RESHAPING THE BELARUSIAN ECONOMY THROUGH EUROPEAN INTEGRATION

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Actors of transformation: An analysis of Belarusian business integration and alignment with the EU business environment

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Abstract

The forced internationalization of Belarusian businesses in the wake of political repression since 2020 and the war in Ukraine presents a unique case study in economic diaspora development and institutional alignment. The flight of hundreds of businesses and thousands of skilled professionals to European Union host countries is a critical factor shaping both the immediate host economies and the long-term prospects for Belarus. While existing studies document the scale and challenges of this economic emigration, there remains a significant gap in understanding the institutional and market values held by these relocated business owners and their alignment with the EU's established economic framework. Leveraging a novel dataset derived from a comprehensive survey of 114 valid Belarusian-rooted businesses operating in the EU, supplemented by World Values Survey, GEM data for Belarus, and business surveys conducted in Belarus before 2020, this paper aims to fill that gap and quantify the values, entrepreneurial orientation, and integration patterns of Belarusian-rooted businesses operating in the EU. The findings suggest this diaspora should be viewed less as traditional economic migrants and more as a distinct cohort demonstrating strong value alignment and acting as an agent of deeper European integration. This empirical foundation enables the analysis to move beyond anecdotal evidence and assess the precise nature of their integration and potential future influence.

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1. Introduction

The development of a strong private sector is essential not only for economic growth but also for safeguarding sovereignty and advancing democratic transformation of transition economies and Belarus in particular (BEROC, 2023a). A vibrant private sector naturally diversifies the economy, reduces reliance on state monopolies, and limits vulnerability to external political pressure (World Bank, 2012). Building innovative, globally connected companies is the most effective route to economic self-sufficiency. At the same time, entrepreneurial values – autonomy, accountability, initiative, and horizontal cooperation – form a foundation for democratic culture (Audretsch & Moog, 2022; Panasevich et al., 2024).

In Belarus, the more than 10-year liberalization of the business environment enabled the private sector to become the most dynamic part of the economy, surpassing the contribution of state-owned commercial enterprises to exports and GDP by 2020. In 2020, private businesses became increasingly socially and politically active – first in response to the pandemic, and later during the 2020 presidential election campaign and subsequent protests (Bornukova & Friedrich, 2021). The ensuing political crisis, marked by widespread repression and the systematic dismantling of civil society, has precipitated an exodus of human and entrepreneurial capital unprecedented in its scale and nature (Luzgina & Koreivo, 2023). Confronted with an untenable domestic environment wherein private business became synonymous with political risk, entrepreneurs have had to adjust to reactionary government measures, navigate the impact of international sanctions on Belarus, and contend with the repercussions of Russia's invasion of Ukraine. Many forward-looking and globally oriented entrepreneurs have relocated their operations, talent, and aspirations to neighboring EU member states, primarily Poland and Lithuania (Marozau & Danilchuk, 2024).

This study argues that the Belarusian business diaspora's decision to relocate and aggressively expand within the rigorous EU market, coupled with their proactive embrace of liberal principles, highlights their unique potential as agents of future transformation for Belarus. This community is framed not as a passive recipient of aid or a mere subject of migration policy, but as a potent cohort of active agents who seek to build, innovate, and compete. This makes the business diaspora a vital political and cultural bridge, poised to facilitate Belarus's future convergence with European social and economic norms. This potential has yet to be fully comprehended or leveraged by EU policymakers. Amid global turbulence, the situation of Belarusians and Belarusian businesses should be considered not solely within domestic political debates in neighboring EU states but within a broader regional strategic framework. In this regard, by constructing a comprehensive portrait of the Belarusian business community in the EU, the study endeavors to shift the policy discourse from abstract discussions of Belarus's potential European integration toward a more evidence-based and tangible perspective. The central argument posited is that the EU has inadvertently become the custodian of a substantial portion of Belarus's future economic potential. Recognizing, nurturing, and integrating this asset is not merely a matter of sound migration policy; it constitutes a strategic imperative for fostering a democratic and prosperous future in the EU's Eastern Neighbourhood.

This study addresses four primary research questions:

1. What is the quantitative and qualitative profile of the Belarusian business diaspora in the EU with respect to its scale, sectoral composition, origins, workforce structure, and performance outlook?

2. What are the principal barriers and challenges these enterprises encounter in their efforts to integrate into the EU's market?

3. To what extent do the fundamental economic values and market principles of Belarusian entrepreneurs align with the core tenets of the European Union's market economy?

4. What strategic policy actions can European Union institutions and host-country governments undertake to mitigate the identified challenges and leverage this diaspora as a pivotal asset for the future economic and social transformation of Belarus?

