Belarus Economy Monitor:
trends, attitudes and expectations

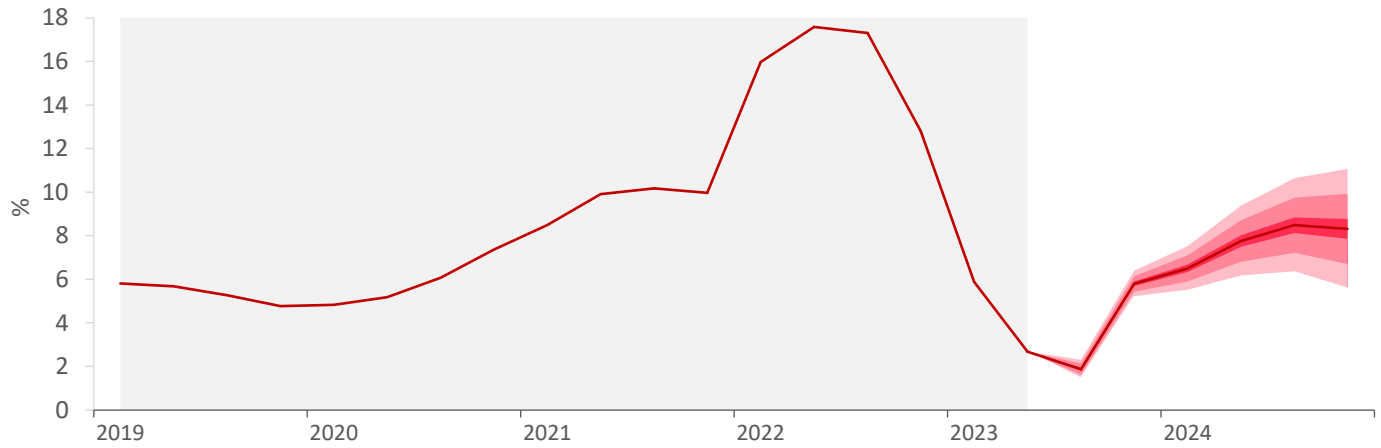
Inflation Review
Q2-2023

July 2023

Inflation remained low in Q2-2023, but domestic demand price pressures intensified

The annual increase in prices in June rewrote the historical low and amounted to 2.9% (YoY). Annual inflation will remain close to 2% (YoY) in Q3-2023, constrained by the government's continued strict price controls. The effects of state regulation were the main reason for the annualized quarterly price growth (seasonally adjusted) to slow down to 3.7% (QoQ) in April-June. Blanket price controls largely suppressed the increased inflationary pressure from domestic demand and the labor market. The pro-inflationary impact of these factors has prerequisites to strengthen in the second half of this year due to excessive monetary stimulus and a shortage of labor resources. This may result in accelerating quarterly price growth rates, and annual rates will also increase sharply starting from October. As a result, annual inflation may accelerate to 5–7% (YoY) in Q4-2023 and to 7–10% in 2024 (Figure 1) even if the National Bank gradually returns to a neutral monetary policy over the next year.

Figure 1. Dynamics and forecast of consumer inflation in Belarus, % (YoY)



Source: The calculations are based on the Quarterly Prediction Model (QPM) for Belarus.
Note: The figure shows a seasonally adjusted indicator. The X13 procedure in the JDemetra+ app was applied to make a seasonal adjustment. As new data are published, the indicator dynamics can be updated. The ranges in the figure correspond to the 15%, 50% and 75% confidence intervals.

The Inflation Review Bulletin is an expert analysis of inflationary processes in the consumer market. The bulletin depicts the dynamics of price indices, analyzes the drivers of inflationary processes, assesses the nature of monetary conditions, and provides a short-term inflation forecast. The methodological basis for the analysis is the Quarterly Projection Model (QPM) for Belarus.

1 Dynamics of inflationary processes

Inflation remained low in Q2-2023 amid tight government price controls

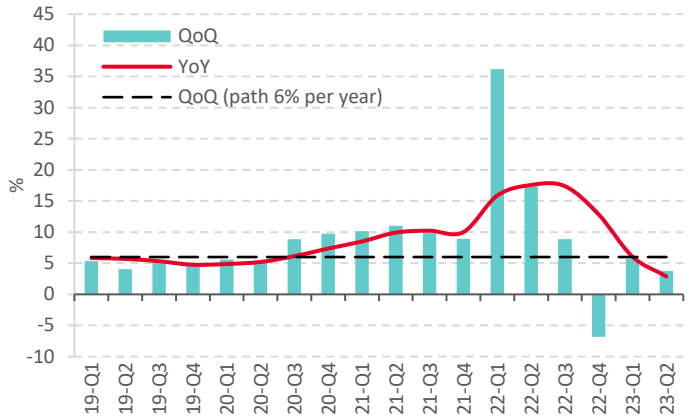
Consumer prices increased by 3.7% (annualized and seasonally adjusted) in Q2-2023 (hereinafter referred to as "%, QoQ").[i] Quarterly price growth (excluding Q4-2022) was the lowest since Q3-2017 (Figure 2.a). As a result, annual inflation (based on the Consumer Price Index (CPI)) fell from 6% in March 2023 to an all-time low of 2.9% in June 2023 (hereinafter referred to as "%, YoY").[ii]

Annual inflation deviated by ≈1 p.p. down from the April forecast trajectory

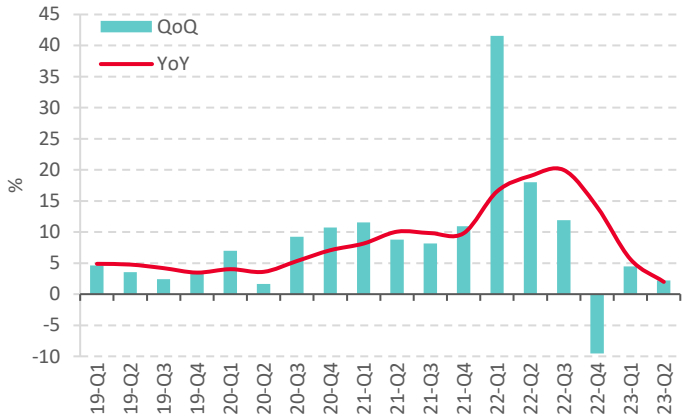
Price controls exercised by the government did not soften in Q2-2023, but remained blanket. This led to the deviation of the actual inflation dynamics from the projected trajectory: the Quarterly Projection Model (QPM) incorporated strict state regulation into the inflationary shock (Figure 2.c). Strict government regulation largely dampened the impact of rising price pressures from rapidly expanding consumer demand and accelerated wage growth (Figure 10.a).

