert foreign currency into BYN (amid the difference in the exchange rates between foreign payment systems and Belarusian banks) and purchases of USD or EUR within Belarus; 2) purchases of Russian citizens in Belarus paid by the bank cards issued in Russia; 3) payments for parallel imports to Russia.[4] The first hypothesis can be supported by a rapid recovery in purchases of foreign currency by the country's population after the spring failure (Figure 5.b) despite shrinking real incomes. If this hypothesis is correct, then — neglecting non-resident transactions — the population could be a net foreign currency seller in Q3 and in October.

In July-October, Belarusian enterprises consistently remained net buyers of foreign currency (seasonally adjusted) despite a record-breaking foreign trade surplus (Figure 5.b). The demand of companies for foreign currency can be explained by the "flipping" of foreign currency loans into the Belarusian ruble loans, since enterprises could buy foreign currency to repay their credit liabilities nominated in foreign currency.

**The QPM outcomes show that the Belarusian ruble remained undervalued by about 7% on average in Q3 versus the equilibrium level of the Real Effective Exchange Rate** (Figure 6.a)**.**

The undervaluation of the BYN — primarily against the RUB — supported the price competitiveness of Belarusian producers on the Russian market, and this largely explained the apparent increase in the physical volumes of supplies of goods to Russia. At that, the undervaluation of the Belarusian ruble decreased by late Q3 and in early Q4 due to a noticeable strengthening of BYN against RUB.

Figure 6. Effective Belarusian ruble exchange rates and deviations of the Real Effective Exchange Rate from the equilibrium level (QPM-based).

a) deviation of the Real Effective Exchange Rate from its equilibrium level;
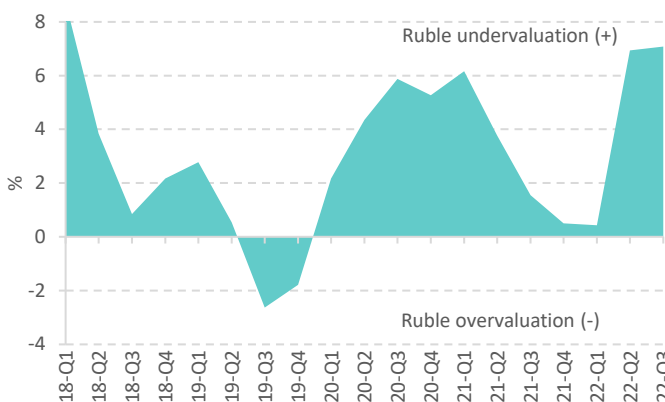
b) effective exchange rates of the Belarusian ruble.
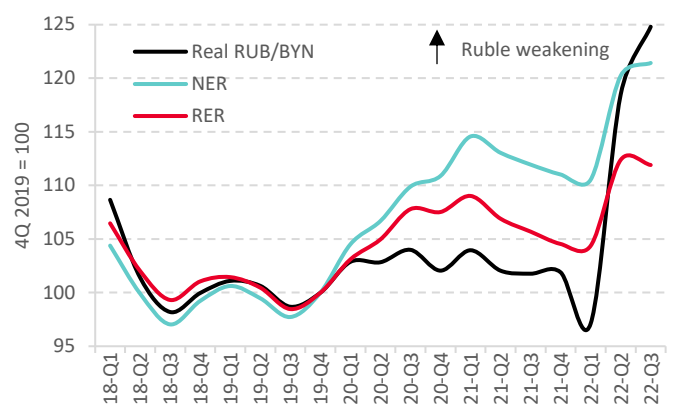


**Source:** The BEROC's calculations are based on the data by the National Bank of Belarus, QPM BEROC for Belarus.

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[4] It is possible that Russian companies convert foreign currency into BYN to pay to Belarusian intermediaries, who, in turn, can buy foreign currency for imports. However, the latter is already reflected in the statistics of the Belarusian foreign exchange market as the purchase of foreign currency by resident entities.