2. Methodology

This study employs a mixed-methods approach to facilitate a comprehensive and multifaceted analysis. The study is based on a quantitative analysis of a unique, proprietary survey dataset containing responses from top managers and owners of Belarusian-rooted businesses operating primarily in the European Union. This survey, conducted in 2024, furnishes an unprecedented quantitative baseline, detailing the firms' characteristics, challenges, outlook, and underlying values. This quantitative foundation is subsequently enriched, contextualized, and interpreted through a systematic synthesis of key qualitative and policy studies published between 2021 and 2024. By integrating the "what" of the quantitative data with the "why" and "how" of the qualitative literature, this study offers a uniquely robust and nuanced analysis. This methodology permits not only the identification of statistical trends but also an understanding of the human experiences and motivations that underpin them, culminating in findings that are both empirically sound and deeply contextualized.

To answer research questions, information on the current state, challenges, and development prospects of Belarusian-rooted businesses operating in Europe was collected in two stages. The first stage involved the collection and analysis of data on Belarusian companies active within the European region. Sources included data aggregators drawing from public and private business registers, open-source online publications, social media and messaging platforms, as well as information provided by business associations, professional clubs, and Belarusian diaspora communities abroad. Given the relatively limited number of such enterprises – estimated at approximately 10,000 across Central and Eastern Europe – and the fact that around 80% were established following the 2020 presidential elections in Belarus, constructing a representative survey sample presented a considerable challenge. A key determinant of response rates was the level of trust: amid ongoing repression by Belarusian authorities against entrepreneurs and the pressure exerted on BEROC and its staff, companies' willingness to participate in the survey was largely contingent upon their confidence in the integrity of the research initiative.

In the second stage, a custom-made online questionnaire was disseminated among Belarusian entrepreneurs and top managers, who led businesses operating abroad. Communication with respondents was conducted through targeted outreach based on databases compiled from registry information aggregators, as well as through business associations and professional networks, some of which served as intermediaries. Direct contact with business representatives was also employed where appropriate. As a result, 114 completed questionnaires were obtained from founders and executives of Belarusian companies operating in Europe. The composition of the sample encompasses all key sectors in which Belarusian-rooted businesses are represented.

3. From economic emigration to forced internationalization: a historical review

The pre-2020 context: gradual Europeanization

Before 2020, Belarusian business migration was a persistent yet measured phenomenon, impelled primarily by economic logic rather than political necessity. For decades, entrepreneurs contended with structural impediments in the domestic market, including recurrent economic and financial crises and the narrowness of the domestic market, which served as constant push factors for international expansion (Krasko & Daneyko, 2022). Despite operating within a state-dominated economy where regulations could be arbitrarily rewritten (Ivy, 2013), the private sector demonstrated remarkable dynamism and growth. This environment inadvertently cultivated a resilient and innovative class of entrepreneurs, adept at navigating uncertainty and creating value within a non-market system (BEROC, 2023b). By 2020, their endeavors had yielded visible results: the private sector's contribution to Belarus's GDP had surpassed that of state enterprises, accounting for 55% of the total. The share of private companies' exports in total goods and services nearly doubled from 27.4% in 2012 to 51.4% in 2019, showcasing their escalating competitiveness and global orientation (Daneyko et al., 2020). This period was characterized by a gradual, voluntary Europeanization, as businesses strategically pursued access to larger markets, more stable legal frameworks, and new technologies. Moreover, many Belarusian companies were born-global (Vissak & Zhang, 2016) and considered the domestic and even Russian market as a launch pad for further expansion to the developed technological markets (Marozau et al., 2021). The migration was selective and planned, representing a natural evolution for an increasingly sophisticated private sector.

The 2020 inflection point

The political crisis following the August 2020 presidential elections signified a violent rupture with the past, fundamentally altering the nature and drivers of business migration (Bornukova & Friedrich, 2021). The subsequent crackdown, characterized by legal and physical pressure on private enterprises perceived as disloyal, transformed emigration from a strategic choice into a "survival strategy". This shift precipitated two distinct waves of what may be termed "forced internationalization." The initial wave, spanning 2020-2021, was composed largely of individual entrepreneurs and specialists, particularly from the highly mobile IT sector, who fled direct political persecution, arbitrary arrests, and an increasingly hostile business climate (Krasko & Daneyko, 2022). A second, larger wave commenced after February 2022. Russia's full-scale invasion of Ukraine, facilitated by the Belarusian regime, triggered a cascade of international sanctions and severe reputational damage. Consequently, Western clients began severing ties with Belarusian companies, rendering it impossible for export-oriented businesses to continue operating from within the country. This development expanded the scope of relocation from individuals to entire companies, which were now compelled to move not only to protect their staff but also to preserve their client base, supply chains, and access to the global financial system. The choice was no longer between remaining and departing, but between relocating the enterprise or witnessing its collapse.

