

Overheating of the Belarusian Economy: Is the Threat Serious and What to Expect in 2025?

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ABSTRACT:

Belarus's economy has recovered quickly from the 2022 downturn. In Q3 2024, the country's GDP exceeded the pre-crisis 2021 average by 3.4%. Economic activity has surged on the back of a stimulative domestic economic policy, the highest excess demand in Russia since 2008, and was accompanied by a rapid increase in consumer demand and wages in Belarus, a decrease in unemployment to record lows, and the highest level of capacity utilization in industry since 2013. This has sparked widespread discussion on the potential overheating of the Belarusian economy. Accurately diagnosing this potential overheating is critical for economic policy decisions and the prospects for improving the well-being of the country's citizens.

This analytical note attempts to diagnose the Belarusian economy for its possible overheating in 2024 and to promote further discussion on this issue. The results obtained indicate a high probability of overheating of the Belarusian economy in 2024. Its scale is estimated to be the highest since 2014, but not critical for macroeconomic destabilization in the short term, provided there are no strong external shocks. However, in the event of strong external shocks, the economy may enter a deep recession, as it has become "fragile" to the impact of shocks.

Keywords: economic overheating, output gap, potential GDP, inflation, wages, unemployment, credit, economic policy, monetary conditions.

1. Introduction

The sanctions shock of 2022 led to a sharp economic downturn in Belarus. In 2022, Belarus's GDP dropped by 4.7%, retreating to levels last seen in 2012–2013. However, the economy began to recover in the second half of 2022, posting growth of 3.9% in 2023 and 4.5% from January to September 2024. This rebound not only compensated for the 2022 downturn but also propelled Belarus's GDP to historic highs. By Q2 2024, real GDP was 3.3% above the pre-crisis 2021 average, with preliminary estimates indicating that this gap widened to 3.4% by Q3 2024.

This strong economic growth in 2023–2024 was accompanied by a surge in consumer activity, increased real wages, record-low unemployment, peak industrial capacity utilization since 2013, rapid credit and money supply growth, and substantial government spending, including on social benefits and wages. Additionally, Belarus's GDP benefited from Russia's rapidly expanding economy, which in 2024 reached its most overheated level since 2008, according to both independent analysts and the Bank of Russia.¹ Russia remains Belarus's primary economic partner, accounting for around 60% of Belarusian exports and over 50% of its imports.

A debate has since emerged in the public sphere, with independent economists, Belarusian officials, the National Bank, and government-aligned experts weighing in on whether Belarus's economy is overheated and what its medium-term prospects are. Most independent economists believe the economy is significantly overheated in 2024, a view indirectly supported by National Bank experts, who have published positive output gap estimates,² and some government-aligned experts.³ In contrast, the government publicly maintains that the economy is not overheated and that the high growth rates align with its equilibrium trajectory.⁴

The answer to the overheating question is crucial for the welfare of Belarus's population and business environment over the next few years. If the economy is indeed overheated and the

¹ See: <http://cbr.ru/press/event/?id=18869>.

² See: https://www.nbrb.by/publications/inflationquarterly/inflationquarterly_2024_3.pdf.

³ See: Gotovsky (2024), URL: <https://www.nbrb.by/bv/pdf/articles/12166.pdf>.

⁴ See: 1) <https://belta.by/economics/view/golovchenko-proinfljatsionnyh-faktorov-v-belarusi-net-i-blizko-641798-2024/>;

2) <https://www.sb.by/articles/rost-zarabotnov-platy-obemov-proizvodstva-nakhoditsya-v-absolyutno-dopustimyh-parametrakh-golovchen.html>;

3) <https://economy.gov.by/ru/news-ru/view/andrej-kartun-belorusskaja-ekonomika-funktsioniruet-v-normalnom-temperaturnom-rezhime-49375-2024/>;

4) <https://www.sb.by/articles/snopkov-oboznachil-5-faktorov-podtverzhdayushchikh-otsutstvie-peregrevaj-ekonomiki-v-strane.html>.

authorities do not respond appropriately, continuing to stimulate domestic demand in an attempt to sustain high GDP growth temporarily, it could severely weaken the economy's resilience to shocks and result in either a sharp downturn or a prolonged period of stagnation.

This analytical note aims to clarify the concept of economic overheating for the general public, analyze the Belarusian economy for potential overheating in 2024, and encourage further discussion on this issue to help economic stakeholders at all levels make informed and effective decisions.

The analytical note is structured as follows. Section 2 defines the concept of economic overheating, deviations of GDP from equilibrium, summarizes overheating indicators and symptoms, and describes the potential economic consequences of overheating and governmental policy responses. Section 3 analyzes the state of the Belarusian economy and overheating indicators in 2024. Section 4 outlines the most realistic medium-term scenarios for the Belarusian economy. Section 5 concludes with policy recommendations for economic management.

2. Economic Overheating: What Is It, When Does It Occur, What Are the Consequences and How to Respond to It?

2.1 What is economic overheating?

A strong and growing economy is the desirable situation for society. With a strong economy, more people are employed, earnings rise, and the quality of life improves. However, a rapidly growing economy remains desirable only as long as this growth is sustainable. There are times when the economy grows too fast, leading to overheating.

Economic overheating is a situation where the capacity for effective production is maxed out, limiting producers' ability to meet the demand from households, firms, and government institutions (Central Bank of Ireland, 2024). Available resources – such as labor, machinery, equipment, and other capital – become insufficient to adjust supply in line with high domestic and external demand. As a result, under existing production technologies, producing each additional unit requires greater costs than the revenue it generates.

2.2 Output gap and potential GDP – the most important indicators for the government economic policy

In economic policy, the output gap is used to assess the balance between demand and sustainable supply within the economy. The output gap represents the difference between a country's actual real GDP and its potential (or equilibrium, or balanced) GDP (**Fig. 1.A**). Potential GDP is the level of output an economy can produce when fully utilizing production factors, given existing resource, technological, and institutional constraints (Jahan & Mahmud, 2013; Bank of Russia, 2024). Full utilization of production factors does not imply using them at 100% but rather at their natural (or most efficient) level of engagement.

When actual GDP aligns with potential GDP, macroeconomic imbalances do not accumulate in the economy: there is neither additional inflationary nor disinflationary pressure, all else being equal. Economic overheating occurs when actual GDP significantly exceeds its potential level, or, in other words, when there is a substantial positive output gap (**Fig. 1.A**).

Potential GDP is not given once and for all. It changes with the dynamics of production factors. These changes can be abrupt, causing a significant shift in potential GDP (**Fig. 1.B**), or they may be gradual and sustained, leading to an acceleration (or deceleration) in the long-term growth rate of potential GDP (**Fig. 1.C**). A combination of these scenarios is also possible (**Fig. 1.D**).

A shift in the volume of potential GDP typically occurs due to strong, one-time factors that impact the economy's productive capacity. For example, a natural disaster can lead to a reduction in resources, while the discovery of a large mineral deposit can increase them. Likewise, the imposition of broad sanctions on a country can reduce its potential GDP by disrupting established production, logistics, and financial chains.

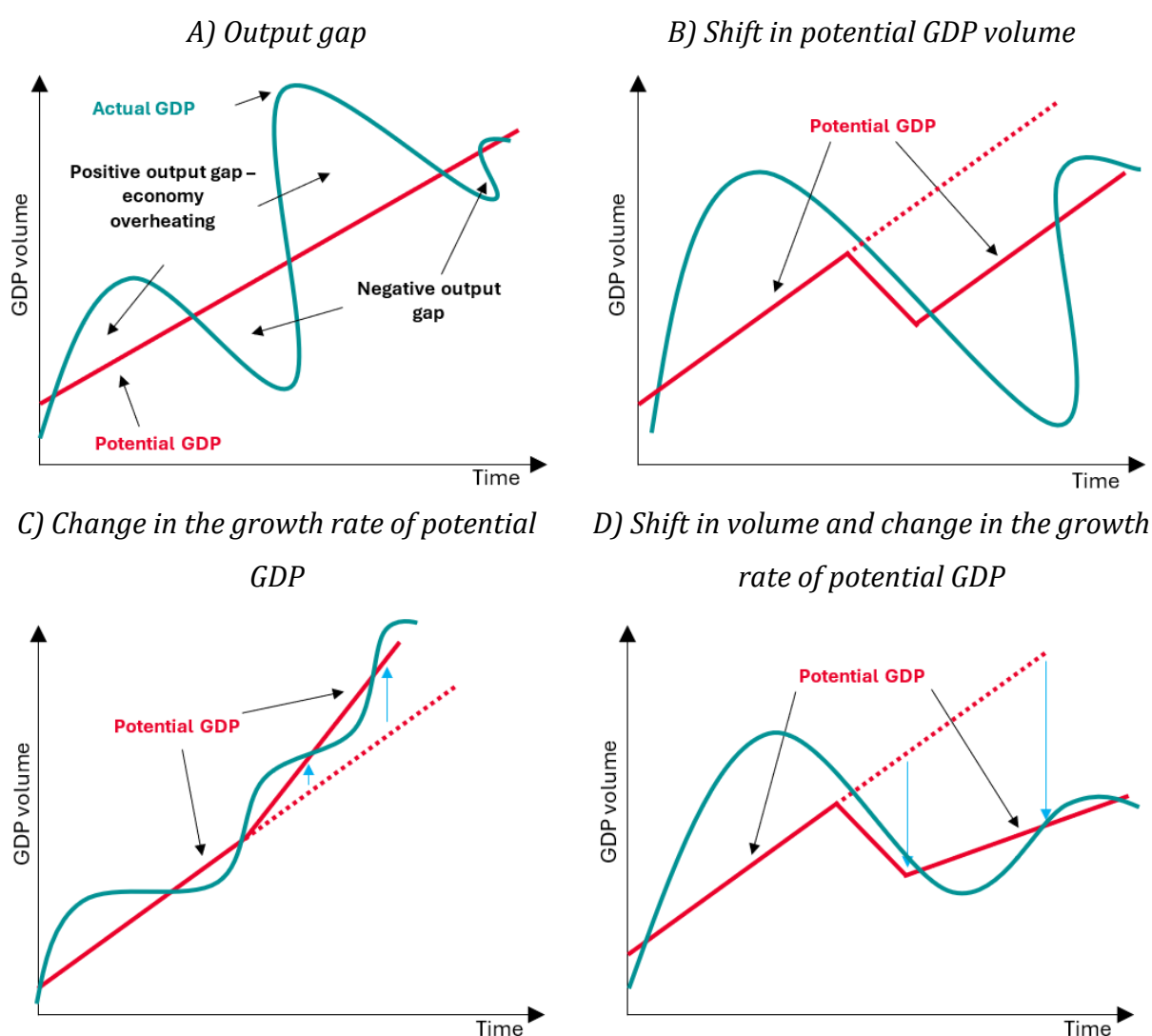
Long-term changes in potential GDP growth rates are influenced by technological innovations that increase total factor productivity. Political and economic institutions play a critical role here (such as a favorable business climate, rule of law and judicial independence, high-quality governance, an improved regulatory environment, enforcement of contracts and property rights, democratic election processes, etc.), as do societal values (such as risk acceptance, power distance, interpersonal trust, etc.).