# 3 Impact of the monetary conditions on the credit and deposit market

## Lending activity picked up in Q3 against the backdrop of soft monetary conditions.

The credit impulse in Q3 is considered positive due to the increasing issuance of loans in Belarusian rubles to the private sector (Figure 7.b). Such dynamics was largely compensatory: lending activity in the private sector weakened significantly in the two previous quarters. The recovery in lending was facilitated by the lowering of interest rates and the rebound from the initial shock in February-March. In addition, part of the growing lending in Belarusian ruble loans to private businesses is explained again by the "flipping" of the currency structure of the loan portfolio, i.e., Belarusian ruble loans have been substituting foreign currency loans. Lending continued growing in the segment of state-owned enterprises (SOEs) in Q3 (Figure 7.b).

Despite a significant increase in the issuance of Belarusian ruble loans, the economy's Belarusian ruble liabilities to banks moderately increased in Q3, and this mainly occurred in the SOE sector (Figure 7.a). At the same time, the seasonally adjusted real growth of the loan portfolio of banks in Q3 was estimated to be two times less than the average growth rate in 2018-2019, and this was 7 times less in the private sector. Taking into account the predominant increase in short-term credit liabilities, this suggests that the increase in Belarusian ruble lending in Q3 could be largely due to debt restructuring and to bridging short-term cash gaps. Lending activity continued to be constrained by the uncertainty of investments in business expansion in the current environment and by the limited credit supply from banks amid high risks.

Figure 7. Loans' and credit impulse dynamics.



a) liabilities nominated in the Belarusian ruble (QoQ growth, seasonally adjusted);

b) credit impulse (QoQ, seasonally adjusted).
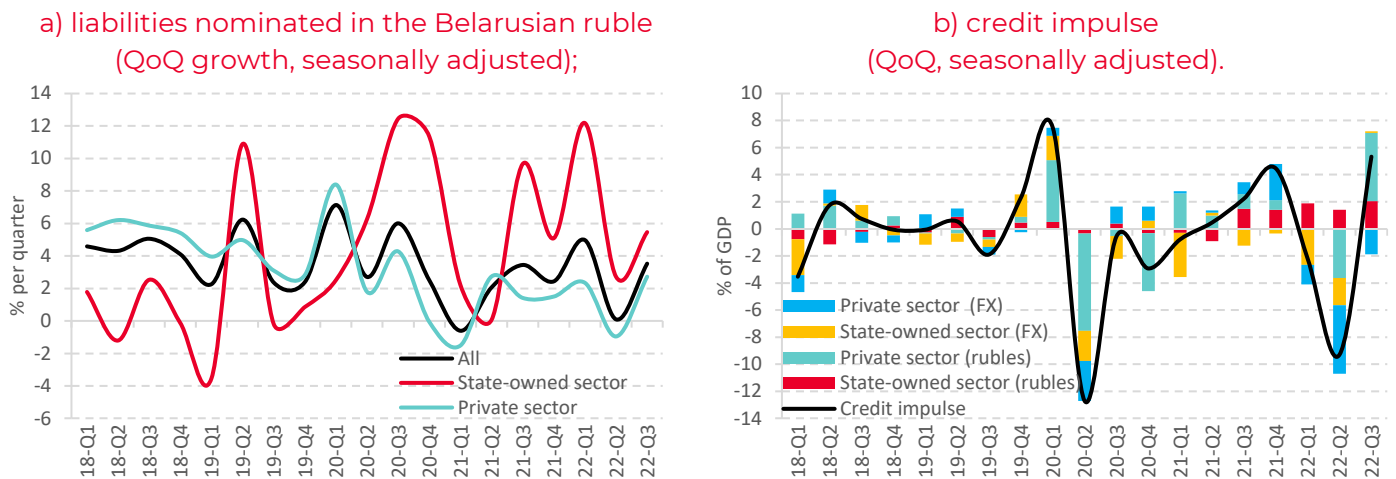
**Source:** The BEROC's calculations are based on the data by the National Bank of Belarus.