Scale and scope of the exodus

The post-2020 exodus represents one of the most significant movements of human and entrepreneurial capital in the region's recent history. The magnitude of this migration, documented across multiple studies, is staggering. It is estimated that over 300,000 Belarusians have emigrated since 2020, with Poland emerging as the primary destination, having issued 255,600 first residence permits alone (Luzgina & Koreivo, 2023). Crucially, this was not a random cross-section of the population; an estimated 87% of these emigrants possess a higher education degree, signifying a substantial brain drain for Belarus (Lvovskiy et al., 2025). This constitutes a devastating loss of the very demographic required to drive innovation, economic modernization, and future growth. This human exodus was mirrored by a corporate one. Between August 2020 and June 2022, at least 2,100 companies relocated fully or partially to the EU, with Poland and Lithuania absorbing 90% of this flow (Naŭrodski, 2022). By September 2024, the number of companies with Belarusian capital operating in Poland had surged to 7,169, marking a 20% increase over the preceding year, while Lithuania had experienced a decline – from 850 in 2023 to 564 in 2024 (Marozau & Danilchuk, 2024).

The migration of Belarusian businesses disproportionately comprised the vanguard of Belarus's modern economy, serving developed high-tech markets. The IT sector, a key driver of pre-2020 growth, was most severely affected, with globally recognized startups such as Flo Health, PandaDoc, and Wargaming relocating their operations (BEROC Research Lab, 2024). This selective outflow indicates that the diaspora now concentrated in the EU is not a mere sample of the Belarusian economy, but rather a concentration of its most valuable, innovative, and forward-thinking entrepreneurial assets.

While relocation in 2020–2022 was often rapid and reactive, more recent movement has become deliberate and structured. Consequently, the development of Belarusian-rooted businesses in the EU remains one of the foci of international organizations and stakeholders supporting the democratic movement of Belarusians, rather than policymakers and business support organizations in recipient countries.

4. Profile of the Belarusian business diaspora in the EU

Scale, geographic, and sectoral distribution

The survey sample reflects the heavy geographic concentration of the Belarusian business diaspora on the EU's eastern flank, establishing their primary country of operations in Poland, followed by Lithuania (ZPP, 2023). Their appeal stems from a confluence of geographic proximity, cultural familiarity, and proactive (at least initially) government relocation programs, such as the Poland Business Harbour initiative, which was specifically designed to attract IT specialists and companies from the region (BEROC Research Lab, 2024).

As shown in Figure 1, Poland clearly dominates in the sample, serving as the operational base for 61% of the surveyed firms. The remaining surveyed companies are evenly distributed across several locations: the United States (10%), Belarus (10%), Lithuania (9%), and other countries (10%). This suggests a pattern of moderate diversification beyond Poland, with continued relevance of the country of origin (Belarus), regional proximity (Lithuania), and emerging global reach (USA and other jurisdictions). Overall, while Poland remains the central hub, a notable share of businesses is spread across both neighboring and transatlantic contexts.

In the survey sample, 62% of firms are micro-enterprises, 30% are small enterprises, 7% are medium-sized enterprises, and only 1% are large enterprises (Figure 2). These figures underscore that most firms are lean and agile operations, often characterized by limited staffing and high flexibility, including readiness for further relocation. This distribution reflects that the relocation wave predominantly consisted of micro- and small-sized enterprises, as larger firms typically encounter significantly greater logistical, financial, and legal barriers to transferring their operations abroad. Furthermore, the dominance of micro and small enterprises suggests the emergence of a dynamic business ecosystem, wherein smaller firms demonstrate a heightened capacity to adapt swiftly to new market environments.

Nearly half (44%) of surveyed firms operate in the broad Services & Trade sector, covering consulting, education, logistics, finance, and other service industries – illustrating the versatility of Belarusian businesses abroad (Figure 3). The ICT sector dominates the sample, representing 37% of firms, which reflects both its mobility during the relocation wave and its central role in the knowledge economy (BEROC Research Lab, 2024). The remaining 19% are active in Manufacturing & Construction, signaling continued investment in production-oriented activities despite higher infrastructure demands.

The majority of surveyed firms were established recently, reflecting a wave of new entrepreneurial activity among Belarusian-rooted businesses abroad (Figure 4). According to the survey, 83% of firms were registered between 2020 and 2025, with 49% founded during 2020–2022 and an additional 34% during 2023–2025. Only 12% of firms were founded in the 2011–2019 period, and a mere 5% date back to 2004–2010. This age structure points to a predominantly young business cohort, likely shaped by recent political, economic, and migration dynamics. The recency of firm registration may also reflect the accelerated internationalization and re-establishment of Belarusian entrepreneurs in new host countries over the past five years.