Figure 2. Dynamics of consumer and producer inflation

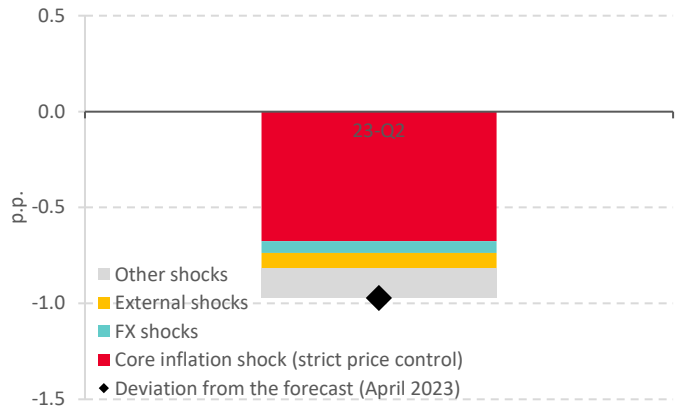
a) overall inflation;



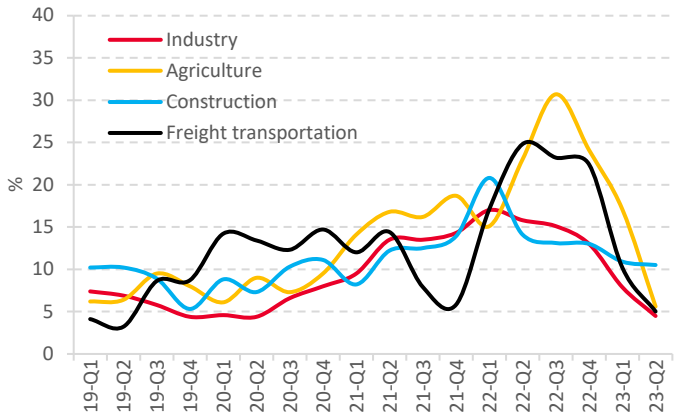
b) core inflation;



c) factors of deviation of annual overall inflation from the April 2023 forecast;



d) producer inflation (YoY).



Source: The calculations based on the data from Belstat, QPM.

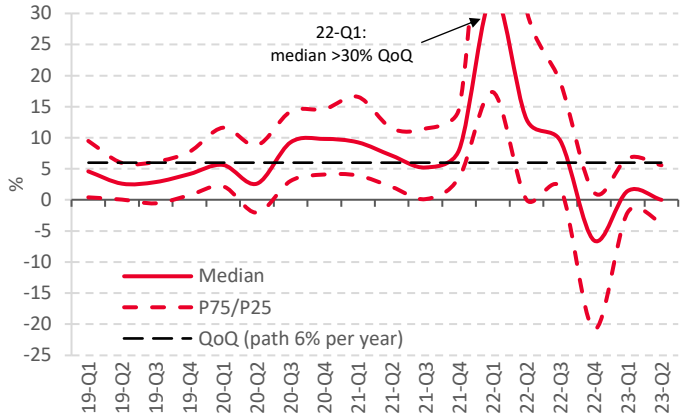
Note: Hereinafter, YoY (year-on-year) is the growth rate in the last month of the quarter versus the last month of the corresponding quarter of the previous year; QoQ (quarter-on-quarter) is the annualized growth rate in the last month of the quarter versus the last month of the previous quarter, seasonally adjusted.

Core inflation and median inflation slowed down in Q2-2023, but their significance as stable price dynamics indicators has greatly decreased due to blanket price controls

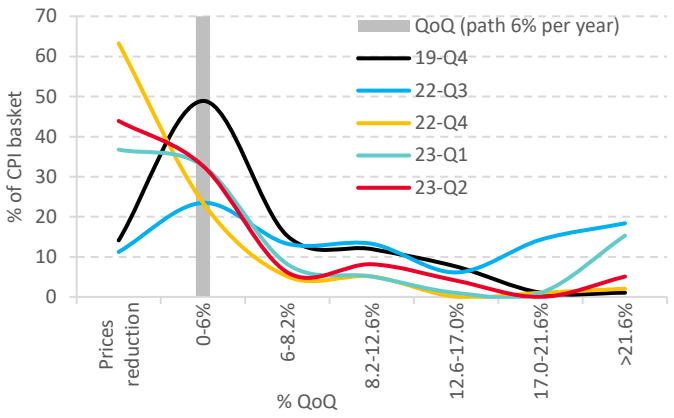
Core inflation was 2.2% (QoQ) in Q2-2023, while the median inflation was 0.0% (QoQ) (Figure 2.b; Figure 3.a). The distribution of price changes between the consumer basket components remained shifted towards their decline (Figure 3.b), which was "unnatural" for Belarus under "normal" conditions. Nearly 44% (seasonally adjusted) of the basket got cheaper in Q2-2023 versus the previous quarter: since 2017, higher values were recorded only in Q4-2022, when retailers were forced to adjust prices to bring them in line with the new regulatory system.

Figure 3. Dynamics of median inflation and distribution of relative price growth

a) median inflation (QoQ);



b) price increment distribution (QoQ).



Source: The calculations are based on the Belstat data.

Note: Median inflation and price increment distribution are calculated using data from 98 aggregated commodities in the CPI basket. P75 and P25 are the 75th and 25th percentiles, respectively (prices for 25% of goods rise faster than the inflation of the 75th percentile, and prices for another 25% of goods rise slower than the inflation of the 25th percentile).