**Note:** The credit impulse has been calculated as follows: $ci_t = 100 * \left( \frac{cr_t}{ngdp_t} - \frac{cr_{t-1}}{ngdp_{t-1}} \right)$, where $ci_t$ is the credit impulse during period $t$; $cr_t$ is the seasonally adjusted scope of newly issued loans during period $t$; $ngdp_t$ is the seasonally adjusted volume of the nominal GDP during period $t$. The X13 procedure in the JDemetra+ app was applied to make a seasonal adjustment. As new data are published, the indicator dynamics in previous periods can be updated.

**The Belarusian ruble money supply grew in Q3** (Figure 8)**, and its structure shifted towards current accounts amid soft monetary conditions.**

Expanded Belarusian ruble lending and the issuing operations of the National Bank led to an increase in funds in the checking accounts of enterprises and households by 24.5% (September average versus June average). At the same time, fixed-term Belarusian ruble deposits of organizations decreased by 10.2% in Q3, while transferable deposits of organizations increased by 38.4%. As far as retail deposits are concerned, decreasing deposit interest rates resulted in the growth of fixed-term Belarusian ruble deposits (excluding accrued interest) to decrease to 0.5% per month on average in July-September (there was a 0.3% decrease in October) versus 1.1% in April-June. As a result, the share of cash and transferable deposits in the structure of the Belarusian ruble supply increased by 4.3 p.p. from June to September 2022 up to 54%. Such an increase in the share of the most liquid components in the structure of the Belarusian ruble supply became record-breaking in Q3 since the transition to monetary targeting in 2015. The previous Q3 maximum value was in 2015 amounting to 2.2 p.p, and its average Q3 value of 0.5 p.p. was in 2015–2021.

Figure 8. Average money supply dynamics (seasonally adjusted).

a) real money supply dynamics;                b) decomposition of the nominal BMS growth.
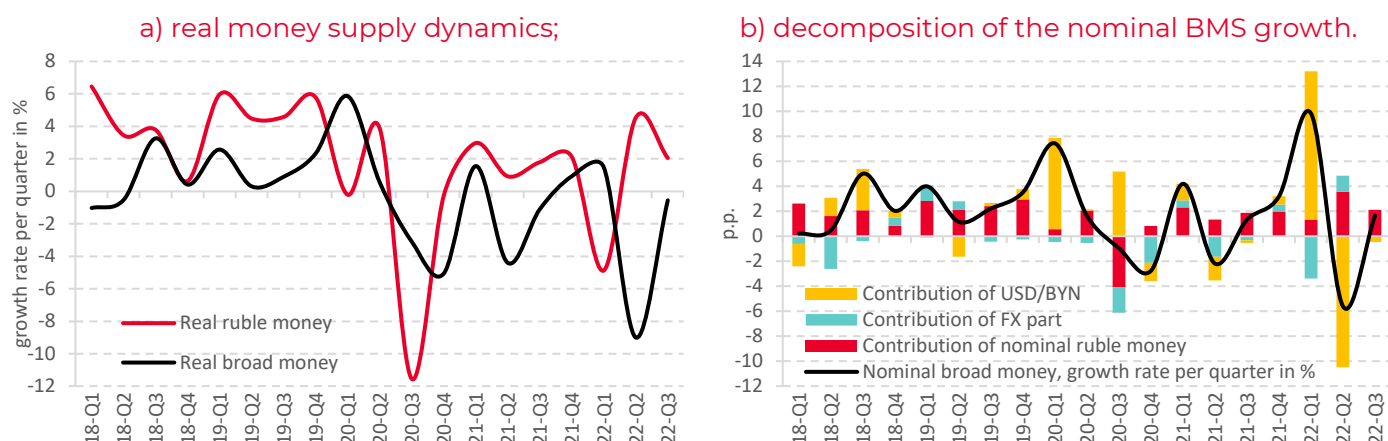


**Source:** The BEROC's calculations are based on the data by the National Bank of Belarus and Belstat.
**Note:** BMS is a broad money supply. The X13 procedure in the JDemetra+ app was applied to make a seasonal adjustment. As new data are published, the indicator dynamics in previous periods can be updated. The real money supply growth has been calculated by deflating the nominal increase (the last month of the quarter versus the last month of the previous quarter) by the quarterly change in the Consumer Price Index.