While the survey shows a strong ICT concentration, broader registry data indicate that sectors such as trade, logistics, and construction make up a larger share of all Belarusian-owned firms in countries like Poland. This implies some sampling bias toward tech-oriented networks but still captures the most dynamic and internationally integrated part of the Belarusian business diaspora. Nonetheless, it accurately captures the profile of the most visible, dynamic, and globally oriented segment of the relocated business community. Some businesses operate across multiple sectors and thus selected more than one category in the survey.

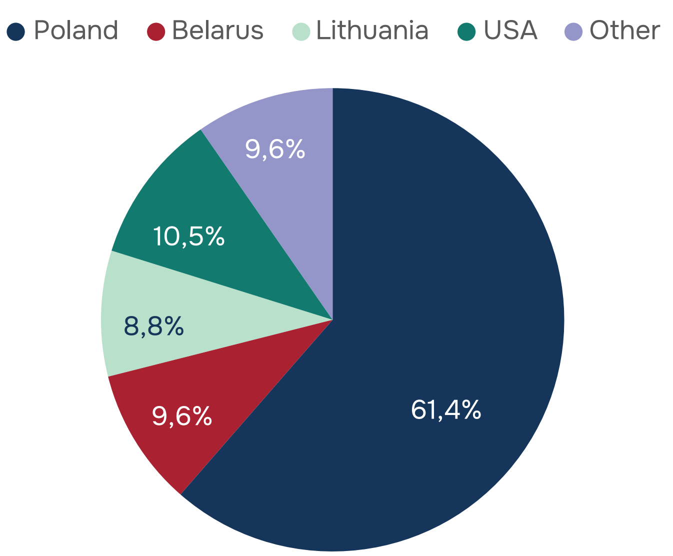


Figure 1. Primary country of operations for surveyed Belarusian businesses

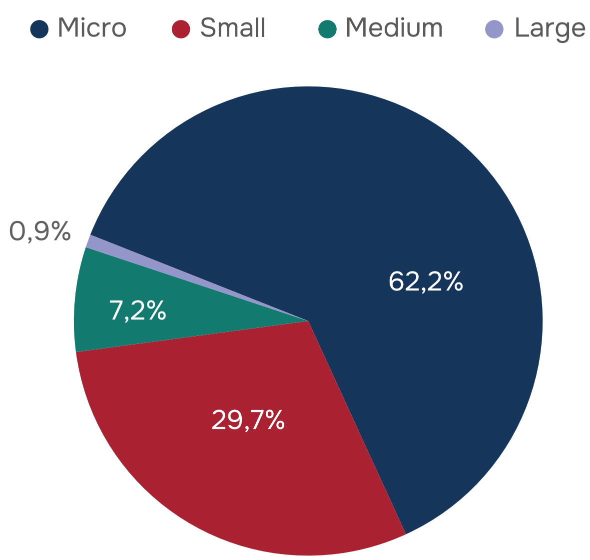


Figure 2. Size of surveyed Belarusian businesses

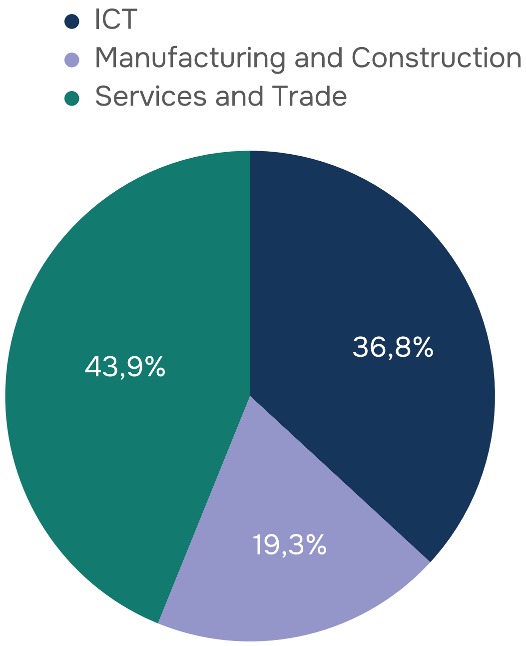


Figure 3. Surveyed Belarusian businesses by sector

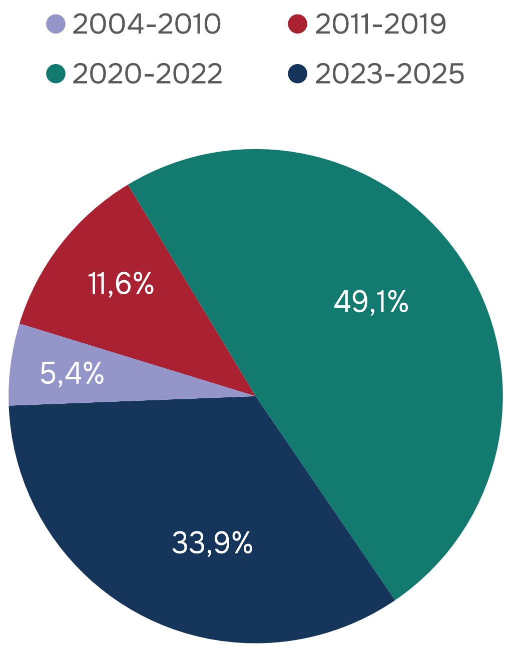


Figure 4. Surveyed Belarusian businesses by year of foundation

Source: Analysis of survey data

Origin and labor composition

An even more notable pattern emerges in the distribution of firm origins: nearly half (49%) of the companies were new local startups that were established from scratch in the current primary jurisdiction (Figure 5). Meanwhile, relocated firms – those that operated in Belarus and have fully or partially moved – make up 42% of the sample. Only 6% continue to operate in Belarus while opening branches abroad. This distribution underscores a shift toward local entrepreneurial formation, suggesting that the diaspora is not merely transplanting existing structures but actively generating new ones. The nearly even presence of relocated and new local startup firms reflects a dual pathway: one of continuity and adaptation, and another of innovation and reinvention.

Analysis of workforce composition reveals a heavy reliance on Belarusian talent, both from recent relocations and the existing local diaspora (Figure 6). A breakdown of firms by the share of Belarusian employees highlights this trend.

Among the companies analyzed, 36% report a medium to high share (41–100%) of employees from the Belarusian diaspora, and 26% report similarly high levels of relocated Belarusians in their teams. In contrast, only 12% of companies report a medium to high share of employees from other countries, and just 9% report the same for local employees (e.g., Lithuanians in Lithuania or Poles in Poland). This pattern reflects the fact that many of these businesses are still relatively small and founder-driven, with hiring networks often rooted in trusted Belarusian professional circles. However, as these companies grow and mature, many may begin to prioritize specialized skills and experience over nationality, leading to more diverse and internationalized teams over time. In their current phase, however, Belarusian-led firms continue to play a crucial role in employing and integrating Belarusian talent across EU labor markets (Lvovskiy et al., 2025).

