Degree of monetary conditions easiness lowered in Q4-2022

Monetary conditions remained stimulative in Q4-2022, but the scale of economic activity support decreased (Figure 1). In Q4-2022, the Belarusian ruble strengthened on average against the currencies of the countries that were Belarus' main trading partners, which decreased its undervaluation by more than two times compared to Q3-2022. Interest rates on the interbank and credit and deposit markets in Q4-2022 remained below their neutral values on average, which supported the process of adaptation of the Belarusian economy to new realities to some extent. In 2023, the National Bank may continue stimulative monetary conditions, prioritizing support for economic activity over stopping inflationary risks.

Figure 1. The nature of the monetary conditions of the Belarusian economy
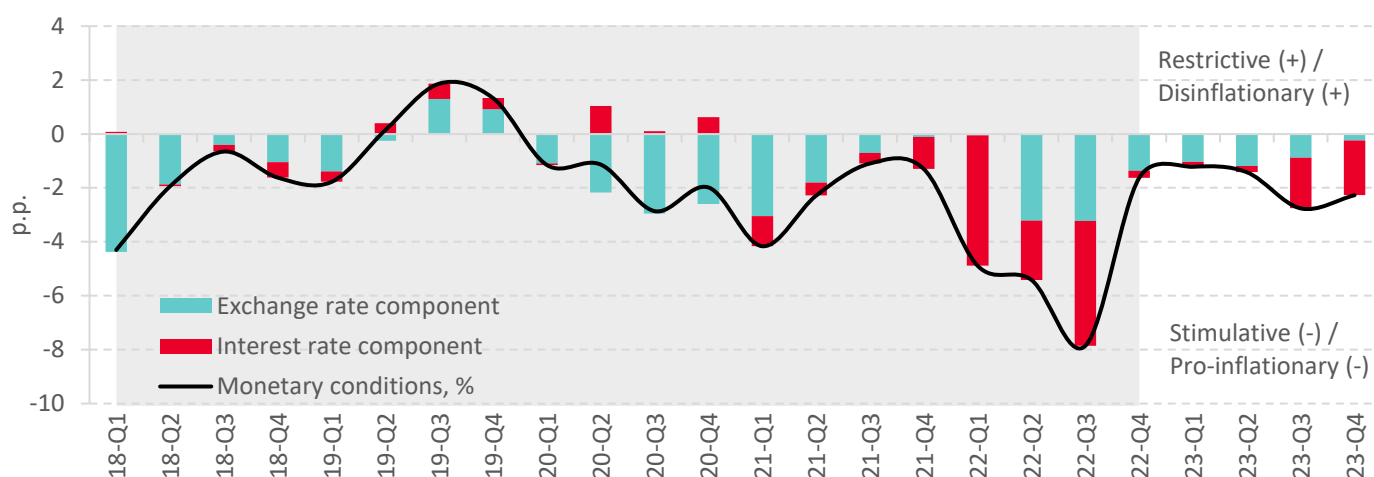
Source: The calculations are based on the Quarterly Prediction Model (QPM) for Belarus.
Note: Monetary conditions are estimated as a combination of deviations of real interest rates on the Belarusian ruble assets and of the real effective Belarusian ruble exchange rate from their equilibrium levels. 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

Monetary policy remained expansionary in Q4-2022

The National Bank did not change the refinancing rate in Q4-2022: it was 12% (Figure 2.a), and it was lowered to 11.5% from January 23, 2023 onwards. The National Bank's approach to liquidity regulation preserved: auction operations and standing facilities were banned and they were not made. As a result, the banking system operated in the environment of a record-breaking volume of excess liquidity, and the National Bank did not withdraw it (Figure 3.b).