A sharp change in the money supply structure in favor of checking accounts and cash bears inflationary risks unless this is a temporary one-time phenomenon. The continued build-up of government securities in the portfolio of the National Bank may also have additional inflationary risks: government securities in the National Bank portfolio grew by BYN 1 billion in Q3, by BYN 1.1 billion in October, and by BYN 3.45 billion from the beginning of 2022. Most of this amount — about BYN 2.3 billion — did not trigger money printing, because it was probably used by the banks to repay their credit liabilities to the National Bank. However, the remaining BYN ≈1 billion are probably money emission resources.

# 4 Monetary conditions short-term forecast

## Monetary easing will lower in Q4-2022.

The undervaluation of the Belarusian ruble will significantly decrease on average in October-December due to the adjustment strengthening of BYN against foreign currencies of the trading partner countries, primarily against the Russian ruble (Figure 1). The QPM modelling also indicates a decreasing softness of interest rates in Q4. This is explained by increasing real interest rates due to a strong ad-hoc inflation slowdown, which is dominated by tightening price controls enforced by the state. Since the impact of such a pricing policy on inflation expectations is not obvious, assessments of the interest rate policy in Q4 should be treated somewhat conservatively. It is plausible that the nominal interbank market rate will remain close to 0-1% in the context of the continued liquidity surplus in the banking system, and the Belarusian ruble deposit interest rates will be close to their historically lows, and the average Belarusian ruble market lending rates may lower versus the Q3 rates. At the same time, it should not be ruled out that against the backdrop of a largely "technical" inflation decrease and under the government pressure, the National Bank will have lowered the refinancing rate by 0.5–1 percentage points by the end of 2022.

## Monetary conditions may remain soft in 2023.

The baseline scenario is based on the assumption that the National Bank will keep restrictions on liquidity control operations in 2023, including liquidity withdrawal operations.[5] In addition, the probability of increasing unsecured money emissions in an attempt to hit the planned economic growth indicator is quite high. The baseline scenario assumes that money emissions will be carried out in volumes that will not lead to a significant imbalance of supply and demand in the economy.

Figure 9. The interest rate and foreign exchange rate forecast (based on the QPM).

| a) the forecast of the average interest rate on the Belarusian ruble market loans (quarterly average); | b) USD/BYN exchange rate forecast (quarterly average). |
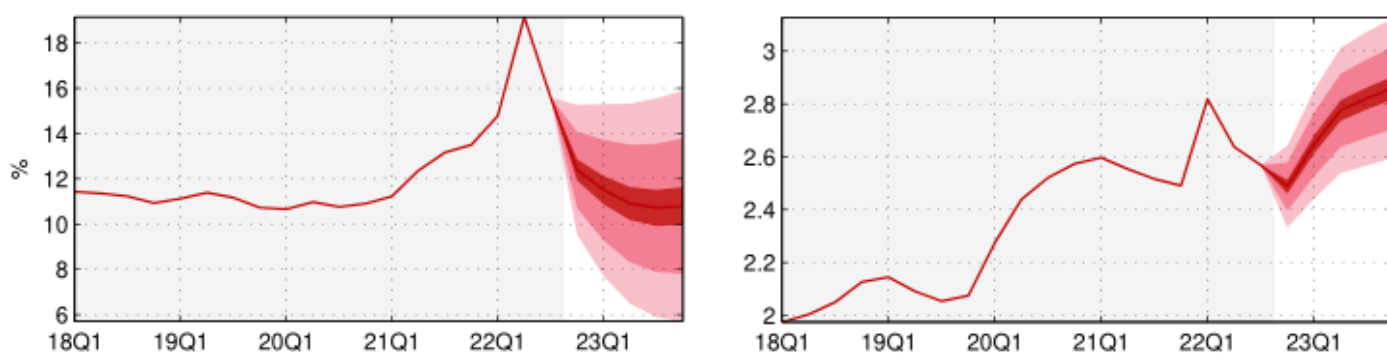


**Source:** The BEROC's calculations are based on the BEROC Quarterly Projection Model (QPM) for Belarus.
**Note:** The ranges in the figure correspond to the 15%, 50% and 75% confidence intervals.