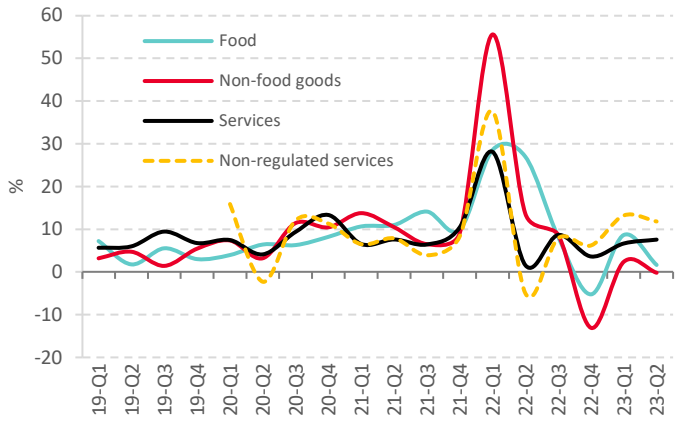
Weak price growth for goods was a key component of subdued consumer inflation in Q2-2023

Food prices rose by 1.7% (QoQ), while non-food prices decreased by 0.2% (QoQ) (Figure 4.a). In the food segment, as in the previous quarter, alcohol, tobacco, milk and dairy products were key price growth drivers (Figure 5.a). Rising alcohol and tobacco prices reflect the effects of higher excise taxes. The high rise in prices for dairy products could be associated with the completion of the price equalization process in Belarus and Russia (Figure 5.d). Inflation in the food segment was held back by cheaper prices for fruits and vegetables (by ≈23%, QoQ) after their strong rise in prices in Q1-2023 (by ≈30%, QoQ), lower coffee and tea prices, which could reflect the process of adjusting the chains of supplying them to Belarus, as well as a price decrease for cereals, oils and fats (Figure 5.a).

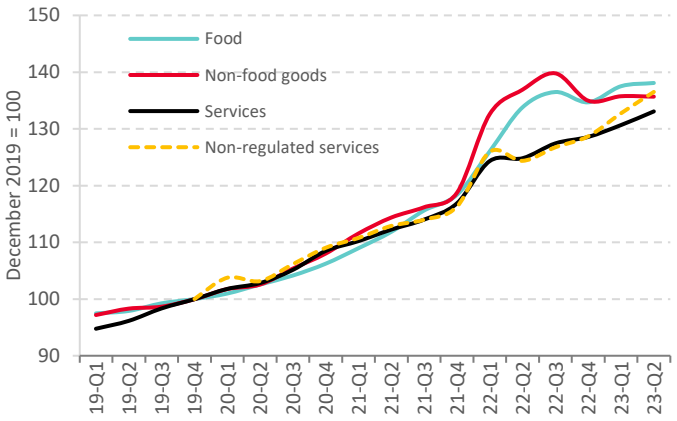
28 out of 48 consolidated products in the non-food segment fell in price in Q2-2023 (Figure 5.b). Weak inflationary dynamics in this segment persisted despite increased price pressure from wage growth and the exhaustion of the disinflationary impact of domestic demand. Establishing supply chains could help reduce inflationary pressure in the non-food segment compared to last year. However, according to the National Bank, the costs of import supplies increased more significantly in January-April 2023 compared to the increase in prices for non-foods. It is likely that tight price controls by the government prevent producers and retailers from fully transferring increased costs into prices.

Figure 4. Dynamics of inflation and prices of CPI components (seasonally adjusted)

a) QoQ;



b) December 2019 = 100



Source: The calculations based on the Belstat data.

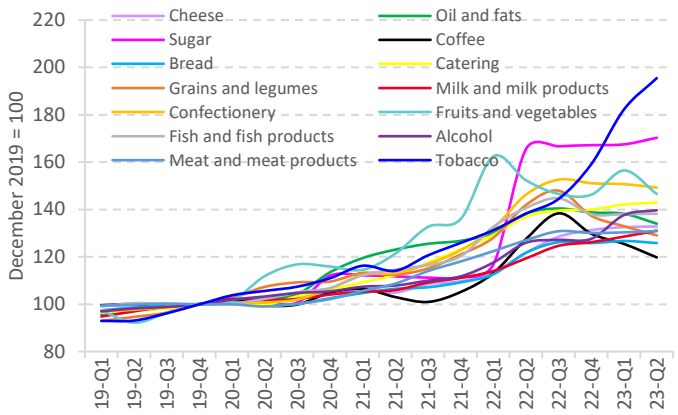
Note: QoQ (quarter-on-quarter) is the annualized growth rate in the last month of the quarter vs the last month of the previous quarter, seasonally adjusted.

A 7.6% (QoQ) increase in consumer service prices was an inflation driver in Q2-2023. Inflation in non-regulated services (a possible indicator of sustained price pressures) exceeded 10% (QoQ) for two consecutive quarters (Figure 4.a)

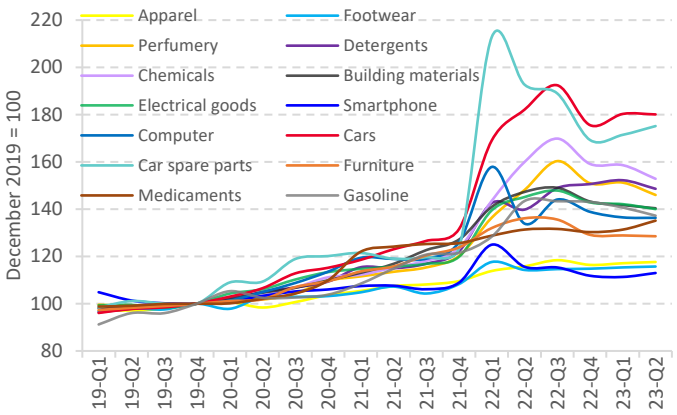
Services in Q2-2023 rose in price broadly (Figure 5.c). At that, the price of non-regulated (market) services grew at a faster pace (Figure 4.a). Tourism and health resort services, transport and car insurance services have risen in price, which is partly explained by their dependence on the dynamics of the Belarusian ruble exchange rate against the US dollar and the euro. At the same time, high growth rates of the prices for non-regulated services along with low inflationary dynamics in the goods segment may indicate the pro-inflationary impact of the increased domestic demand, the impact of which in the goods segment is constrained by strict state regulation. At the same time, it cannot be ruled out that accelerated inflation in services recorded in recent quarters was compensatory; and this is explained by the equalization of relative prices: goods became more expensive than services in the spring of 2022 (Figure 4.b). This process ended for non-regulated services in June 2023. Therefore, further inflation dynamics in non-regulated services can be considered as an indicator of overheating economy: if inflation remains steadily high in this segment, this will signal that demand exceeds supply capacity (including due to labor force shortage).