Figure 2. Dynamics of monetary policy indicators

a) refinancing rate and inflation;   b) decomposition of the monetary base growth.
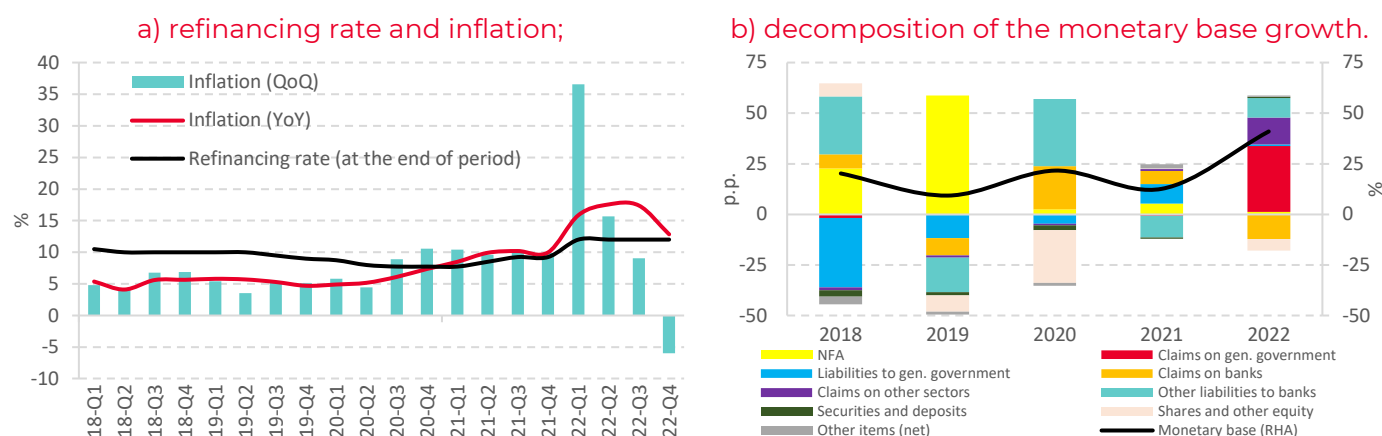
Source: The calculations are based on the data by Belstat and the National Bank of Belarus.
**Note:** Hereinafter, YoY is the growth rate in the last month of the quarter versus the last month of the corresponding quarter of the previous year; QoQ is the annualized growth rate in the last month of the 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).

The colossal liquidity surplus generated last year was largely the consequence of unconventional monetary policy easing (Figure 2.b). The National Bank increased investments in government securities by Br4.2 billion (22 times) in 2022 with almost Br1.9 billion of the growth in Q4-2022. About Br2.26 billion of this amount did not trigger money emission, because this amount was used by banks to repay their credit liabilities to the National Bank. However, the remaining ≈Br1.9 billion can be regarded as the "Belarusian analogue" of quantitative easing. The National Bank expanded its requirements to non-deposit financial institutions (most likely, the Development Bank) by Br1.7 billion last year (including by Br0.5 billion in Q4-2022), and this had an additional money issue effect.

The interest rate policy of the National Bank remained extremely soft in Q4-2022

The interest rate of the Belarusian ruble interbank market (hereinafter referred to as the Interbank Loan Rate) amounted to 0.98% in Q4-2022, thus rewriting the historical low again (Figure 3.b). The dynamics of the Interbank Loan Rate is a consequence of the record-breaking volume of non-withdrawable excess liquidity in the banking system. The interbank rate in real terms is estimated as negative: it is significantly below the equilibrium value calculated through QPM (Figure 3.a). At the same time, the degree of softness of the National Bank's interest rate policy narrowed in Q4-2022 due to the ad-hoc inflation decline (Figure 2.a), which was fully explained by the tightening price regulation.