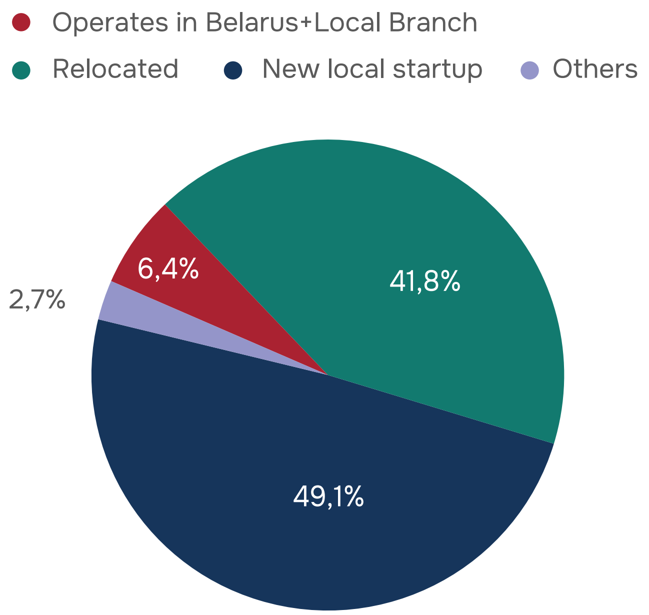


Figure 5. Origin of surveyed Belarusian businesses

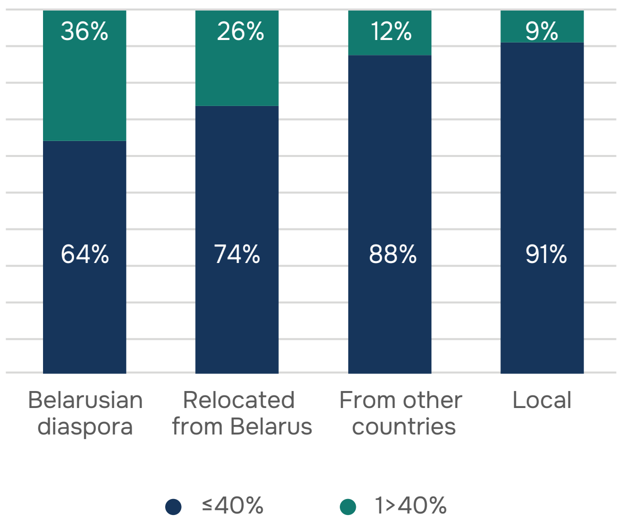


Figure 6. Staff composition of surveyed Belarusian businesses

Source: Analysis of survey data

Business future outlook

Although the survey did not capture retrospective performance indicators such as revenue or profit growth, the forward-looking data paints a clear picture of optimism and a focus on expansion. An overwhelming majority of the surveyed companies – 75% – identify business expansion as their primary current focus (Figure 7). In contrast, 21% are focused on maintaining the achieved level, and only 4% report a focus on business downsizing. This distribution, which is mostly stable across broad sectors (Figure 9), marks a clear shift away from the survival-oriented mindset that characterized the early stages of relocation. Instead, it reflects a growing confidence within the diaspora business community and a clear orientation toward growth, consolidation, and long-term investment in their new environments. In contrast, the last sampled surveys of businesses inside Belarus documented that only about one-fourth of companies planned to expand their activities (BEROC, 2023c). This comparison demonstrates a more ambitious and growth-oriented posture of Belarusian businesses in the EU, which may be attributed to a more predictable economic and business environment, as well as access to larger markets. Only 18% of surveyed businesses reported that they considered relocation to other countries, with the highest share of 23% in the Manufacturing & Construction sector. The popular destinations are from Lithuania to Poland and from Poland to the USA.

This expansionary mindset is clearly reflected in hiring projections. A combined 64% of respondents expect their number of employees to increase over the next year – 46% anticipate a slight increase, while 18% foresee significant growth (Figure 8). 25% expect no change, and only 10% anticipate a decrease in workforce size (6% a significant decrease and 4% a slight one). Over 60% of firms in all three broad sectors plan to increase their staff, with the Manufacturing & Construction sector projecting the highest staff expansion at 73% (Figure 10). Furthermore, between 19% and 30% projects "No change," meaning that minimal firms (less than 5% in Services & Trade, and Manufacturing & Construction) are planning any significant workforce reduction.

These indicators suggest that, despite the ongoing challenges of relocation and integration, the Belarusian business diaspora is not in a defensive position. On the contrary, it is actively pursuing growth, investing in capacity, and planning to create more jobs. This strong and confident outlook signals both resilience and a deep belief in the community's potential to integrate, compete, and succeed in a market-based environment of the EU.