Figure 5. Price dynamics for individual consumer basket items (seasonally adjusted)

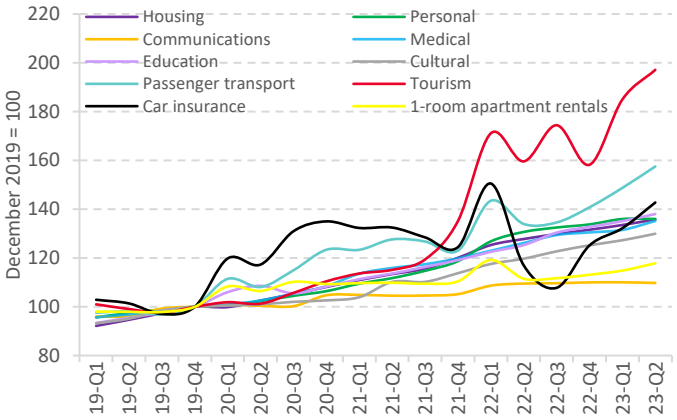
a) food prices;



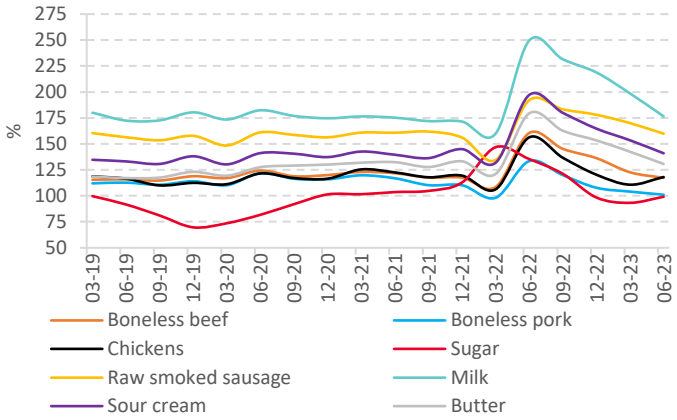
b) non-food prices;



c) services prices;



d) price ratio in Russia and Belarus.



Source: The calculations are based on the data by Belstat, the National Bank of Belarus, and Rosstat.
Note: The ratio of prices in Russia and Belarus has been calculated as the ratio of the average price in Russia — recalculated at the average official foreign exchange rate of the Belarusian ruble to the Russian ruble — to the average price of goods in Belarus, multiplied by 100.

2 Inflation drivers

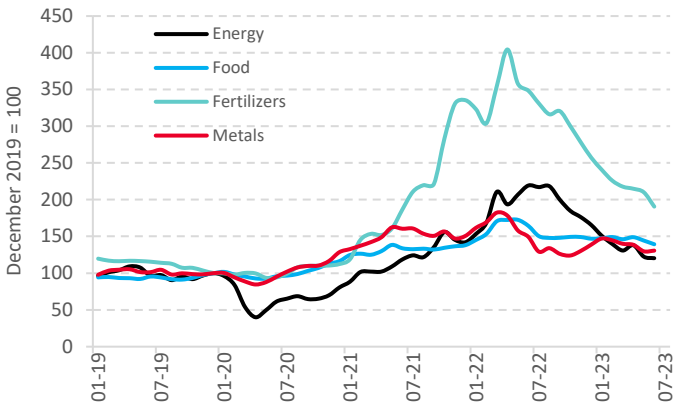
Global inflationary pressure continued to weaken in the commodity segment

Demand for goods in the global economy showed signs of contraction in Q2-2023: the Manufacturing New Orders Index (PMI) remained below the threshold of 50 points for the twelfth consecutive month in June (separating growth from decline), and the New Export Orders Index remained below the threshold for the sixteenth month in a row. Due to weakening demand and the normalization of supply chains, the PMI surveys recorded lower costs and selling prices of producers in the manufacturing industry in May-June 2023, for the first time since mid-2020.[iii]

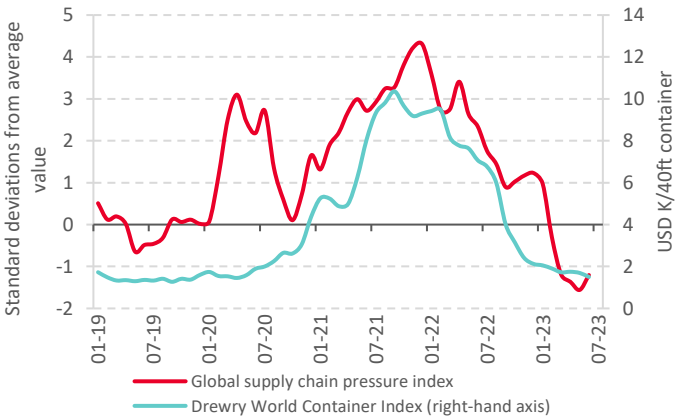
Commodities generally fell in price in Q2-2023: the World Bank US dollar Energy Price Index fell by ≈10% compared to Q1-2023, food fell in price by ≈2%, fertilizers fell in price by ≈10%, and metals fell in price by ≈8% (Figure 6.a). In the context of Belarus, the disinflationary impact of cheaper commodities on the global market was limited in Q2-2023, as their value expressed in Belarusian rubles had an upward impact on the weakening of the Belarusian ruble against the US dollar.

Figure 6. Global commodity prices and price pressures in supply chains

a) commodity prices;



b) supply chain pressure indices.



Source: World Bank, Federal Reserve Bank of New York, Drewry World Container Index, Drewry Supply Chain Advisors.
Note: The World Container Index is for the last week of the month.

Global supply chains have generally returned to normal

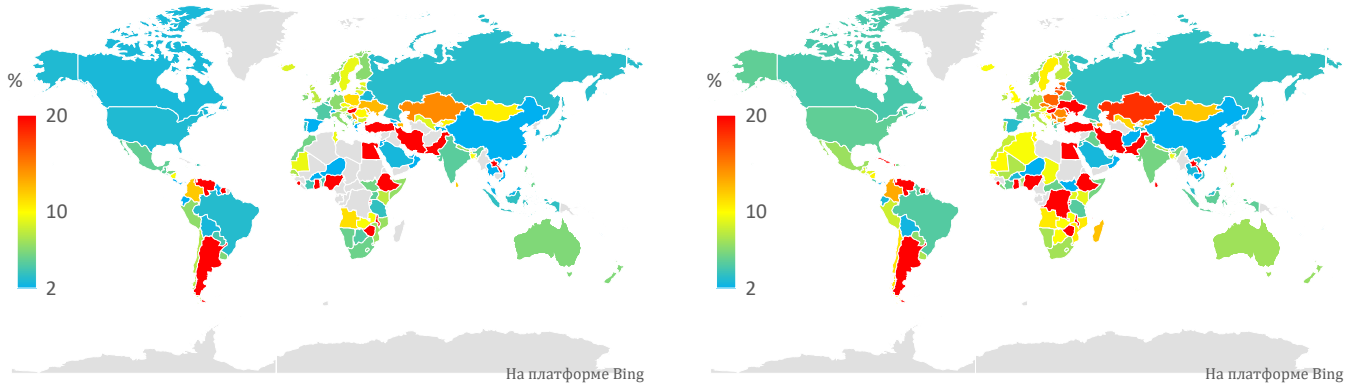
Amid weakening global demand, the price of maritime container transportations continued to decline, and it was close to pre-pandemic levels by the end of Q2-2023 (Figure 6.b). The Global Supply Chain Pressure Index remained below its historical average, signaling no additional global price pressures from logistics and transportation (Figure 6.b).