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).
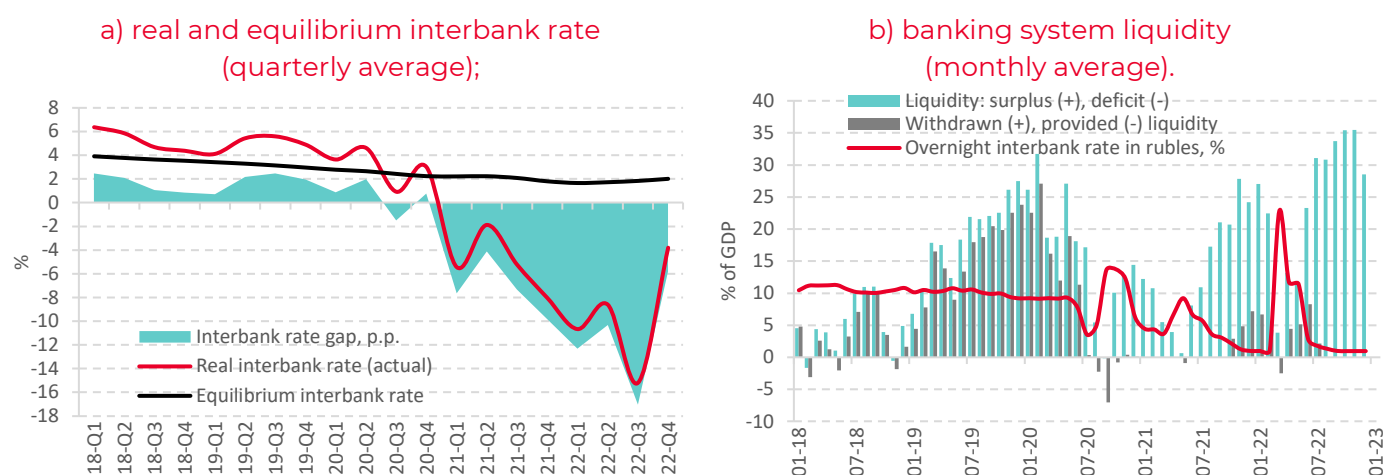
Source: The calculations are based on the Quarterly Projection Model (QPM) for Belarus.
Note: Hereinafter, real rates are calculated by adjusting nominal rates for the projected annual inflation in the coming quarter estimated through the QPM.

Profitability of the Belarusian ruble deposits in Q4 did not cover expected inflation

Interest rates on new fixed-term Belarusian ruble deposits continued to decline at the end of last year, once again breaking historical lows.[1] Such dynamics is a direct consequence of the National Bank's actions: banks do not need to offer high returns on attracted resources in the environment of excess liquidity. Decreased nominal interest rates resulted in the real average interest rate on fixed-term Belarusian ruble deposits remaining negative in Q4-2022, which was lower than the equilibrium level estimated through QPM (Figure 4.b).

It is quite possible that by the end of 2022 the interest rates on new term Belarusian ruble deposits reached the lowest limit. Thus, the nominal yield of organizations' deposits in BYN dropped to 1.6% in December 2022, which was 2.3 times lower than the yield on deposits in RUB in Belarusian banks and that slightly exceeded the rates on deposits in USD and EUR (0.7 and 1%, respectively). Interest rates on new fixed-term retail deposits have been in the range of 9-10% since October 2022.

Price conditions for Belarusian ruble lending are not rigid at least

The results of applying QPM indicate that the average real interest rate on Belarusian ruble market loans in Q4-2022 exceeded the neutral level (Figure 4.a). This was due to the very strong impact of the price decline on rational inflation expectations in Q4-2022, which were estimated directly in QPM and used to calculate the real rate.

At the same time, the nominal average rate on new market loans in Belarusian rubles fell by 4.3 percentage points in Q4-2022 and dropped to its historical low of 10.3% in December 2022.[2] In addition, the results of a bank lending conditions survey conducted by the National Bank signal a significant easing of borrowing conditions for all categories of borrowers in Q4-2022 due to the interest rate factor.[3]

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[1] The nominal average interest rate on new fixed-term Belarusian ruble deposits fell from 6.2% (Q3 average) to 3.6% in Q4, and deposit interest rates for organizations fell from 3.8% to 1.9%, and deposit interest rates for households fell from 13.7% to 9.9%.

[2] The nominal average interest rate on new market Belarusian ruble loans of banks lowered from 15.6% (Q3 average) to 11.3% in Q4, and lending rates for organizations lowered from 15.8% to 11.2%, and lending rates for households lowered from 13.8% to 12.2%.

[3] See details at (in Russ.): https://www.nbrb.by/publications/creditsmonitoring/cm_2022_4.pdf.

All this gives grounds to believe that loan interest rates in Q4-2022 did not constrain credit activity at least, but, most likely, stimulated it.