A major sanctions shock can not only sharply lower potential GDP but also slow its long-term growth rate by limiting access to advanced technologies and negatively impacting the business climate. However, several years after the sanctions shock and the initial decline in potential GDP, growth rates could

temporarily increase beyond pre-crisis levels as domestic resources are mobilized to fill gaps in the supply of goods and services. Once these gaps are filled, the long-term growth rate of potential GDP will likely decrease again, all else being equal.

These determinants of potential GDP highlight that monetary policy cannot influence potential output. Instead, institutional policy and structural changes in fiscal policy play a key role in expanding economic potential. Monetary policy can create favorable conditions for innovation commercialization (such as by providing access to credit and a stable environment for investment planning with low and predictable inflation), but it cannot directly impact the fundamental determinants of development.

Figure 1: Schematic representation of the output gap and potential GDP



Source: authors' calculations.

2.3 Consequences of economic overheating

Economic overheating is dangerous because it can lead to a significant downturn. When producers have limited capacity to expand, high demand for goods and services results less in increased production and more in rising imports and accelerated price growth. Rapidly rising prices drive up wages, which further increases production costs and places additional upward pressure on prices. Eventually, the purchasing power of household incomes begins to erode, investment planning becomes more challenging, and local producers lose competitiveness in international markets due to higher costs. As a result, overheating can lead to weakened economic activity, reduced household welfare, and increased unemployment. If the initial degree of overheating is substantial, it can cause a downturn in production. Research suggests that high volatility in the economy (significant fluctuations in the output gap) negatively impacts long-term GDP growth, especially in low-income countries (Hnatkoska & Loayza, 2003).

In an overheated economy, as household and business incomes rise quickly, expectations may become overly optimistic. This optimism can lead to an underestimation of risks and excessive debt accumulation. In practice, this manifests as a rapid increase in new loans and rising debt levels, fueling a fast expansion of the money supply. If income growth later slows or adjusts to a balanced trajectory, this could lead to difficulties in repaying and servicing previous debts. The result would be an increased risk of bankruptcies, defaults, and potentially a banking crisis. Risk premiums would rise in such an environment, pushing up interest rates and potentially undermining the sustainability of public debt and the government budget.

If overheating is driven by an excessive inflow of foreign capital, a sudden slowdown or reduction in these inflows could lead to a sharp depreciation of the national currency, a depletion of foreign exchange reserves (if the central bank sells foreign currency to mitigate financial destabilization risks), a severe investment downturn, and a contraction in GDP (Eichengreen & Gupta, 2016).

The negative effects of economic overheating could also challenge social and political stability, as high inflation and unemployment impact lower-income citizens most severely.

2.4 Indicators and symptoms of economic overheating

A significant positive output gap is a primary indicator of economic overheating. However, assessing this indicator is challenging due to its unobservable nature. Potential GDP and, by extension, the output gap are not directly reflected in primary statistical data. Estimating these indicators requires specialized econometric methods. At BERO, the macroeconomic gap model (QPM) is used,

which is grounded in economic theory and tailored to Belarus's economic characteristics, including high state intervention and the impact of sanctions.⁵ A similar model is a core tool for macroeconomic analysis, forecasting, and monetary policy formulation at the National Bank of Belarus (National Bank of Belarus, 2018).

A simpler method of estimating potential GDP and the output gap is to apply statistical trend-extraction procedures to real GDP dynamics (e.g., linear trend, Hodrick-Prescott filter, band-pass filter). Although easy to apply, these methods lack solid economic justification.

Models are not infallible, and skepticism towards their results may arise even without objective grounds. Thus, assessing economic overheating should also involve examining symptoms – observable economic indicators available in primary statistics or business and consumer surveys.

There is no universally agreed set of observable overheating indicators in economic literature. The indicators themselves, as well as the necessary quantity, are often debated. In this study, we employ Occam's Razor, which suggests that if a phenomenon can be explained reliably without introducing additional entities (assumptions or variables), this should be the preferred approach. Thus, using a large number of indicators to assess economic overheating may be excessive, as many will be interrelated, and some may introduce “noise” rather than clarity.

Based on the concept of economic overheating, we propose four primary symptomatic indicators:

1. **Capacity utilization.** This survey-based indicator reflects the use of labor and capital resources. If these resources are operating at record or prolonged maximum levels, the likelihood of economic overheating increases.
2. **Labor market conditions.** Key measures here are unemployment and job vacancies. If many individuals are seeking work but cannot find it, there is less concern about overheating. Conversely, low unemployment paired with high vacancy rates suggests potential overheating.
3. **Price growth, including labor costs.** Rapid demand growth in a fully utilized economy necessitates pushing capacity beyond optimal levels. This often requires higher wages to attract workers (or to cover overtime) and increased capital use (leading to higher depreciation). Rising marginal costs put upward pressure on prices. Persistent or accelerating price growth signals probable overheating.

⁵ The BEROC model can be found in the works of BEROC (2023a).

4. **Credit activity.** Since economic overheating relates to the business cycle and macroeconomic stability, changes in new lending volume (credit impulse) are particularly relevant, rather than the outstanding debt on loans. New credit supports current demand for goods and services, driving output. Rapid growth in new lending stimulates aggregate demand, potentially leading to overheating. Loan debt does not always correlate with the business cycle, and its deviation from trend is more indicative of financial stability risk than macroeconomic risk (Bezborodova, 2018).

The **IMF's Approach** (IMF, 2013) includes a set of internal, external, and financial indicators for assessing overheating:

1. Domestic indicators:

- GDP relative to pre-crisis trend.
- Output gap.
- Unemployment rate.
- Inflation.

2. External Indicators:

- Terms of trade (export to import price ratio).
- Capital inflows.
- Current account balance.

3. Financial Indicators:

- Credit growth.
- Real estate price growth.
- Stock price growth.

For most indicators, the IMF evaluates the latest value relative to its average value ten years before the crisis episode. Deviations of less than 0.5 standard deviations indicate no overheating; deviations between 0.5 and 1.5 suggest potential overheating; deviations of 1.5 or higher indicate confirmed overheating.

Applying these macroeconomic benchmarks to Belarus requires caution. The Belarusian economy has undergone several structural transformations, the latest of which began in 2022 with intensified sanctions from Western countries and is still ongoing in 2024 due to constant adaptation to new sanctions. Furthermore, before 2011, the Belarusian economy experienced relatively high GDP growth (averaging 7.1% annually from 2000 to 2011). Since 2012, structural flaws in

the growth model have led to a sustained GDP growth slowdown, with an average annual growth of just 0.7% in the decade leading up to 2022.⁶ Averaging such disparate periods to establish a sustainable GDP growth rate is highly contentious and likely to be inaccurate.

2.5 How should authorities respond to prevent economic overheating or mitigate its consequences if it occurs?

Economic overheating results from an imbalance between aggregate demand and aggregate supply. To return the economy to equilibrium, demand must be "cooled," and the productive capacity must be sustainably increased.

Sustainably increasing productive capacity (or potential GDP) is a gradual process requiring institutional reforms and technological innovations. It's essential that supply expansion be sustainable; temporary increases in output through intense capacity utilization or loose lending conditions are not sustainable solutions. Since sustainably boosting potential is a lengthy process, demand management policies are crucial in preventing overheating or mitigating its adverse effects.

Monetary policy is the "workhorse" of stabilization policy. It involves actions by the central bank to adjust the money supply in the economy to achieve some combination of stabilization of inflation and output. Key tools include central bank interest rates and open market operations. Since monetary policy doesn't impact fundamental growth drivers (institutions and values), its influence on business activity is effective in the short to medium term.

To "cool" an overheated economy, central banks typically raise interest rates. Higher central bank rates pass through to interbank markets and, subsequently, to credit, deposit, and securities markets. With a time lag, this reduces economic demand as consumption and investment become less attractive compared to saving.⁷ Given this delay between policy action and its effects, a proactive approach to potential overheating is optimal for central banks.