Price pressure in the service sector continued to be a significant driver of global inflation in Q2-2023

In services, in contrast to the goods segment, PMI surveys continued to record growing costs and selling prices in Q2-2023, albeit at a slower pace compared to previous periods. Imbalances in labor markets, especially in developed countries, support inflationary pressures in services, which is reflected in the persistence of generally elevated inflation versus the targets of central banks (Figure 7).

Figure 7. Global inflation

a) June 2023 (YoY); b) March 2023 (YoY).



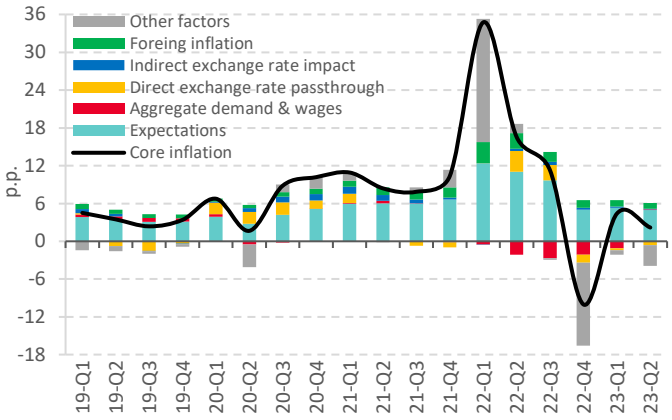
Source: Trading Economics, national statistical agencies.
Note: YoY (year-on-year) is the growth rate in the last month of the quarter vs the last month of the corresponding quarter of the previous year.

Price growth in Russia accelerated in Q2-2023, but its pro-inflationary impact on the Belarusian market was offset by the strengthening of the Belarusian ruble against the Russian ruble

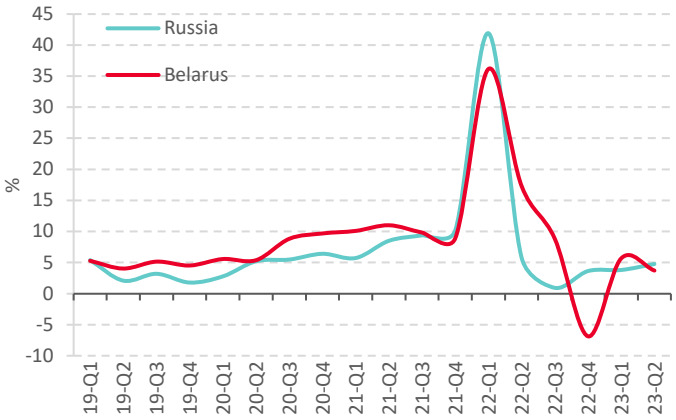
Inflation in Russia in Q2-2023 was estimated at around 4.7% (QoQ) following about 3.8% (QoQ) in Q1-2023 (Figure 8.b). Price pressures have been mounting in Russia amid an overheated labor market, increased domestic demand fueled by fiscal stimulus, limited capacity to adjust supply to the increased demand amid record-breaking production capacity utilization, and a weakening Russian ruble, which, inter alia, has increased inflation expectations. At the same time, the inflationary impact from the Russian market on the Belarusian market in Q2-2023 was largely neutralized by the strengthening of the Belarusian ruble against the Russian ruble (Figure 8.a). The tense situation in the labor market, excess demand and the effect of the exchange rate pass-through to prices have the preconditions for remaining among the pro-inflationary factors in Russia in the second half of this year.

Figure 8. Decomposition of core inflation in Belarus and inflation in Russia

a) core inflation decomposition, QPM-based (QoQ, logarithmic data);



b) inflation (QoQ) in Belarus and Russia.



Source: The calculations based on QPM, the data from Belstat and Rosstat.

Note: The contributions of the factors are calculated taking momentum into account; QoQ (quarter-on-quarter) is the annualized growth rate in the last month of the quarter vs the last month of the previous quarter, seasonally adjusted.

Persisting strict price controls were a key domestic factor holding inflation in Q2-2023

The QPM-based decomposition of core inflation indicates that the negative contribution of the factors not explained by the model (which considers the state regulation impact) to the annualized core inflation value was significant in Q2-2023 (Figure 8.a). Strict price controls continue distorting the impact of market factors on price dynamics by reducing the exposure of inflation to their impacts; however, strict price controls generate not only serious inflationary risks in the future, but also threats to the supply of goods to households in the long run.[iv]

Consumer goods supply chains in Belarus seem to have been rebuilt, but logistics costs have risen substantially

The value of consumer goods imports to Belarus for the first five months of 2023 exceeded the January-May 2022 value by 69% and the pre-war January-May 2021 value by about 50%, including the non-food segment, where the value of consumer goods imports exceeded the January-May 2022 value by almost 93% and the pre-war January-May 2021 value by 63%. Schemes for the supply of goods to the country have been set up; however, according to the National Bank data, their cost has increased significantly. Thus, consumer goods import prices in January-April 2023 were ≈20% higher versus January-April 2023, both in US dollar and Belarusian ruble terms. The price growth rate has grown versus 2022 (by ca. 13% in US dollars and by ca. 14% in Belarusian rubles), which may indicate a limited disinflationary impact of supply chain adjustments in the first half of 2023 following their strong pro-inflationary pressure in 2022.