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).
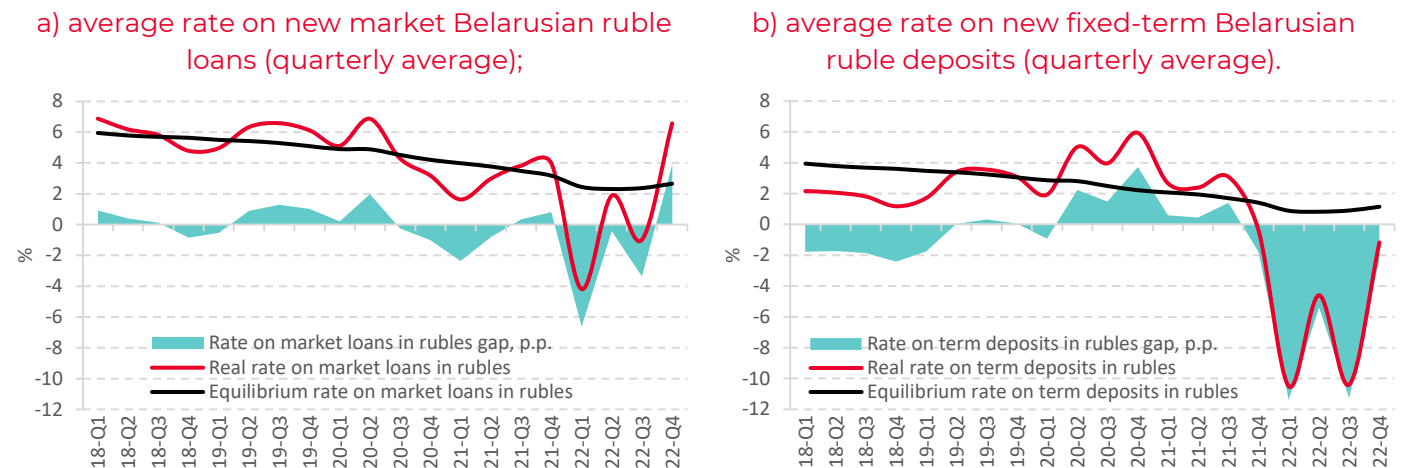
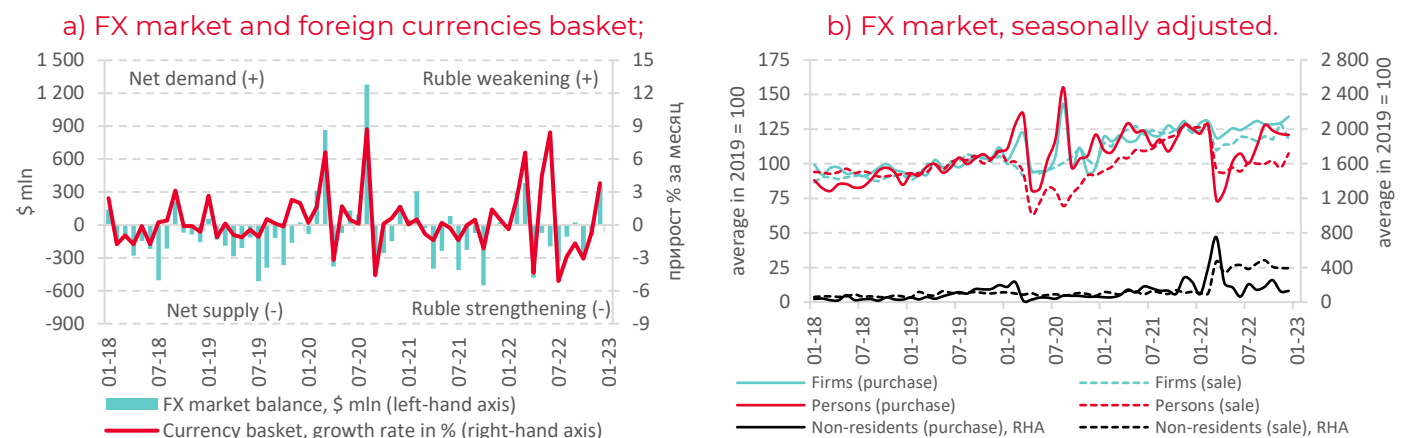**Source:** The calculations are based on the QPM for Belarus.
Note: Real interest rates in Figures 4.a and 4.b have been calculated on the basis of average nominal interest rates between organizations and households (according to the National Bank) and the expected annual inflation in the next quarter (QPM-based).