The second key tool for stabilization is fiscal policy. Fiscal policy consists of government actions to influence the economy through public revenue and spending. It influences the economy by changing the amount and types of taxes, the volume and structure of expenditures, and the scale and forms of government borrowing. In overheating conditions, the government can reduce

⁶ The causes of the economic growth slowdown in Belarus after 2009 can be explored in the works of D. Kruk (2018; 2020), V. Kamkou (2020), N. Mironchik and A. Levikhina (2020), and the World Bank (2018).

⁷ The impact of monetary policy on the economy of Belarus can be found in the studies of N. Mironchik (2015), A. Kharitonchik (2022).

spending (or increase taxes) to curb excess demand. However, using fiscal policy to counter overheating is challenging due to the longer time and administrative effort required compared to monetary policy.

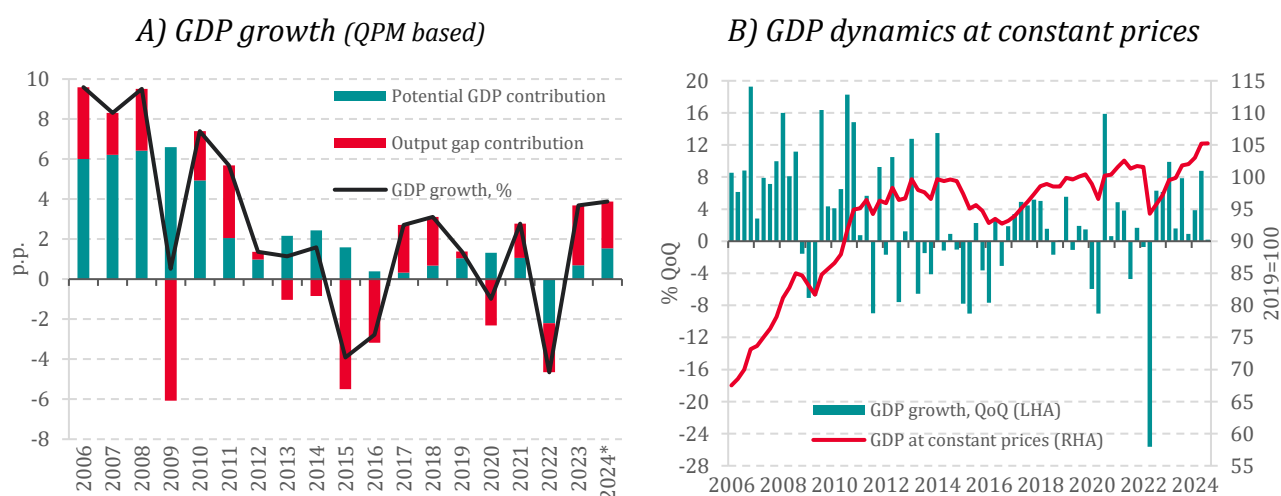
Macroeconomic stabilization can be further supported by macroprudential policy aimed at preventing systemic banking crises. For example, prudential measures can be used to prevent excessive lending and to build buffers (resources reserved to ensure sustainability of activities) in banks to absorb shocks if they arise.

3. Belarus' Economy in 2024: Is It Overheating?

3.1 Dynamics of GDP and its deviation from the balanced level

The Belarusian economy in 2023–2024 quickly recovered from the sanction's shock of 2022. In 2022, Belarus's GDP declined by 4.7%, but this drop was more than offset by a 3.9% increase in 2023 and 4.5% YoY growth from January to September 2024 (**Fig. 2**).

Figure 2: Dynamics of GDP in Belarus (based on seasonally adjusted data)



Source: authors' calculations based on a Quarterly Projection Model (QPM; BEROc, 2023a), Belstat data.

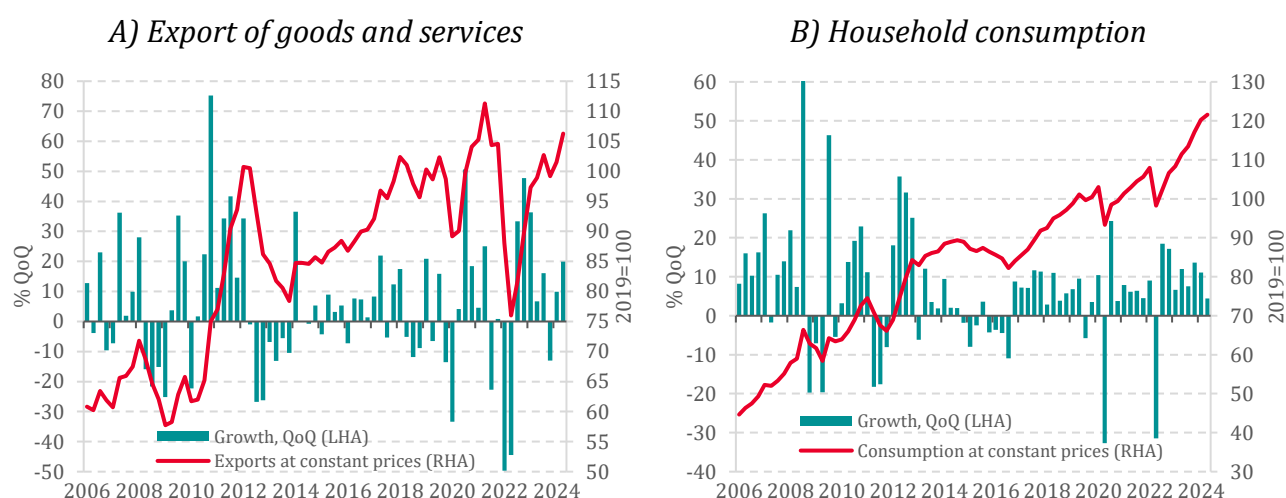
Note: * The 2024 figures are forecasts based on information available as of October 2024. Figure 2.A shows the indicators based on logarithmic data. The actual growth rate of GDP is equal to the sum of the growth rate of potential GDP and the change in the output gap (not the output gap itself) for the corresponding period relative to the previous one. YoY – growth rate period to the corresponding period of the previous year; QoQ – annualized growth rate period to the previous period with seasonality adjusted.

The high economic growth rates in 2023 and 2024 are partly due to the structural transformation of the Belarusian and Russian economies under sanctions. Following the escalation of Western sanctions on Russia and Belarus since February 2022 and the disruption of established production and logistics

chains, both countries experienced a decline in aggregate supply of goods and services. However, the decrease in aggregate demand was temporary, later rebounding as increased military spending spurred cross-sectoral economic effects. Domestic producers responded by increasing output to meet both foreign and domestic demand. This is reflected in the growth of Belarusian exports (largely to Russia) and rising household consumer spending (**Fig. 3**). Consequently, after the significant sanctions shock reduced Belarus's potential GDP in 2022, an increase in potential output followed in 2023–2024 (**Fig. 2.A**). During this period of structural transformation, the growth rate of Belarus's potential GDP may temporarily exceed pre-crisis levels.

By 2024, Belarus's real GDP not only rebounded to pre-crisis levels but significantly exceeded them. Preliminary estimates indicate that in Q3 2024, GDP was about 3.4% above the average level of 2021 (**Fig. 2.B**). This strong GDP growth was accompanied by an exceptionally high surge in consumer demand. In Q2 2024, household consumption surpassed the 2021 average by more than 17% (**Fig. 3.B**), with this excess continuing to grow in Q3 2024.

Figure 3: Dynamics of exports and consumer spending in Belarus (based on seasonally adjusted data; at constant prices)



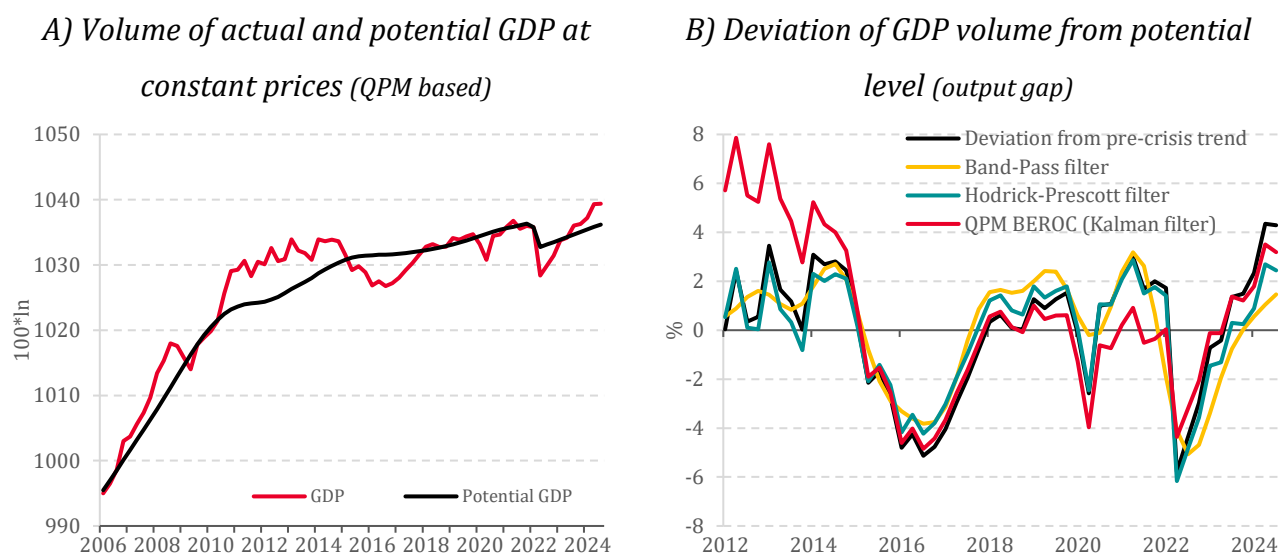
Source: authors' calculations based on Belstat data.