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[5] A key prerequisite for the external conditions for the baseline scenario is the avoidance of extreme escalation of the military confrontation in Ukraine.

If the baseline scenario fulfills, monetary conditions will remain stimulating in 2023 (Figure 1). The refinancing rate may drop to the range of 10-11%, and the interbank market will remain dysfunctional. As a result, Belarusian ruble deposit interest rates — especially for the corporate segment — will remain historically low, and the nominal market lending interest rate may slightly decrease (Figure 9.a). The forecast risk is galloping inflation,[6] which may force the National Bank to tighten the monetary policy.

The Belarusian ruble may remain somewhat undervalued in terms of the Real Effective Exchange Rate in 2023 (Figure 1) in the context of low interest rates on Belarusian ruble assets, limited effects of unsecured money printing, and authorities' attempts to maintain the competitiveness of Belarusian enterprises in the Russian market. If the USD/RUB exchange rate gets in the range of 70–80 Russian rubles per US dollar, the USD/BYN exchange rate will also increase with a high degree of probability in 2023 (Figure 9.b). Devaluation risks for the exchange rate dynamics remain due to the uncertainty of new manifestations of sanction restrictions in Belarus and Russia and due to the likelihood of excessive easing of the monetary policy in Belarus.

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[6] See: Inflation Review (BEROC, 2022).

# Explainers

## Quarterly Projection Model (QPM)

This is a semi-structural macroeconomic model based on the principles of new Keynesianism; it belongs to the class of dynamic stochastic general equilibrium models. Variables unobserved in the QPM (e.g., equilibrium (trendy) components of economic indicators) are estimated through the multivariate Kalman Filter. The QPM has been widely used for macroeconomic analysis, forecasting and monetary policy designs in central banks, including the National Bank of the Republic of Belarus. The Quarterly Projection Model (QPM) used to draft this document was developed by the BEROC experts, and, as of November 2022, it is in the pilot phase.

## QPM indicators

### Monetary conditions

This is an indicator of the state of monetary conditions. It is a combination of gaps between the real effective exchange rate (with the opposite sign) and real interest rates. Positive values of monetary conditions indicate their constraining nature for economic activity, and their negative values indicate their stimulating nature for economic activity.

### Output gap

This is a deviation of a real GDP from its potential value. A potential GDP is such a GDP value that leads neither to additional inflationary nor disinflationary pressures. A positive output gap indicates excess demand in the economy, and it is an indicator of inflationary pressure. The opposite is true for a negative output gap.

### Interest rate gap

This is a deviation of the real interest rate from its neutral level. A positive gap in the interest rate indicates that the nature of the interest rate policy is restraining to economic activity, while a negative gap in the interest rate indicates that the nature of the interest rate policy is stimulating to economic activity.

### Equilibrium (neutral) interest rate

This is the level of the real interest rate corresponding to the growth rate of the potential GDP and the equilibrium real effective exchange rate.

### Real Effective Exchange Rate gap (REER gap)

This is a deviation of the real effective exchange rate of the Belarusian ruble from its equilibrium level. A positive real effective exchange rate gap indicates an undervaluation of the Belarusian ruble, while a negative real effective exchange rate gap indicates an overvaluation of the Belarusian ruble.

### Equilibrium Real Effective Exchange Rate

This is the level of the Real Effective Exchange Rate (REER) that makes neither an additional pro-inflationary impact nor a disinflationary impact.