2 Exchange rate policy: measures, direction, nature

Volatility of the Belarusian ruble exchange rate remained high, despite the National Bank's presence in the foreign exchange market

The Q4 average value of the basket of 4 foreign currencies decreased by 5.5% versus Q3. The Belarusian ruble strengthened against all foreign currencies in the basket on average in Q4-2022, most strongly against the Russian ruble: by 7.5%. Once looking at the more frequent data, one can see the strengthening of BYN was recorded in October-November 2022 due to the net supply of foreign currency in the domestic market. The basket dynamics reversed in December 2022 due to net demand in the foreign exchange market (Figure 5.a).

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

a) FX market and foreign currencies basket;

b) FX market, seasonally adjusted.

Source: The 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.

The National Bank was smoothing the exchange rate trajectory by foreign exchange interventions

The National Bank bought foreign currencies in the amount equivalent to $388 million (together with the Ministry of Finance) in October-November 2022, and then sold them (together with the Ministry of Finance) in the amount of $357 million in December 2022. Interventions could take place mainly with the Russian ruble due to sanctions restrictions imposed on the National Bank and due to restructuring trade flows towards Russia. This is indicated by the growth of gold and foreign exchange reserves by $132 million in December 2022, with a significant amount of foreign currency sales by the National Bank. The increase in reserves was partially facilitated by the flow of government deposits from banks (minus $137 million in December) to the National Bank (plus $144 million in December). In addition, the monetary gold value could increase by about $100 million due to higher global prices. However, even these two factors combined could not compensate for the $357 million in foreign exchange sales in the event of interventions in US dollars and/or yuans.

Currency sales by non-residents may be associated with parallel imports

The previously formed tendencies of the foreign exchange market persisted in Q4-2022. On the one hand, non-residents retained the status of statistical donors of foreign currency in the Belarusian market. On the other hand, Belarusian enterprises consistently remained net foreign currency buyers (Figure 5.b). At that, the growth in demand of enterprises and their fall in the supply of foreign currency led to net demand (seasonally adjusted) in the foreign exchange market as a whole in December 2022. Such behavior of enterprises in the foreign exchange market is not typical in the context of a surplus in foreign trade in goods and services (seasonally adjusted). This suggests that the net sale of foreign currency by non-residents could be largely offset by the increased volume of its purchase by Belarusian firms to pay for parallel imports to Russia.[4] Other factors behind firms' net demand for foreign currency were low interest rates on Belarusian ruble deposits, the repayment of foreign currency liabilities by enterprises, and, possibly, a record-breaking growth in Belarusian ruble lending to the public sector in December 2022.

The volume of purchases of foreign currency by the population stabilized in Q4-2022 (Figure 5.b) and even slightly decreased (seasonally adjusted) in December 2022 despite a rapid growth in wages. This may be due to a smaller increase in the total income of the population in comparison with the average wage in the face of a decreasing average number of employees. Perhaps, the relocation of IT workers, who had been large net buyers of foreign currency, had an impact, too. The sale of foreign currency by individuals also remained lower than in 2021, which can be explained by elevated uncertainty.

According to QPM, the undervaluation of the Belarusian ruble due to its corrective strengthening more than halved to about 2.5–3% in Q4 versus 6–7% in Q3 (Figure 6)

Eventually, the scale of the price competitiveness support provided to Belarusian producers decreased, primarily in the Russian market. In addition, the pro-inflationary impact of the exchange rate significantly weakened.

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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 reflected in the statistics of the Belarusian foreign exchange market as the purchase of foreign currency by resident entities.

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;