Note: QoQ – annualized growth rate period to the previous period with seasonality adjusted.

Analysis using the BEROc macroeconomic gap model (QPM) reveals that, from mid-2023, Belarus's economic growth has outpaced the sustainable capacity for expanding the supply of goods and services. By mid-2023, the recovery phase from the 2022 downturn had concluded, with real GDP reaching its potential level (**Fig. 4.A**). Starting from Q3 2023, the economy entered an overheating phase, as real GDP exceeded its balanced level, creating a positive output gap. By Q2 2024, this excess had grown further, with the output gap reaching 3.6% (**Fig. 4.B**).

In Q3 2024, the GDP growth momentum in Belarus weakened significantly as producers increasingly felt the impact of resource constraints and the dynamics of external demand began to weaken. Moderate investment growth (with investment levels relative to GDP still below pre-crisis levels in Q3 2024) contributed to a gradual adjustment of supply to meet high demand (**Fig. 4.A**). Consequently, the output gap stopped expanding, estimated at 3.2% in Q3 2024 (**Fig. 4.B**), reflecting the extent of economic overheating in Belarus as of Q3 2024.

Figure 4: Dynamics of GDP and output gap in Belarus (based on seasonally adjusted logarithmic data)



Source: authors' calculations based on Belstat data, QPM (BEROC, 2023a).

Results from simpler statistical procedures also indicate a significant deviation of GDP from its trend trajectory (**Fig. 4.B**). An output gap of around 3–3.5% of potential GDP is substantial, marking the highest level since 2014 (**Fig. 4**). Alternative estimates from the National Bank align with these findings: GDP in the second half of 2023 exceeded potential output, and by Q3 2024, the output gap reached approximately 2–2.5% (National Bank of Belarus, 2024).

3.2 State of symptomatic indicators of economic overheating

This section examines the status of symptomatic indicators of economic overheating identified in Section 2.4.

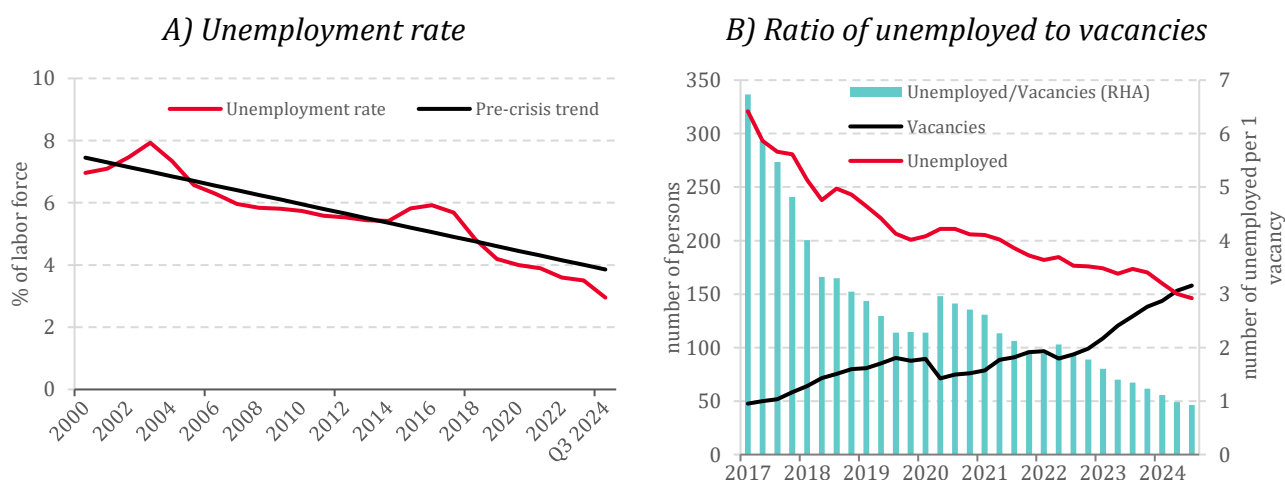
The first indicator is capacity utilization. In September 2023, the capacity utilization rate for industrial enterprises reached a record 70% – the highest since September 2013, according to surveys by the Economy Research Institute of the Belarus's Ministry of Economy.⁸ Utilization remained near this level, reaching a new peak of 71% in

⁸ See: <https://economy.gov.by/ru/news-ru/view/tsifry-i-fakty-uroven-zagruzki-proizvodstvennyx-moschnostej-dostig-10-letnego-maksimuma-48200-2023/>.

August 2024, than falling back to 70% in September and recovering to 71% in October.⁹ It is noteworthy that in 2013, the Belarusian economy was also significantly overheated, with the output gap averaging over 5%, including approximately 4.6% in Q3 2013 (**Fig. 4**). The record-high capacity utilization in industry, which drove GDP growth in Belarus in 2023–2024, indicates probable economic overheating. According to a survey of small and medium-sized businesses, capacity shortages emerged as the third most significant barrier to business activity growth in autumn 2023 (BEROC, 2023b).

The second indicator is labor shortage. Unemployment in Belarus reached a historic low of 2.95% of the labor force in Q3 2024 (seasonally adjusted). This decrease in 2023–2024 outpaced pre-crisis trends (**Fig. 5.A**). The ratio of unemployed individuals to job vacancies dropped significantly over this period, with less than one unemployed person per vacancy by Q3 2024 (**Fig. 5.B**). Labor supply declined due to unfavorable demographic trends and increased emigration from 2020 to 2023, while demand for labor surged alongside rising demand for goods and services. Survey indicators also highlight the labor shortage issue: in autumn 2023, a lack of workers was cited as the top barrier to business activity growth across all surveyed sectors of the Belarusian economy – industry, construction, trade, and other services (BEROC, 2023b). The labor shortage points to a high likelihood of economic overheating.

Figure 5: The state of the labor market in Belarus (based on seasonally adjusted data)



Source: authors' calculations based on Belstat data.

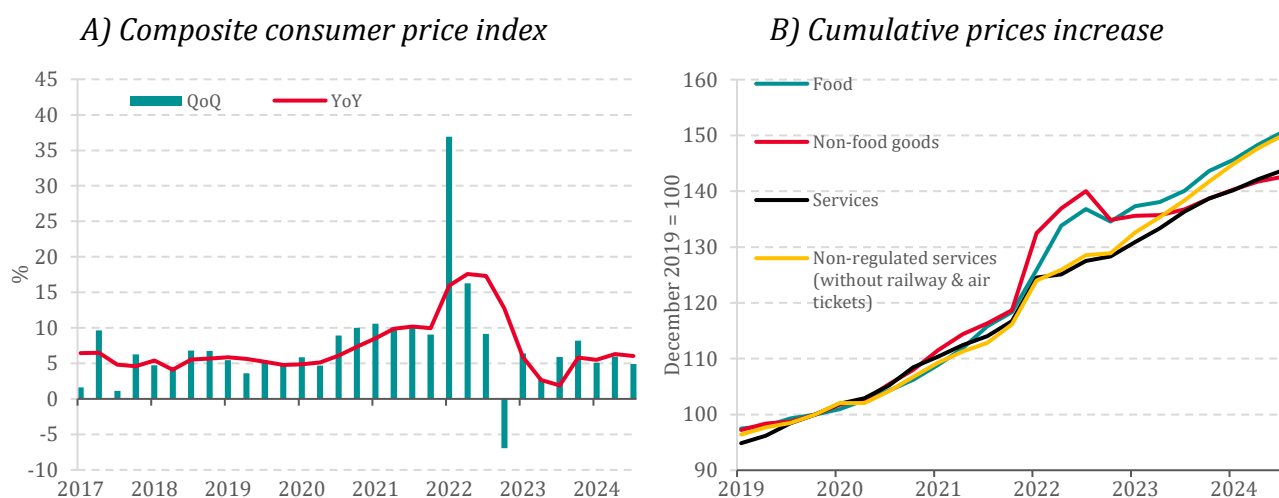
Note: the ratio of unemployed to vacancies is calculated based on data from Belstat on the number of unemployed and data from the Ministry of Labor and Social Protection on the number of vacancies.

⁹ See: <https://economy.gov.by/ru/news-ru/view/tsifry-i-fakty-trend-na-rost-promyshlennogo-proizvodstva-soxranjaetsja-49417-2024/>; <https://economy.gov.by/ru/news-ru/view/tsifry-i-fakty-rukovoditeli-prompredpriyatij-soobschajut-ob-uvlichenii-sprosa-na-svoju-produktsiju-i-49576-2024/>; <https://economy.gov.by/ru/news-ru/view/tsifry-i-fakty-rukovoditeli-prompredpriyatij-ozhidajut-uvlichenija-sprosa-na-svoju-produktsiju-soxranenija-49690-2024/>.

The third indicator is price growth in the economy. The traditional measure of consumer inflation is not fully applicable to Belarus due to strict price controls implemented since October 2022. Producers are required to obtain government approval for price increases, and maximum margins have been set for importers and retailers.¹⁰ This intensification of price regulation led to an unprecedented decrease in consumer prices in Q4 2022 and very low price growth throughout most of 2023. However, inflation began to rise in Q4 2023, stabilizing around 6% in 2024 despite the strict price controls (**Fig. 6.A**). This inflation rate exceeds the levels seen in 2018–2019, when the economy was in a state of macroeconomic stability.