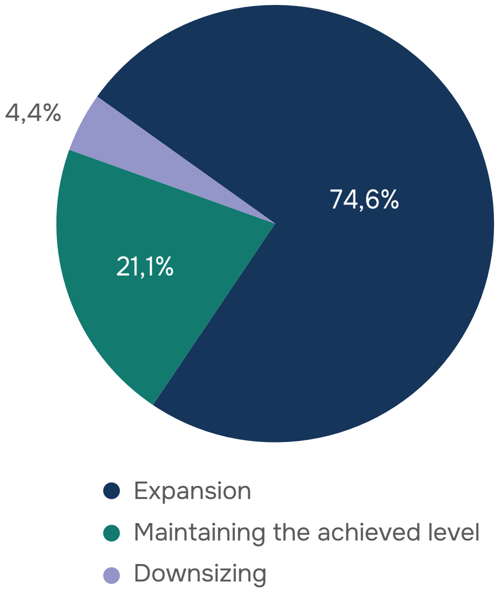


Figure 7. Strategic focus of surveyed Belarusian businesses

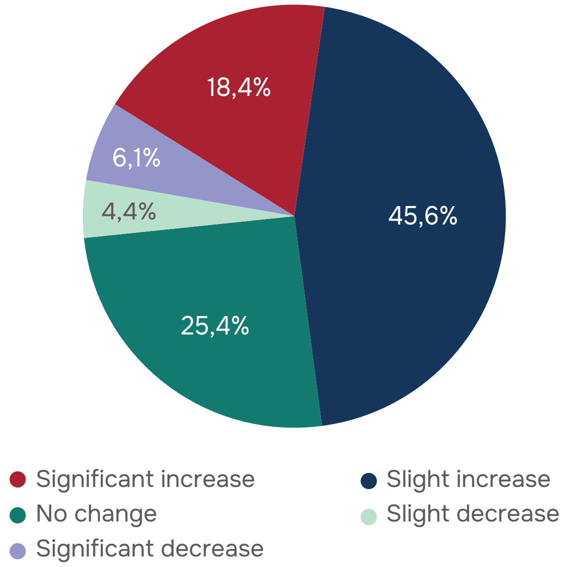


Figure 8. Hiring projection of surveyed Belarusian businesses

Source: Analysis of survey data

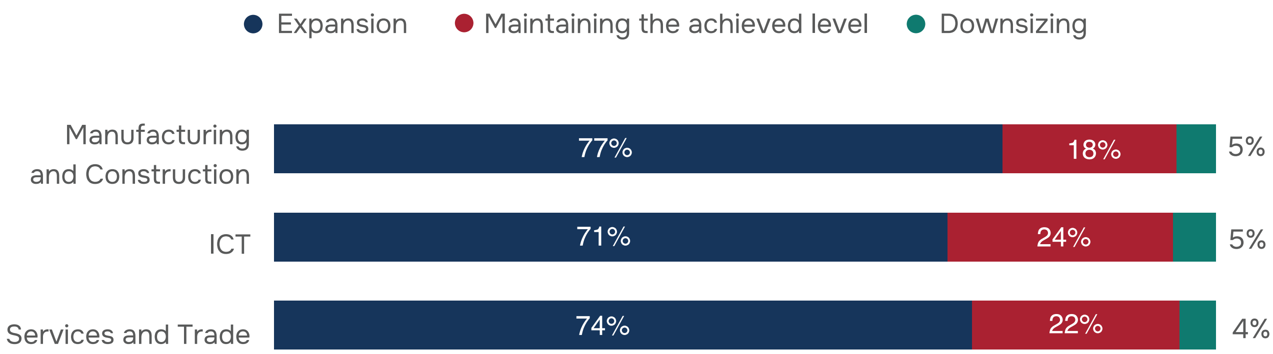


Figure 9. Strategic focus of surveyed Belarusian businesses by sector

Source: Analysis of survey data

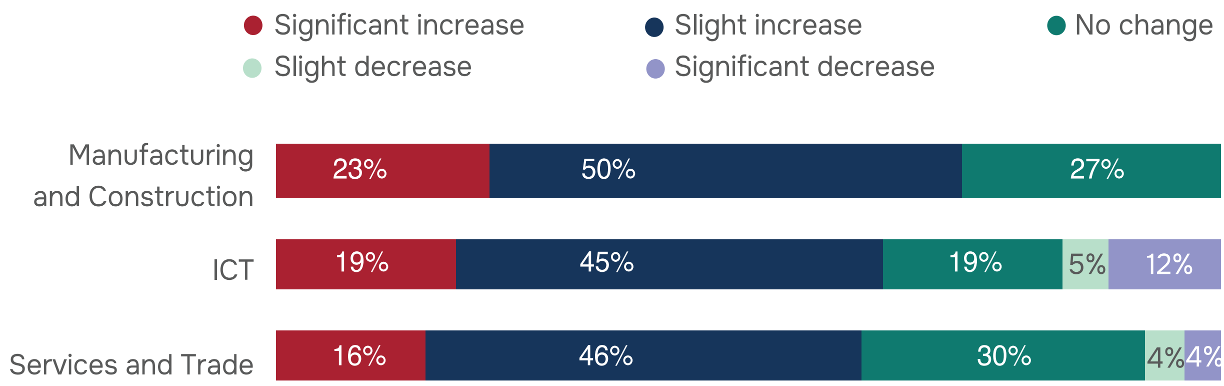


Figure 10. Hiring projection of surveyed Belarusian businesses by sector

Source: Analysis of survey data

5. Navigating the European market: challenges, responses, and support needs

Key barriers

The integration of Belarusian-rooted businesses into the EU single market is accompanied by a diverse array of challenges. These include both conventional obstacles faced by small and medium-sized enterprises (SMEs) and those that are more specific to the geopolitical and legal circumstances surrounding the Belarusian diaspora. As the Belarusian-rooted business becomes more established in new countries, issues of initial adaptation are becoming a thing of the past. New challenges related to business process optimization, finding financing, employees, and clients are coming to the forefront.

To capture these dynamics, the survey asked respondents to identify up to five key barriers hindering their company's growth and expansion. The results highlight the multidimensional nature of the constraints these firms encounter.

The most frequently reported barrier is difficulty entering new markets, selected by 39% of respondents (Figure 11). This is followed by high labor costs, particularly in terms of salary expectations (30%), and disparities in treatment of companies with Belarusian origins (29%). These three factors reflect a combination of structural and perception-based challenges that affect firms' ability to scale operations across borders.

Additional barriers relate to internal capacities and regulatory environments. A substantial share of firms (25%) cited a lack of qualified personnel or management, while 23% noted difficulties related to the legalization of founders and employees in host countries. These issues point to significant constraints in human capital and the administrative burdens associated with cross-border employment and residency requirements.

Several other responses reflect typical market dynamics faced by SMEs. These include strong competition (21%), low demand (20%), and high levels of economic uncertainty (19%). While such factors are not unique to diaspora-led firms, they compound the existing difficulties and reinforce the need for strategic adaptability.

A smaller yet non-negligible group of firms reported challenges with administrative and financial systems. These include complex and time-consuming administrative procedures

(12%), financial problems such as credit debt or delayed payments from counterparties (11%), and high costs of borrowing (8%). Moreover, a minority of respondents highlighted concerns related to changing legislation, including tax laws (5%), and broader macroeconomic instability, such as exchange rate fluctuations and inflation (4%).