b) Belarusian ruble exchange rates.
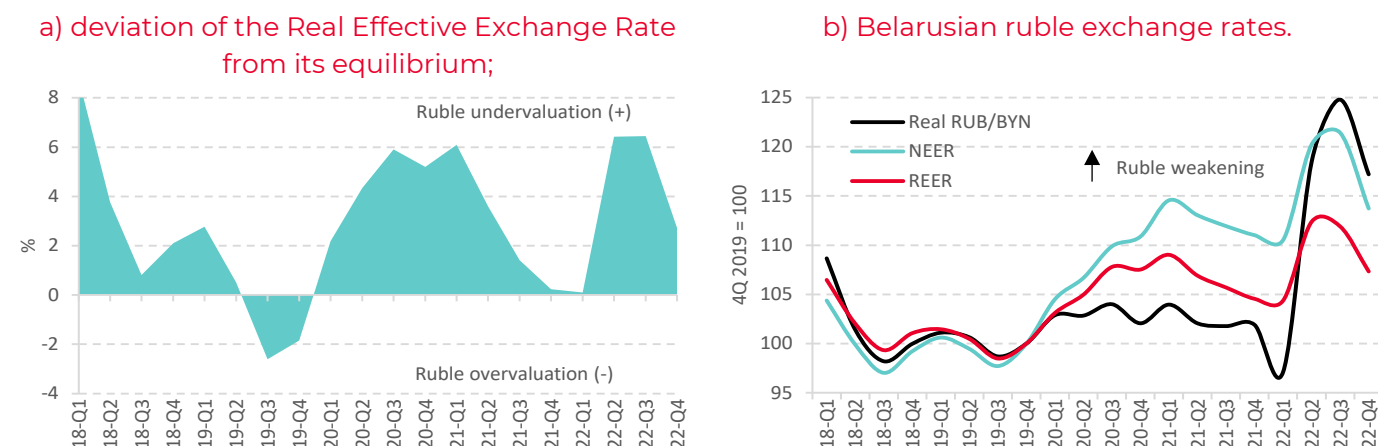
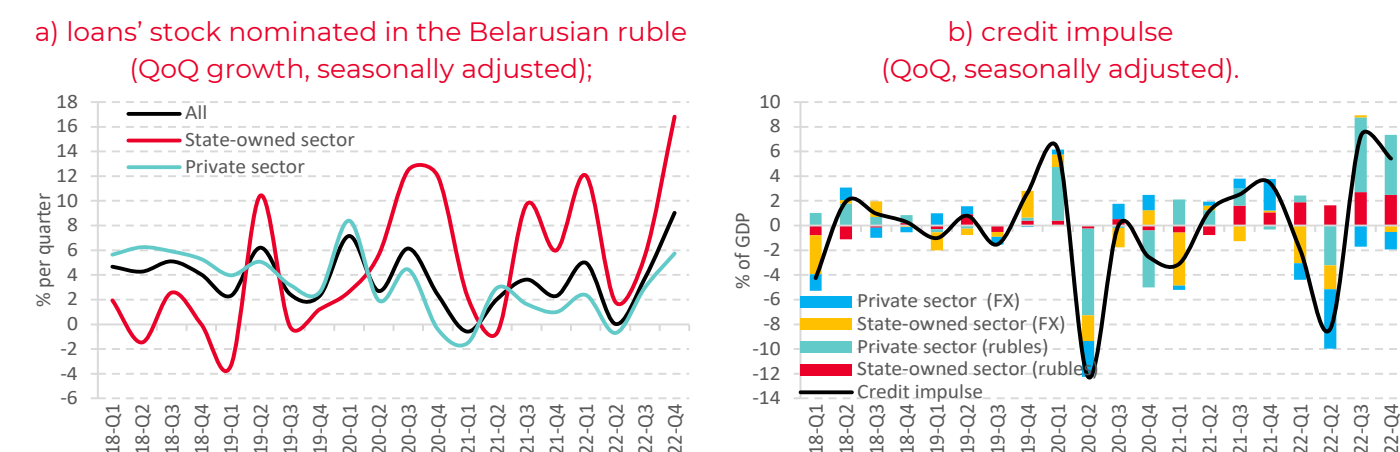**Source:** The calculations are based on the data by the National Bank of Belarus, QPM.
Note: These are the Nominal (NEER) and the Real (REER) Effective Exchange Rates of the Belarusian ruble.

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

Strong credit impulse in Q4-2022 amid low interest rates

Increased volumes of loans issued in the Belarusian ruble segment, both to state-owned enterprises and the private sector, was identified (Figure 7.b). It was noteworthy that a significant credit impulse in the public sector combined with an explosive credit liabilities growth (Figure 7.a).[5] Since the main increase is concentrated in the segment of short-term borrowings, this may indicate a strong quasi-fiscal support provided to the public sector to cover its need for working capital and maintain production volumes, employment and wages. It was also possible to partially use short-term borrowings to buy foreign currency amid low interest rates and weakening BYN against USD and EUR in December.