The dynamics of inflation in the segment of services not directly subject to price regulation (non-regulated services) are particularly indicative. Non-regulated services increased by an average of 10% QoQ in 2023 (annualized rate, seasonally adjusted) and by an average of 8% in Q1–Q3 2024. As a result, the price level of non-regulated services in 2024 deviated significantly upwards from that of non-food goods (**Fig. 6.B**). Such large price deviations had not been observed since the global economic recovery after the COVID-19 pandemic, which saw increased shipping and goods costs worldwide. The consistently higher rate of price growth for non-regulated services compared to non-food goods indicates an accumulation of inflationary overhang – a potential for accelerated price growth if price controls are eased or removed.

Figure 6: Dynamics of consumer inflation in Belarus *(based on seasonally adjusted data)*



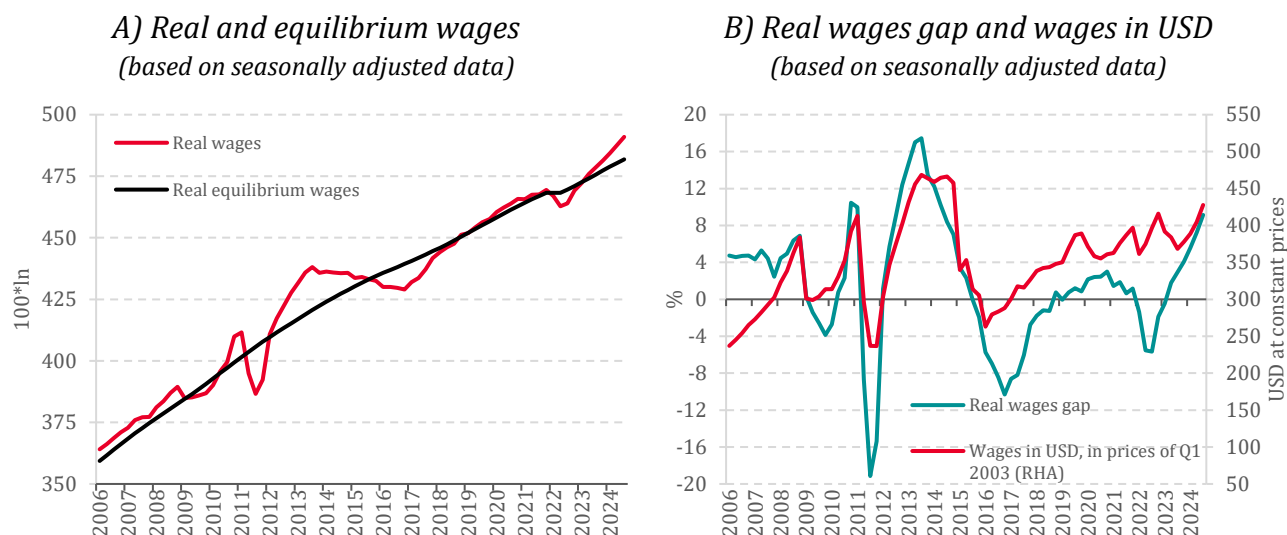
Source: authors' calculations based on Belstat data.

Note: YoY – growth rate period to the corresponding period of the previous year; QoQ – annualized growth rate period to the previous period with seasonality adjusted.

¹⁰ From January 1, 2024, manufacturers are allowed to increase regulated prices on consumer goods by no more than 0.3% per month without the consent of government agencies.

The significant price increases for non-regulated services are largely driven by rising labor costs, a dominant expense in the service sector. Average real wages began to grow rapidly from the end of 2022 (**Fig. 7.A**). In 2023, real wage exceeded the equilibrium level, with this gap expanding rapidly. By Q3 2024, the average real wage was already more than 9% above the balanced level (**Fig. 7.B**) and had risen more than 25% compared to the pre-crisis average of 2021 (**Fig. 7.A**).

Figure 7: Dynamics of real wages in Belarus



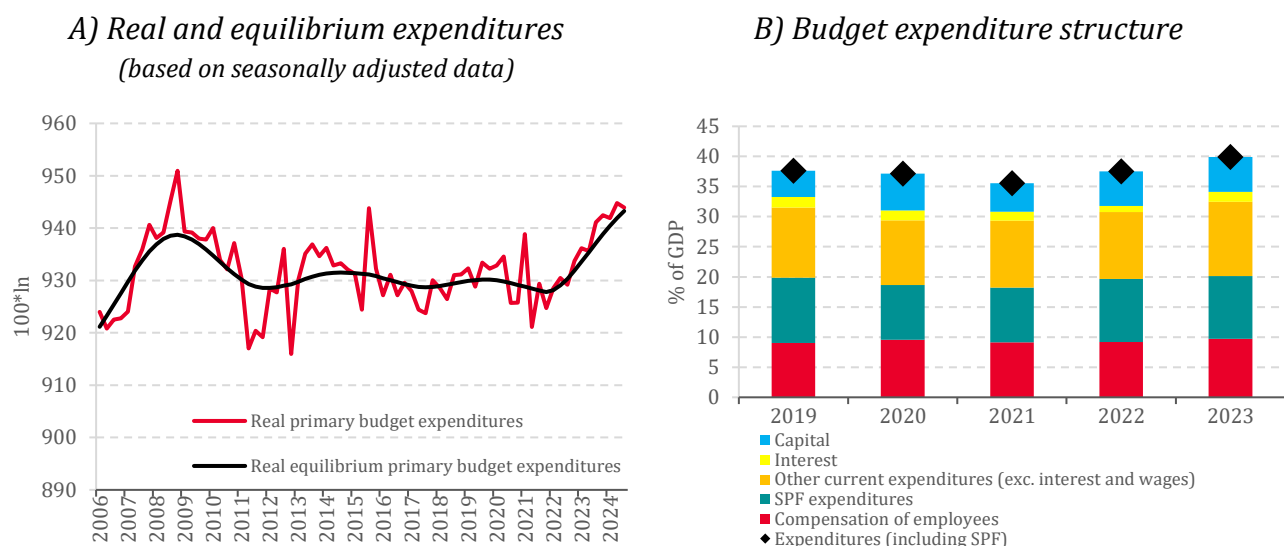
Source: authors' calculations based on Belstat data, QPM (BEROC, 2023a).

Note: the real wages gap refers to the deviation of real wages from their equilibrium level, estimated based on QPM.

The rapid wage growth in Belarus was largely driven by a labor shortage resulting from structural economic transformation, compounded by intensified migration and adverse demographic trends. After February 2022, demand for goods and services initially fell but quickly rebounded and even expanded. Meanwhile, part of the supply provided by Western firms disappeared, leaving market gaps that required filling, leading to increased labor demand, further fueled by excess demand for goods and services. At the same time, the labor force shrank due to emigration, natural population decline, and aging. To retain and attract new employees, companies and the public sector had to increase wages.

Labor shortages were a significant, but not the only, factor in the rapid wage growth in 2023–2024. Fiscal policy also played a major role. This is evidenced by exceptionally high growth in government spending during 2023–2024, far exceeding balanced rates (**Fig. 8.A**). Social payments and wage expenditures largely drove this increase in public spending in recent years (**Fig. 8.B**).

Figure 8: Dynamics of real consolidated budget expenditures in Belarus



Source: authors' calculations based on data from Belstat, Ministry of Finance of Belarus, EFSD, QPM (BEROC, 2023a).

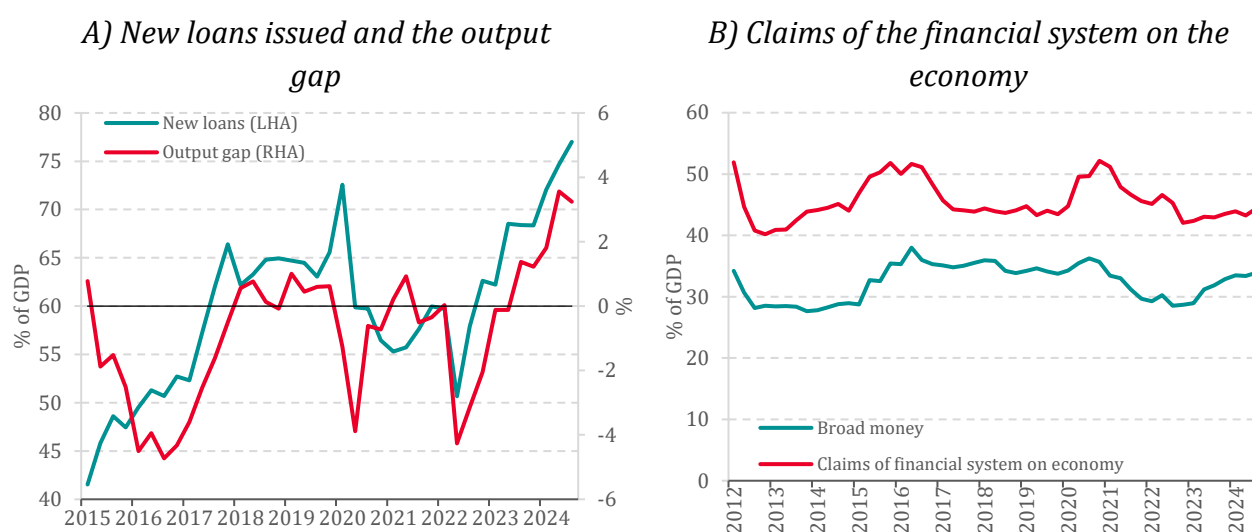
Note: figure 8.A shows the real non-interest (primary) expenditures of the general budget of Belarus. The estimate of the equilibrium path of expenditures is subject to high uncertainty after 2021. It cannot be ruled out that despite the increased role of domestic financing due to the withdrawal of international development institutions from Belarus, the equilibrium path remained flatter in 2022–2024 compared to the given estimate. In this case, the nature of fiscal policy in 2023–2024 was much more stimulating for economic activity and its contribution to the output gap was larger compared to that shown in Figure 12.A.