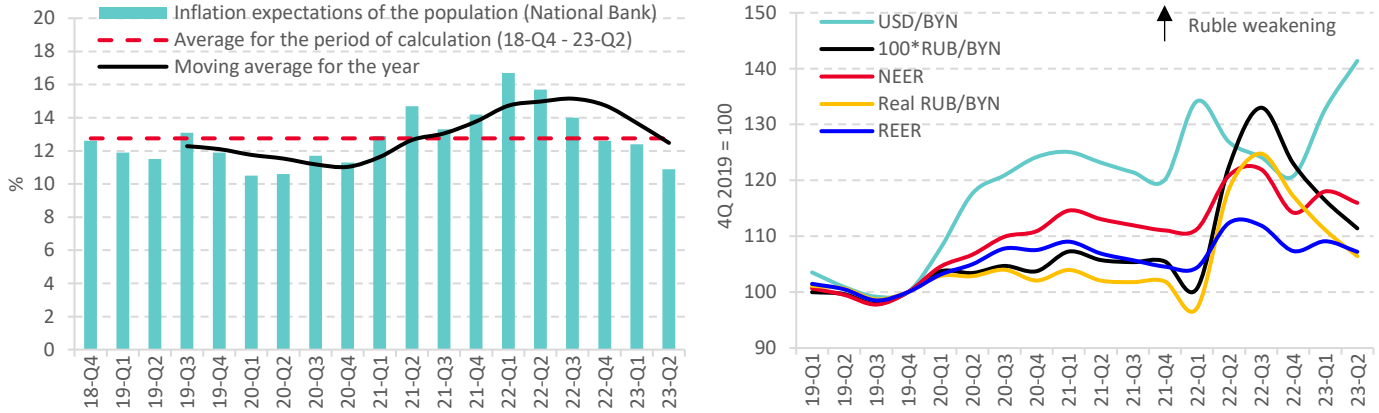
Inflation expectations remained subdued in Q2-2023; however, the weakening of the Belarusian ruble against the US dollar may lead to their increase in the second half of the year

The annual price increase expectations of households was 10.9% in June 2023, thus lowering from 12.4% in March 2023. Household inflation expectations dropped significantly below their average level: comparable low expectations were noted only in the first half of 2020 (Figure 9.a). QPM also generated similar estimates: the contribution of expectations (estimated within the model) to core inflation was below the 2022 values (Figure 8.a).

It was likely that the weakening of the Belarusian ruble against the US dollar and the euro in the second half of June did not have enough time to impact the inflationary expectations of households and businesses, but this weakening might increase the inflationary expectations in Q3-2023.

Figure 9. Household inflation expectations and dynamics of the Belarusian ruble exchange rates

a) annual inflation expected by households; b) Belarusian ruble exchange rates.



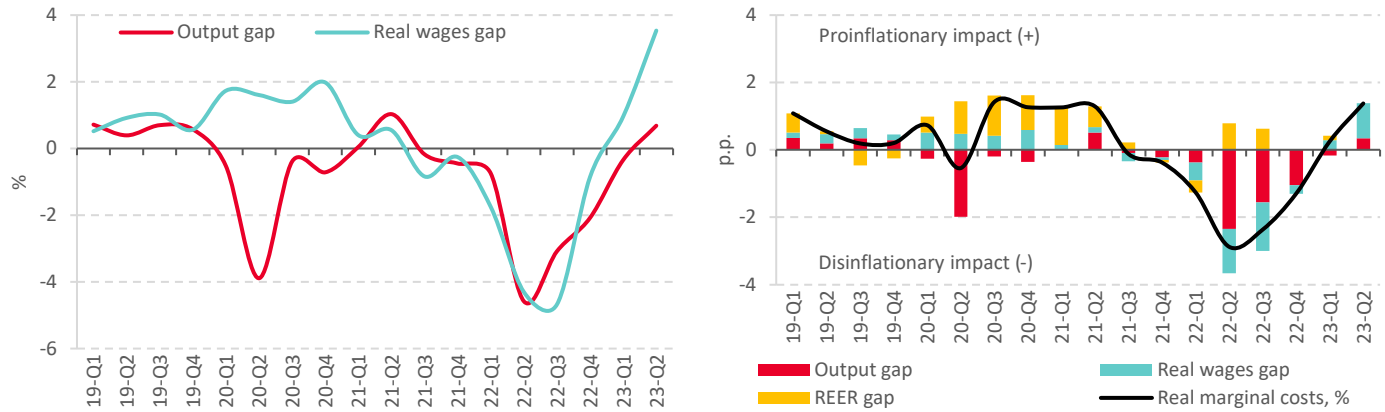
Source: The calculations are based on the data by the National Bank of Belarus.
Note: These are the Nominal Effective Exchange Rate (NEER) and the Real Effective Exchange Rate (REER) of the Belarusian ruble.

The dynamics of domestic demand becomes pro-inflationary

According to preliminary estimates, GDP grew by ≈0.8–1.2% in Q2-2023 versus the previous quarter (seasonally adjusted). As a result, a negative output gap closed, and GDP exceeded the equilibrium by about 0.7% in Q2-2023 (based on QPM; Figure 10.a). Rapid economic activity growth was accompanied by strengthening domestic demand fueled by monetary stimulus and possibly by fiscal policy, too. So far, the scale of economy overheating was not large, and given the inertia, its inflationary impact was limited in Q2-2023 (Figure 8.a). However, the pace of strengthening domestic demand looks ominous: if this continues, price pressure can increase significantly, as the ability to adjust supply is likely to be limited in the context of shrinking employment and sanctions restrictions.

Figure 10. Dynamics of internal inflationary pressure indicators

a) output gap and real wages gap (QPM-based); b) real marginal cost proxy (QPM-based).



Source: The calculations are based on the Quarterly Projection Model (QPM) for Belarus.
Note: The gaps are re-evaluated once data arrives. The real effective exchange rate gap (REER gap) is adjusted for the deviation of relative prices (the ratio of the core CPI to the composite CPI) from the trend.

The pro-inflationary impact of wages increased in Q2-2023

Real wages grew rapidly in Q2-2023, and their size significantly exceeded the equilibrium (or inflation-neutral) level (Figure 10.a). The rapid growth of wages reflects the shaped imbalances in the labor market, where the supply of the labor force lags behind demand due to shrinking employment. The wage dynamics is becoming more and more pro-inflationary (Figure 10.b), and the lack of labor resources may increase price pressure from domestic demand in the future: the economy stimulated by monetary and fiscal tools will lead to expanding demand, but the growth in the supply of goods and services will lag behind not only due to technological limitations, but also due to limited labor resources.

Exchange rate did not have a significant inflationary impact in Q2-2023

The Belarusian ruble in nominal terms (measured through the nominal effective exchange rate) appreciated by 1.7% on average in Q2-2023 versus the previous quarter (Figure 9.b). The Belarusian ruble appreciated significantly against the Russian ruble, while its value decreased against the US dollar, euro and Chinese yuan. In general, the exchange rate had a close-to-neutral direct impact on inflation in Q2-2023 (Figure 8.a). At the same time, there is a risk that the weakening Belarusian ruble (against the US dollar and the euro) will affect inflationary expectations in the second half of this year.