Figure 7. Loans' and credit impulse dynamics

a) loans' stock nominated in the Belarusian ruble (QoQ growth, seasonally adjusted);

b) credit impulse (QoQ, seasonally adjusted).

Source: The 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. The indicator dynamics updates once new data are published.

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[5] The main surge occurred in December: the seasonally adjusted volume of Belarusian ruble loans issued to the public sector jumped by almost 35% compared to November, and the seasonally adjusted volume of Belarusian ruble debt increased by more than 15%. This is a record monthly debt increase since 2015. The previous high of about 9% was in August 2020.

A strong growth in the private sector lending in Q4-2022 was accompanied by a moderate increase in debt (Figure 7.a; Figure 7.b). Firms used new loans largely to repay their liabilities, which, among other things, could be a consequence of debt restructuring due to a significant lowering of interest rates on new loans. Another factor to grow the issuance of Belarusian ruble loans to private businesses continues to be the "reversal" of the currency structure of the loan portfolio, i.e. foreign currency loans have been replaced by the Belarusian ruble loans. It should be noted that the credit impulse in the private sector was positive not only in the segment of firms, but also in the population. Retail lending has noticeably revived amid recovery from the February-March shock and softer lending.

The Belarusian ruble money supply was actively growing in Q4-2022 due to the influx of "hot" money

Expanding lending and issuing operations of the National Bank resulted in the increasing Belarusian ruble money supply (hereinafter referred to as M2). The M2 increased by ≈6.9% in real terms in December 2022 versus September 2022 (Figure 8.a), and its cash and current accounts increased by 12% (these are seasonally adjusted indicators). At the same time, fixed-term deposits of enterprises did not grow in Q4-2022, while retail fixed-term deposits slowed down their growth to 0.4% per month on average (without accrued interest). As a result, the share of cash and current accounts in the M2 structure increased for the second quarter in a row: by 3.5 p.p., up to 57.5%, from September to December 2022. It was a record-breaking increase since the transition to monetary targeting in 2015. The change in the M2 structure that took place in 2022 was the consequence of high uncertainty and low interest rates on term deposits in BYN, the level of which did not stimulate saving processes.

So far, the M2 dynamics does not pose direct inflationary threats, since the economy's total demand for money measured by broad money supply (hereinafter, M3) increased moderately in 2022: by 8.6% (YoY) within the target range of the National Bank. Nonetheless, an abrupt change in the M2 structure in favor of more mobile monetary aggregates bears the risk of their rapid flow to the foreign exchange and/or consumer market during crisis periods thus posing threats of increased inflation volatility.

Figure 8. Average money supply dynamics (seasonally adjusted)

a) real money supply dynamics;   b) decomposition of the nominal broad money growth.
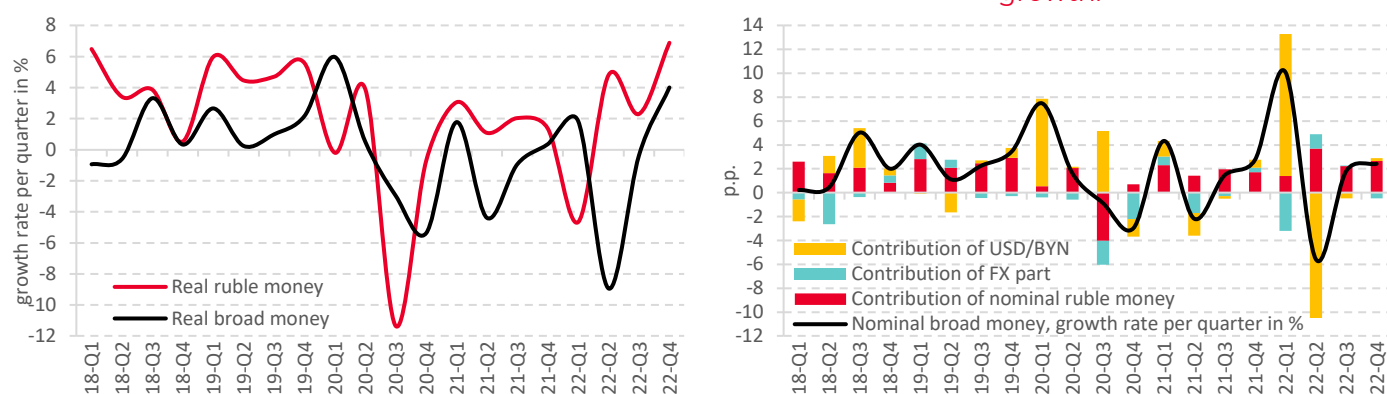
Source: The calculations are based on the data by the National Bank of Belarus and Belstat.
Note: The X13 procedure in the JDemetra+ app was applied to make a seasonal adjustment. The indicator dynamics updates once new data are published. The real money growth has been calculated by deflating the nominal increase (the last month of the quarter versus the last month of the previous quarter) by the quarterly change in the CPI.