The fourth indicator is a record volume of new loans issued. In Q3 2024, the volume of new loans issued reached approximately 77% of GDP (seasonally adjusted). The pace of lending accelerated significantly from Q2 2023 due to heightened economic demand for funds and loose monetary conditions (**Fig. 9.A**). This increase in the loan-to-GDP ratio likely reflects a shift toward internal financing sources after sanctions tightened against Belarusian banks and enterprises, including the disconnection of certain banks from SWIFT. However, prior to 2022, new loans generally fluctuated around 60% of GDP, making the rise above 70% quite substantial. The trend in new lending closely correlates with the output gap, indicating economic overheating (**Fig. 9.A**). New loans directly stimulate additional output, and the accommodating monetary environment enables firms and households to access credit and sustain high demand levels.

In 2023–2024, financial system claims on the economy (which account for loan repayments as well as new loans) also grew. However, their size relative to GDP did not reach pre-crisis levels (**Fig. 9.B**), suggesting that a significant portion of new loans is being used to repay existing debts. Financial system claims as a percentage of GDP are now approximately aligned with levels observed during the macroeconomic stability period of 2017–2019, indicating limited risks to financial stability from lending.

However, financial and economic cycles do not always align and differ in duration. A study by experts at the National Bank of Belarus found that the financial cycle in Belarus is longer and has greater amplitude than the business cycle, with limited correlation between the two but some observable co-movement between the business cycle and the change in the financial cycle (Mironchik et al., 2023). Therefore, an increase in financial system claims relative to GDP (an upswing in the financial cycle) could signal economic expansion associated with overheating, much like an increase in new lending.

Figure 9: Dynamics of lending in Belarus (based on seasonally adjusted data)



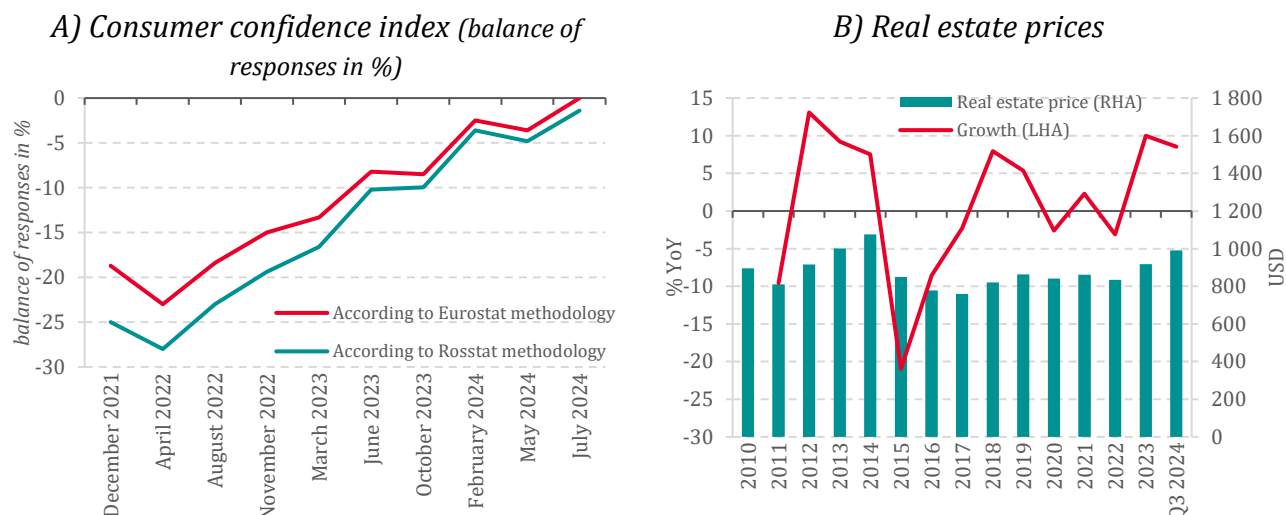
Source: authors' calculations based on data from Belstat, National Bank of Belarus, QPM (BEROC, 2023a).

Credit activity among households has surged, with bank claims on households reaching 10.4% of GDP in September 2024 – 0.8 standard deviations above the 2017–2021 average. This increase may partly reflect heightened consumer confidence. In December 2021, the proportion of households with negative views on their current and future financial and economic situation exceeded those with positive views by about 25%. By July 2024, these proportions had equalized, marking a sharp improvement in consumer confidence, which reached a peak since BEROC surveys began in December 2021 (**Fig. 10.A**). By mid-2024, consumer confidence in Belarus was higher than in most EU countries (BEROC, 2024). This consumer optimism, coupled with high credit activity and income growth, may signal excessive optimism among consumers – a symptom of economic overheating.

The financial indicator of real estate price growth in Q3 2024 exceeded the 2017–2021 average by 1.4 standard deviations, which, according to IMF criteria, suggests a likelihood of economic overheating. Real estate prices in Belarus began rising steadily in 2023 (**Fig. 10.B**), driven by several factors: the accessibility of credit under loose monetary conditions, rapid wage growth, improved economic

sentiment among households, reduced attractiveness of foreign currency savings due to sanctions and stricter compliance procedures, and a decreased supply of housing as construction slowed.

Figure 10: Consumer confidence and real estate price dynamics in Belarus



Source: authors' calculations based on data from Belstat, National Bank of Belarus, BEROC surveys.

In addition to the four key indicators of overheating, other indicators used by the IMF and discussed in Section 2.4 were also analyzed.

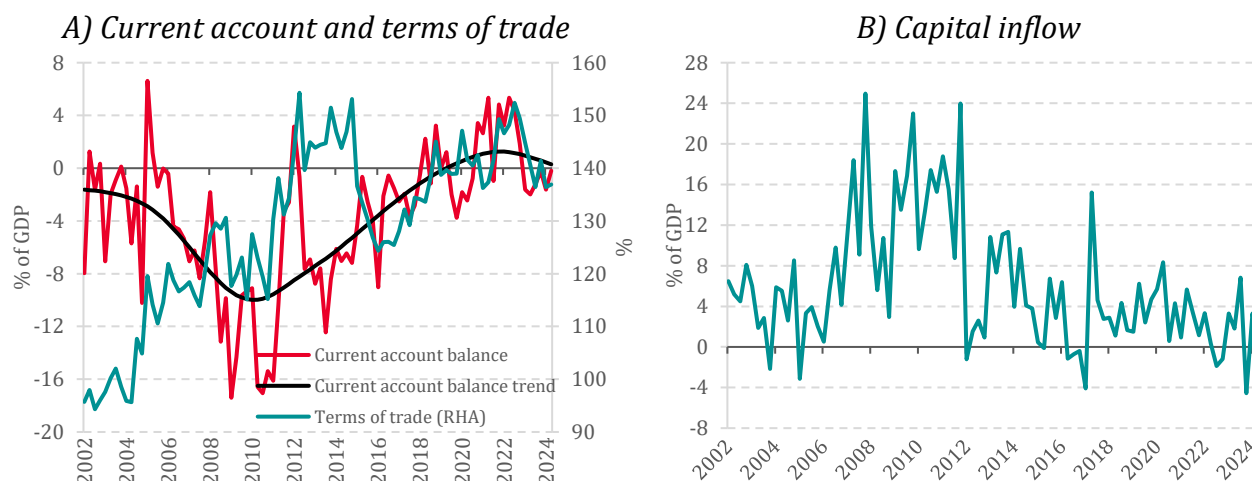
External indicators – such as terms of trade (the ratio of export prices to import prices), the current account balance, and capital inflows – do not indicate economic overheating in 2024. However, the current account balance shifted into deficit in 2023 after several years of surplus, primarily due to increased imports (**Fig. 11.A**). Given that the current account balance has fallen slightly below its trend trajectory, this could potentially signal excessive domestic demand in Belarus's economy in 2024.

It is possible that Belarus's current account norm has increased in recent years due to structural economic transformations. Since 2022, Western capital markets have effectively been closed to the Belarusian government, and banks and businesses have faced significant challenges in securing external financing from the EU and the U.S. This may have constrained sustainable current account deficit financing, potentially raising its equilibrium level. For instance, capital inflows into Belarus have declined in recent years and were 1.1 standard deviations below the 2017–2021 average in Q2 2024 (**Fig. 11.B**).

On the other hand, Belarus has continued to receive support from Russia, including the forgiveness of around \$0.5 billion of government debt in Q4 2023, and the Belarusian government has essentially stopped repaying Eurobond obligations per their issuance prospectus. However, the stability of these

compensatory mechanisms remains uncertain. Thus, the pre-crisis current account norm (a deficit of around 1.5–2% of GDP) and a near-zero trade balance in goods and services might be viewed as a threshold for macroeconomic stability in Belarus's external position. Breaching this threshold – if the trade balance moves into deficit – could increase pressure on the country's currency market.

Figure 11: External sector indicators in Belarus (*based on seasonally adjusted data*)



Source: authors' calculations based on data from Belstat, National Bank of Belarus.

A comprehensive assessment based on nine IMF indicators (the volume of new loans issued is used instead of stock price growth due to the underdevelopment of the stock market in Belarus) points to probable economic overheating in Belarus in 2024 (**Table 1**). The degree of overheating can be characterized as moderate, aligning with estimates of the positive output gap (**Fig. 4.B**). The evidence for overheating is most apparent in domestic and financial indicators (**Table 1**), suggesting that domestic economic policies are the primary drivers behind this overheating.