The indirect pro-inflationary impact of the exchange rate on price dynamics associated with the leveling of the disparity in prices for traded goods inside Belarus and in the countries, which were the trading partners of Belarus, almost neutralized itself in Q2-2023 (Figure 8.a). Strengthening Belarusian ruble (against the Russian ruble) (Figure 9.b) contributed to returning the ratio of prices for tradable goods in Russia and Belarus to its average level in recent years (Figure 5.d), and the real effective exchange rate of the Belarusian ruble was close to its equilibrium on average in Q2-2023 (Figure 10.b).

3 Monetary conditions

The inflation risk-tolerant policy of the National Bank supported loose monetary conditions in Q2-2023

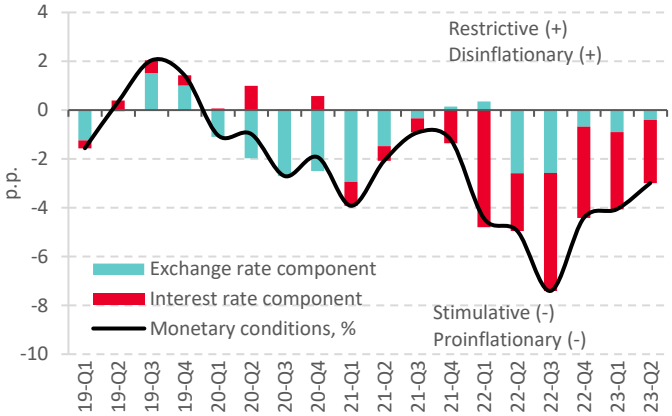
The refinancing rate lowered from 10.5% at the beginning of Q2-2023 to 9.5% in early August 2023. The National Bank did not regulate the liquidity of banks by market tools, and the banking system operated in an environment of a large-scale liquidity surplus. The expansionary monetary policy of the National Bank resulted in maintaining the nominal interbank market rate near 1%, in maintaining low interest rates on Belarusian ruble deposits and in reducing the interest rates on Belarusian ruble market loans to another historical low: 8.5% in nominal terms in June 2023.

Real interest rates in the credit and deposit market remained below their equilibrium on average as estimated through QPM (Figure 11.a). Loose monetary conditions supported high growth rates of Belarusian ruble lending (Figure 11.b) and Broad Money Supply (M3), and, along with insufficient confidence in the national currency, these factors did not generate additional incentives for long-term savings in Belarusian rubles.

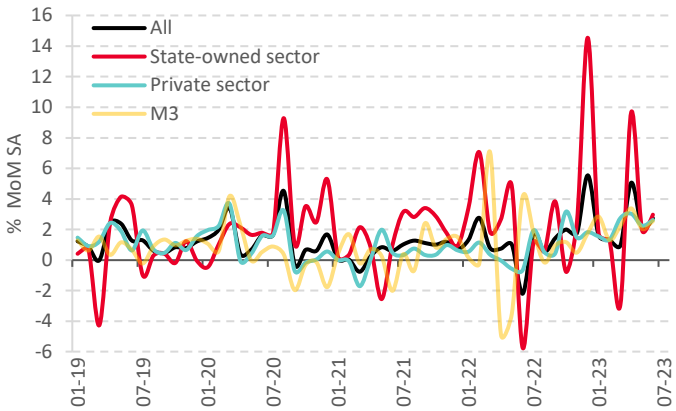
The dynamics of the money supply outpaced the growth of the potential GDP of Belarus in recent quarters, and the share of cash and current accounts in the structure of the ruble money supply in June reached a new maximum for more than 20 years: over 60% (seasonally adjusted). Rapid growth of the money supply increases inflationary risks, and its increasingly "fragile" structure can amplify the inflationary effects of shocks.

Figure 11. Monetary conditions

a) components of monetary conditions (QPM-based);



b) debt on BYN loans and M3 (monthly increase, seasonally adjusted).



Source: The calculations based on QPM), data from the National Bank of Belarus.
Note: The dynamics of monetary conditions may change once new data arrives. M3 is broad money supply.

The undervaluation of the Belarusian ruble neutralized in Q2-2023

The real effective exchange rate of the Belarusian ruble was close to its equilibrium (estimated through QPM) on average in Q2-2023 (Figure 11.a). At that, it was quite likely that a significant strengthening of the Belarusian ruble against the Russian ruble resulted in the Belarusian currency moving into the area of overvaluation against the Russian ruble at the beginning of Q3-2023. On the one hand, this state of the foreign exchange rate formed its neutral impact on inflation in Q2-2023. On the other hand, if the USD/BYN exchange rate steadily consolidates above 3.00 Belarusian rubles per US dollar, inflationary expectations of households and businesses may increase and become pro-inflationary factors in the second half of this year. In addition, the level of the exchange rate has ceased to be a significant factor in supporting the competitiveness of Belarusian producers, especially in the Russian market.

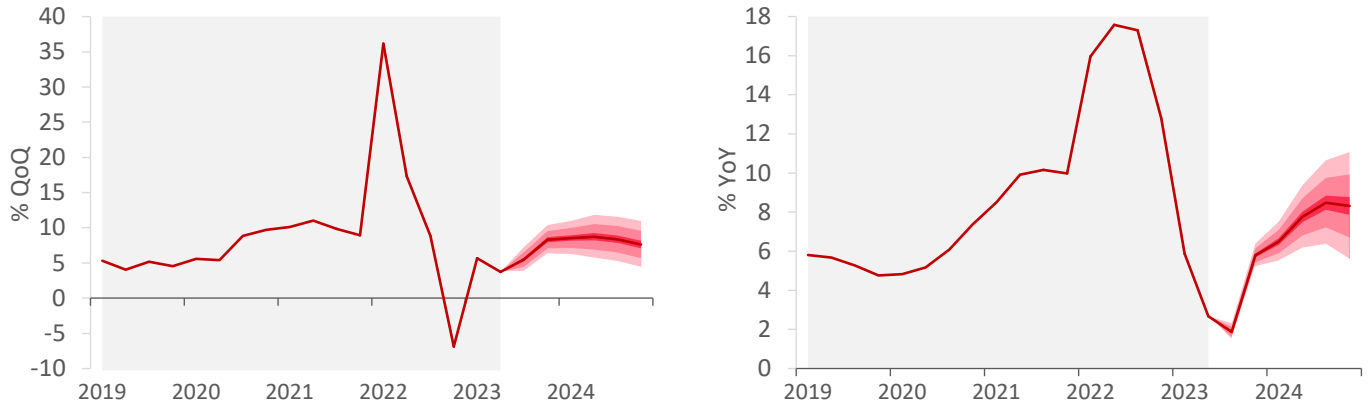
4 Short-term forecast

Annual inflation will get close to 2% (YoY) in Q3-2023, but it will accelerate to 5-7% (YoY) by the end of 2023

The effects of "manual" price cuts in October-November 2022 and the continued strict approach to price controls exercised by the government will continue affecting the annual inflation rate in July-September 2023. In this situation, annual inflation may rewrite its historically lows in Q3-2023 (Figure 12.b), and a temporary drop of the indicator slightly below 2% (YoY) cannot be ruled out in September 2023.