4 Monetary conditions short-term forecast

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.[6] Some mitigation is possible towards the end of the year, given the projected inflation trajectory: an inflation decrease below 5% (YoY) in spring-summer and an inflation acceleration to 7-11% by the year end. There is a high probability of increasing unsecured money emissions in an attempt to hit the planned GDP growth rate. The baseline scenario expects that money emissions will be carried out in volumes that will not lead to a significant imbalance of supply and demand.

If the baseline scenario fulfills, monetary conditions will remain stimulating in 2023 (Figure 1). The refinancing rate may lower to 10-11% in Q2-2023 already. A stronger decline under government pressure should not be ruled out. The interbank market will remain dysfunctional, and the interbank rate will remain at its historical lows. It may increase in the second half of the year, subject to the resumption of liquidity regulation operations by the National Bank. Interest rates on Belarusian ruble deposits, especially in the corporate segment, will remain low. However, it is quite possible that the limit of their decrease was reached in late 2022, and they are likely to somewhat increase by late 2023. The average Belarusian ruble market loan interest rate is projected to be close to 10% in 2023. A significant decrease in this rate is unlikely due to elevated inflationary expectations (Figure 9.a). The forecast risk is still the probability of a strong inflation acceleration, which may force the National Bank to tighten monetary policy.

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);
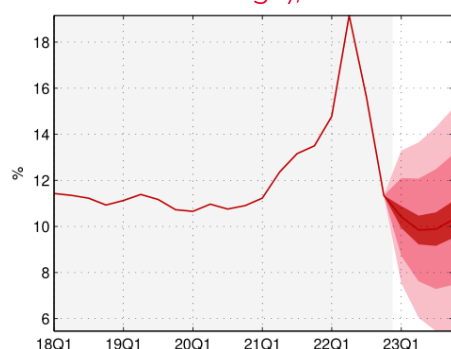
b) USD/BYN exchange rate forecast (quarterly average).
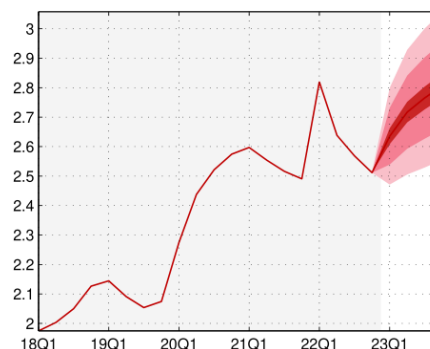
Source: The calculations are based on the Quarterly Projection Model (QPM) for Belarus.
Note: The ranges in the figure correspond to the 15%, 50% and 75% confidence intervals.

The Belarusian ruble may remain somewhat undervalued in terms of the REER in 2023 (Figure 1) in the context of low interest rates on Belarusian ruble assets, 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 moves to the range of 70–80, the USD/BYN exchange rate will also increase in 2023 (Figure 9.b). Devaluation risks for the exchange rate dynamics remain due to the uncertainty of new manifestations of sanction restrictions and due to the likelihood of excessive easing of the monetary policy in Belarus.

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[6] The key prerequisites for external conditions are avoiding an extreme degree of escalation of the military confrontation in Ukraine and direct involvement of Belarus in hostilities, and the absence of new significant sanctions restrictions.

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.

QPM indicators

Monetary conditions

This is an indicator of the state of monetary conditions. It is a combination of the real effective exchange rate gap (with the opposite sign) and real interest rates gap. 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 level. A potential GDP is such a GDP level 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 that makes neither an additional pro-inflationary impact nor a disinflationary impact.