Table 1: Indicators of economic overheating in Belarus

the latest available quarterly observation is above the 2017–2021 average (except as noted below) by:

 less than 0.5 standard deviation
 greater than or equal to 0.5 but less than 1.5 standard deviations
 greater than or equal to 1.5 standard deviations

Indicator	Assessment
Domestic	
GDP volume relative to its pre-crisis trend*	
Output gap	
Unemployment rate	
Inflation**	
External	
Terms of trade (ratio of export prices to import prices)	
Capital inflow (relative to GDP)	
Current account balance (relative to GDP)	
Financial	
Claims of the financial sector on the economy (relative to GDP)	
Issuing new loans by banks (relative to GDP)	
Real estate prices growth (in US dollars)	
Final assessment	

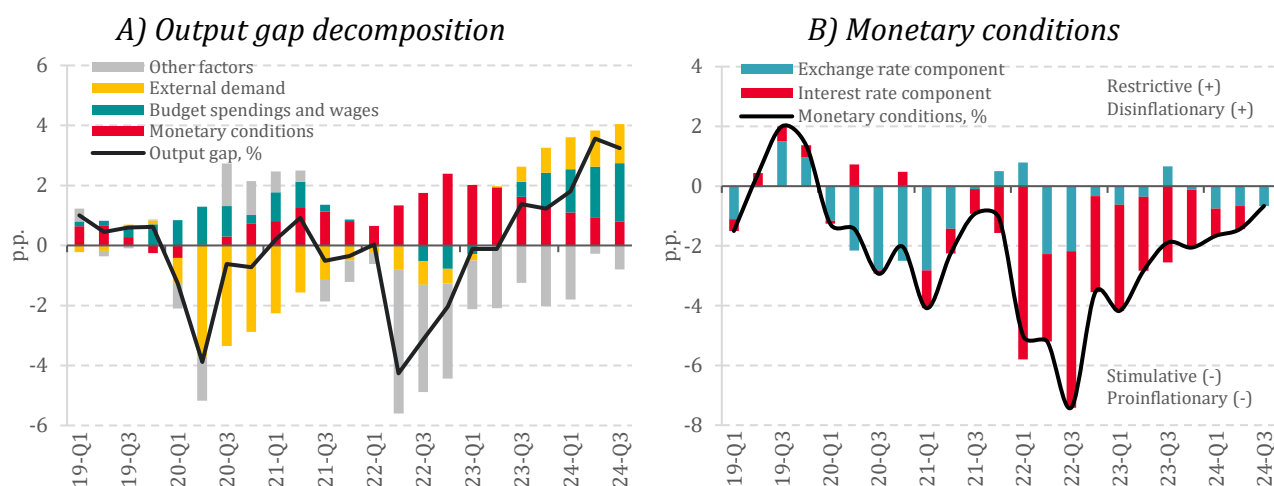
Source: authors' calculations based on data from Belstat, National Bank of Belarus, QPM (BEROC, 2023a), IMF (2013).

Note: the colors assigned to each indicator correspond to the following quantitative assessments: red = 2, yellow = 1, green = 0. The overall result for each block of indicators (domestic, external, financial) is calculated as the ratio of the sum of points within the block to the maximum sum of points within the block. The red color assigned to a block of indicators corresponds to the overall result of the block greater than or equal to 0.66; yellow – greater than or equal to 0.33 but less than 0.66; green – less than 0.33. * The GDP volume exceeding the pre-crisis trend by more than 2.5% is assigned the color red. The GDP volume deviating downwards from the pre-crisis trend by more than 2.5% is assigned the color green. The GDP volume in the range from minus 2.5% to plus 2.5% relative to the pre-crisis trend is assigned the color yellow. ** Inflation greater than or equal to 10% is assigned the color red; less than 10% but more than 5% – yellow; less than or equal to 5% – green.

3.3 What factors led to the overheating of the Belarusian economy?

To address this question, it is useful to examine the decomposition of Belarus's output gap. The output gap decomposition reveals which external and internal factors have contributed to the actual real GDP exceeding its potential (or balanced) level (**Fig. 12.A**).

Figure 12: Contributions of factors to the output gap and monetary conditions in Belarus



Source: authors' calculations based on QPM (BEROC, 2023a).

Note: Q3 2024 – preliminary assessment. 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 nature, and negative monetary condition values indicate their stimulating nature.

Following a significant negative shock in the first half of 2022, economic activity in Belarus began a rapid recovery in the second half of that year. By mid-2023, GDP reached its potential level, closing the negative output gap (**Fig. 12.A**). Contributing factors included the recovery of economic activity in Russia (reflected by the elimination of the negative impact of external demand on the output gap), the easing of monetary conditions through lower interest rates (**Fig. 12.B**), increased government spending (**Fig. 8.A**), and the gradual adjustment of production and logistics chains (reflected by a reduction in the negative contribution of other factors to the output gap).

In Q3 2023, Belarus's GDP exceeded the balanced level, resulting in a positive output gap and marking the onset of economic overheating, which expanded to 3.2% of potential GDP by Q3 2024.

Both internal and external factors contributed to this overheating. Key internal drivers included prolonged loose monetary conditions, rapid wage increases amid a labor shortage, and a substantial rise in government spending

(Fig. 12.A). The importance of these factors shifted over time; by the end of 2023, monetary stimulus had been largely supplanted by fiscal expansion and rising wages.

The output gap decomposition illustrates that Belarus's economic policy in 2023–2024 had a procyclical character – authorities did not aim to "cool" the overheated economy but continued to stimulate it. Real government spending (including the Social Protection Fund) increased by more than 10% in 2023 and around 7% YoY over the first nine months of 2024 **(Fig. 8.A)**. This spending grew faster than GDP and was primarily directed towards current expenditure (such as wages and social benefits) rather than investments **(Fig. 8.B)**. Consequently, the volume of real government spending in 2023–2024 exceeded the trend trajectory, even accounting for the increased importance of domestic financing sources for the economy, such as infrastructure, as international development institutions reduced their investments. The National Bank's purchases of government bonds on the secondary market (totaling over Br2 billion from January to September 2024, following Br0.65 billion in all of 2023) amidst high budget revenue growth signals a continued commitment to fiscal stimulus through the end of 2024 and into early 2025. In recent years, the government has also increasingly resorted to directive lending.¹¹ This pattern suggests that Belarusian authorities in 2023–2024 have reverted to their traditional approach of masking structural issues related to low economic efficiency, especially by stimulating household incomes through fiscal and quasi-fiscal means during the pre-election period (BEROC, 2024a).

In terms of monetary policy, the National Bank began implementing measures to curb monetary stimulus toward the end of 2023. However, with its institutional and operational independence compromised, the National Bank's response to economic overheating and rising inflation risks was delayed, limited, and inertial. As a result, while the scope of monetary stimulus decreased in 2024, monetary conditions did not become restrictive **(Fig. 12.B)**. This allowed businesses and households to meet their very high demand for funds and sustain elevated lending levels, thus supporting aggregate demand.

The key external factor driving Belarus's economic overheating was the surge in external demand from Russia. According to statements from the head of Russia's central bank, the overheating of the Russian economy reached its highest level in 16 years in the first half of 2024.¹² Since over 70% of Belarusian manufacturing output, a sector that drove

¹¹ See: Ensuring financial stability in 2023 and tasks for 2024. Report by the Deputy Chairman of the Board of the National Bank of the Republic of Belarus, D. L. Kalechits, at the extended meeting of the Board.

¹² See: <http://cbr.ru/press/event/?id=18869>.

GDP growth in 2023–2024, is exported (primarily to Russia, particularly in machinery and food sectors), the overheating of demand in Russia was effectively imported into Belarus. Due to cross-sector effects, the substantial increase in manufacturing output influenced other areas of the economy. Additionally, the increased demand for labor in manufacturing sectors linked to the defense industry intensified competition in the labor market, forcing companies in other sectors to raise wages more rapidly than productivity growth.

4. Scenarios for returning the Belarusian economy to a balanced state

By autumn 2024, economic overheating in Belarus reached approximately 3.2% of potential GDP – a significant level of excess demand, yet not immediately critical in terms of macroeconomic destabilization risks. For example, during 2012–2014, the Belarusian economy operated continuously in an overheated state with an output gap exceeding 5% on average, never falling below 2.8% of potential GDP. However, substantial overheating makes the economy highly "fragile" to shocks. In 2014, worsening conditions in the Russian economy (combined with Belarus's policy of pegging the ruble to the dollar) triggered a severe recession that stretched across 2015–2016, leading to reductions in real wages by 7.1% and consumer spending by 5.5% over two years. Investment activity contracted by 27.8% and has yet to fully recover as of 2024.

Belarus's economy reached a peak in business activity by mid-2024, inevitably to be followed by a slowdown phase. An overheated economy will eventually adjust toward a balanced state. The pace and severity of this correction will depend on the initial scale of excess demand, developments in the external sector (particularly Russia), the adaptability of households and businesses (which appears high based on 2022–2024 performance), and government actions.

The baseline scenario for the medium term suggests a soft landing, with a gradual cooling of demand and a slow adjustment of supply. Aggregate demand is expected to soften in both exports and domestic consumption. External conditions are unlikely to favor increased exports of Belarusian products, with the Russian economy expected to slow as it approaches maximum production capacity, tightens monetary policy, restricts subsidized mortgage programs, and plans to reduce fiscal stimulus. This will likely curb demand for Belarusian exports, especially outside the defense industry.