Figure 12. Inflation forecast for Belarus

a) quarterly inflation (QoQ); b) annual inflation (YoY).



Source: The calculations are based on the Quarterly Projection Model (QPM) for Belarus.
Note: YoY (year-on-year) is the growth rate in the last month of the quarter versus the last month of the corresponding quarter of the previous year; QoQ (quarter-on-quarter) is the annualized growth rate in the last month of the quarter versus the last month of the previous quarter, seasonally adjusted. The Figure shows seasonally adjusted indicators. The ranges in the figure correspond to the 15%, 50% and 75% confidence intervals.

Price pressure has prerequisites to get stronger in the second half of this year

Domestic demand in the second half of the year may be "overheated" if the monetary policy remains loose. This will translate into maintaining a positive output gap. The shortage of the labor force will limit the country's capacity to adjust the supply of goods and services to the increased demand, and this will translate in the growth of wages, the average size of which has already exceeded the inflation-neutral level in the first half of the year. Pro-inflationary effects in the second half of the year are also possible due to the acceleration of price growth in Russia and the dynamics of the Belarusian ruble exchange rate, including through the impact of the weakening Belarusian ruble against the US dollar and the euro on inflationary expectations of households and business. As a result, quarterly inflation rates will begin to accelerate (Figure 12.a), which will lead to an increase in annual inflation to 5–7% from October until the end of 2023. Persisting price controls are likely to restrain price growth. In 2024, annual inflation may rise to 7-10% even if the National Bank begins tightening its monetary policy gradually. The neutralization of the 2024 price pressures requires a monetary policy response as early as mid-2023 due to the time lags between monetary policy decisions and the effects of these decisions on economic activity and inflation.

5 Forecasting risks

The threat of heavy "overheating" of domestic demand is becoming more and more tangible

The baseline scenario assumes that monetary and fiscal stimulus will widen the positive output gap to 1-1.5% in the second half of the year, which corresponds to GDP growth of around 3% in 2023. This would mean a modest scale of excess demand, which should not (ceteris paribus) lead to inflation accelerating above 10% (YoY) in 2024. At the same time, if the economic activity incentives get stronger in order to ensure the GDP growth rate target and if the National Bank does not respond, the inflationary pressure will increase, and there will be a risk of fixing a double-digit inflation in 2024.

Inflationary risks posed by foreign exchange rate dynamics may become realistic in the second half of this year

A significant strengthening of the Belarusian ruble against the Russian ruble in late June — early July leads to overvaluation of the Belarusian currency. The overvaluation of the Belarusian ruble will affect the competitiveness of Belarusian producers in the Russian market, which may further challenge the targets of GDP growth, investment and exports. It cannot be ruled out that if the events develop this way, the government's pressure on the National Bank in terms of the weakening of the Belarusian ruble against the Russian ruble will intensify, which might have pro-inflationary consequences.

The pro-inflationary impact in the food segment may increase in the second half of the year in case of a low crop yield

As of July 27, 2023, yields of grains and legumes were ≈6% lower compared to July 30, 2022, when comparable areas of cropland were harvested. If this year's crop yields are significantly lower, price pressure in the food segment is likely to increase.

The strength and stability of the supply chains of goods coming to/from Belarus are not guaranteed

Both the tightening of approaches to such supplies by intermediary countries and the weakening of the financial performance of Belarusian firms due to the deterioration in the price conditions of foreign trade can lead to decreasing both imports and exports. If new logistical gaps emerge, inflationary pressure on the Belarusian market may increase.

Risks of lower inflation versus the baseline are associated with a continued tight price controls approach

It cannot be ruled out that strict price controls by the government will remain until the end of this year and in 2024. However, in the context of the overheated domestic demand and the labor market, delaying the exit from strict state regulation will be associated with ever greater potential costs in the form of an inflationary surge and a sharp tightening of the monetary policy. As a result, economic activity can drop sharply.

Volatility in world food prices due to uncertainty with the supplies of Ukrainian and Russian grain to the global market will also remain a pro-inflationary risk for Belarus

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. 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 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.

Wage gap

This is deviation of real wages from their equilibrium level. A positive gap indicates that wages are above the level corresponding to the potential GDP, and it is an indicator of inflationary pressure. The opposite is true for a negative 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.

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.

Real marginal costs

This is approximation of the incremental costs of producing an additional unit of output. Real marginal costs are a combination of output, wages, and real effective exchange rate gaps. Output and wage gaps approximate the costs of domestic producers, while the real effective exchange rate gap approximates the costs of importers. Positive values indicate a pro-inflationary pressure, and negative values indicate a disinflationary pressure.

Comments

[i] 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). All quarterly inflation values in the Bulletin (unless indicated otherwise) are presented as annualized (annual equivalent).

[ii] Significant discrepancies in annual inflation indicators have been recorded since March 2023. Official annual inflation figures published by Belstat were 6.03% in March, 4.73% in April, 3.70% in May, and 2.86% in June 2023. The estimated values based on the Consumer Price Index published by Belstat (December 1990 = 100) (and monthly inflation rates with two decimal places) were 5.84% in March, 4.57% in April, 3.53% in May, and 2.68% in June 2023. Average discrepancy between the two indicators was 0.171 p.p., while the discrepancy did not exceed 0.06 p.p. (absolute value) during the period from January 2020 to February 2023. It is possible that when calculating annual inflation, Belstat began to use monthly inflation rates for 2022 that were different from those published, but there was no explanation provided by this statistical agency.

[iii] See: https://www.pmi.spglobal.com/Public/Home/PressRelease/f3b0f0fdd3a2474f918a7a3e736e77ce.

[iv] We do not alter the calibrations of the QPM parameters that characterize the impact of factors on inflation. Even if tight price controls are a long-term phenomenon, maintaining the calibration will allow to evaluate the accumulated inflationary pressure contained by administrative measures.