In Belarus's export-dependent economy, any weakening in external demand will constrain producers' capacity to sustain high wage growth. Alongside the normalization of monetary conditions, this will exert a dampening effect on consumer demand. However, the expected moderation in demand will be slow

and gradual, with consumption volumes for goods and services remaining elevated in 2025 in the absence of severe shocks. Monetary conditions are not expected to become restrictive, and fiscal spending is projected to grow due to the presidential electoral campaign.

Production capacity is likely to expand if there are no major economic disruptions globally or in Russia. Business invests anyway, although Belarus's investment activity remains "sluggish": gross fixed capital formation reached 23.5% of GDP in Q3 2024 (seasonally adjusted), lower than the 2017–2020 average of 26.4% and the 2021 pre-war level of around 23.8%. However, the rate of increase in the potential of the Belarusian economy is low: in 2012–2021, the potential growth rate was approximately 1% per year, and in 2023–2024 it is estimated in the range of 1–2%.

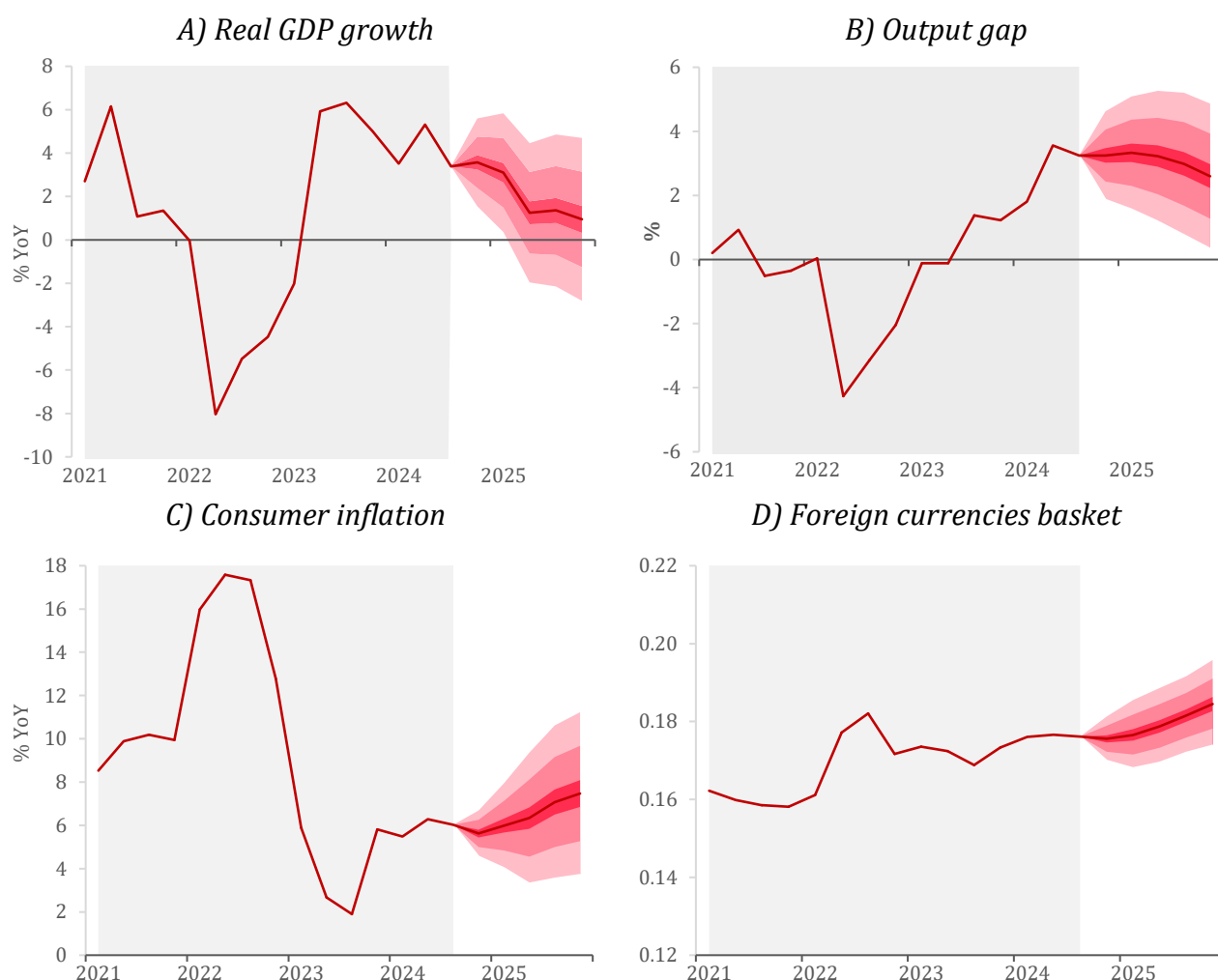
A soft landing would mean slowing GDP growth from about 4.3% in 2024 to 1.5–2.5% in 2025 (**Fig. 13.A**). The output gap would remain positive but narrow from 3.2% in Q3 2024 to around 2.6% by the end of 2025 (**Fig. 13.B**). Thus, while the economy would cool gradually, it would remain overheated, exerting inflationary pressures and maintaining moderate stress on foreign trade and currency markets. Under this scenario, inflation is forecasted to remain around 6–8% in 2025 after reaching 5.5–6% in 2024 (**Fig. 13.C**), with a trade deficit of approximately 0–2% of GDP, and the Belarusian ruble depreciating by 4–6% against a currency basket (**Fig. 13.D**).

The possibility of a more severe hard landing scenario is not negligible, and preparations should be in place. A hard landing would entail a sharp decline in economic activity and, consequently, a significant reduction in household income, akin to the deep recession experienced in 2015–2016, marked by a sharp drop in consumer spending and investment. The primary risk in such a scenario would be whether businesses and banks could weather a rapid demand decline without triggering a crisis of non-payments, bankruptcies, and a full-scale financial crisis.

Another alternative, albeit unlikely, is to close the output gap through a rapid increase in economic potential. Sustainable capacity expansion requires intensive investment in production facilities and labor productivity improvements. However, given the high uncertainty, persistent sanctions, internal price controls, and the lack of incentives provided by current political and economic institutions for active investment, a sharp increase in potential GDP growth is an unlikely event.

Figure 13: Forecast of key macro indicators of Belarus according to the baseline scenario

(based on seasonally adjusted data)



Source: authors' calculations based on QPM (BEROC, 2023a).

Note: YoY is the growth rate versus the same period of the previous year. The foreign currencies basket is the geometric mean of the exchange rates of the Belarusian ruble to the Russian ruble, US dollar and Chinese yuan with weights of 0.6, 0.3 and 0.1, respectively. The ranges in the figure correspond to the 15%, 50% and 75% confidence intervals.

5. Conclusion

The analysis conducted in this study indicates moderate overheating in Belarus's economy in 2024, with an output gap reaching 3.2% of potential GDP in Q3 2024. The level of excess demand in Q2–Q3 2024 was the highest since 2014 but not yet critical for immediate macroeconomic destabilization, provided no severe external shocks occur. The main drivers of this demand-supply imbalance were the excessively loose economic policies of the Belarusian authorities in 2023–2024 and record overheating (over the past 16 years) in the Russian economy, Belarus's primary economic partner.

Following the stabilization of financial risks in H1 2022, a loose economic policy was justified to help households and businesses adapt to changed conditions and reconfigure production and logistics chains. However, Belarusian authorities maintained these stimulus measures for too long, leading the economy to overheat by Q3 2023. While the National Bank belatedly began to respond with limited tightening of monetary policy, fiscal stimulus not only persisted but even expanded in H2 2023 and H1 2024.

Consequently, by the beginning of Q4 2024, the economy's "fragility" to strong shocks had increased significantly. The baseline scenario as of October 2024 foresees a gradual "cooling" of the economy, driven by slowing demand in Russia and reduced monetary stimulus, with GDP growth expected to decelerate from around 4.3% in 2024 to 1.5–2.5% in 2025.

The substantial excess of demand over production capacity heightens the risk of a strong correction in the medium term, potentially leading to a significant loss of household welfare and financial instability for banks and businesses if a major downturn occurs in the global or Russian economy. The window for significant policy tightening was missed at the end of 2023. Given the current degree of overheating and price controls, there is a high risk that aggressive tightening would lead to an economic contraction that could escalate into a financial crisis.

To avoid a severe economic downturn, economic policy should gradually adopt a moderately tight stance. This includes raising interest rates to 3–4% in real terms for interbank loans and time deposits (about (-1%) and 2%, respectively, in Q3 2024) and to about 6% for ruble-denominated market loans (slightly less than 5% in Q3 2024), tightening prudential restrictions on household credit, and limiting budget and quasi-budget expenditures. At the same time, to support the supply side in adjusting to high demand, it would be prudent to reduce state pressure on businesses, gradually phase out price controls in the domestic market, and shift the focus of budget expenditures from current to investment spending (while ensuring investment efficiency). Households and businesses should recognize the "fragility" of Belarus's economic achievements and build reserves, preparing response scenarios for a potential economic "hard landing" in 2025–2026.

It is essential to note that despite a return to some counterproductive economic policies, Belarusian authorities have accumulated substantial crisis management expertise. A critical factor is maintaining exchange rate flexibility, unlike the fixed-rate regime before 2015. A floating exchange rate avoids excessive currency overvaluation and prevents abrupt, painful adjustments like those in 2011 and 2015. A floating exchange rate acts as a shock absorber, mitigating negative impacts on the real

sector and households. Economic resilience would be further strengthened by ensuring the operational and institutional independence of the National Bank.

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