Interestingly, 10% of respondents indicated that their firms do not face significant barriers, suggesting that a portion of the population has either developed effective strategies to navigate the host environment or benefits from sectoral or geographic advantages.

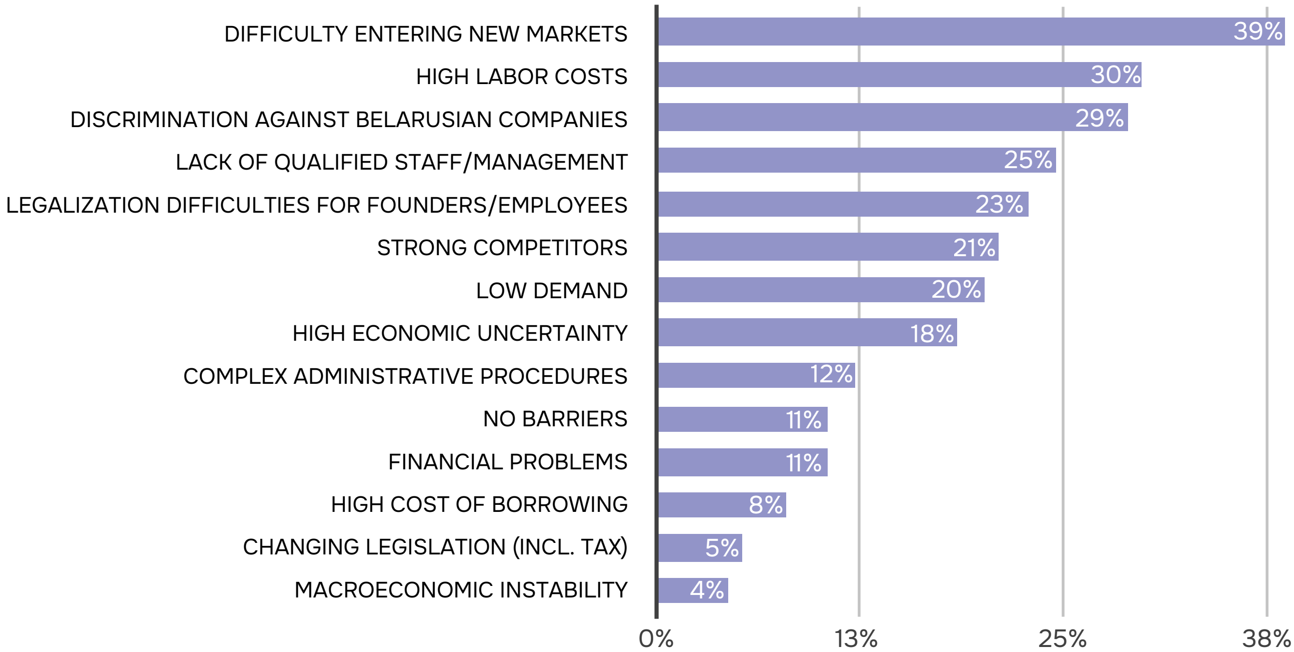


Figure 11. Key barriers hindering their company's growth and expansion

Source: Analysis of survey data

The analysis identified significant differences across sectors regarding the barriers companies encounter. Thus, for the Services & Trade sector, the top three barriers reported are: "Discrimination against Belarusian companies" (36%), suggesting geopolitical factors constrain commercial activity; "Lack of qualified staff/management" (34%), highlighting a critical human capital challenge; and "Difficulty entering new markets" (30%), indicating structural hurdles in scaling operations. Within the ICT sector, the top three barriers for firms are: "Difficulty entering new markets" (45%), reflecting high competition and saturation in EU tech markets; "Low demand" (41%), pointing to challenges in aligning offerings with global market needs and securing contracts; and "High labor costs" (29%), which significantly impact profitability and scalability in this service-intensive sector outside Belarus. For the Manufacturing & Construction sector, the top three barriers are highly concentrated: “Difficulty entering new markets” (46%), underscoring high capital intensity and stringent regulatory requirements; “Legalization difficulties for founders/employees” (41%) highlighting challenges in establishing presence and securing staff; and “High labor costs” (36.4%), a major operational expense driven by the need for skilled and often unionized labor.

In general, the data reveals that market entry and operational costs are universal challenges, with “Difficulty entering new markets” ranking in the top three for all three sectors. However, the nature of barriers varies significantly across industries. The Services & Trade sector is uniquely challenged by disparities in treatment, indicating political sensitivity and non-market factors influencing their operations. In contrast, the Manufacturing & Construction sector faces major friction from “Legalization difficulties for founders/employees”, suggesting a greater impact from regulatory instability and complexity. The ICT Sector grapples primarily with “Low demand” alongside high EU operating expenses. These sectoral differences highlight the necessity for tailored policy responses rather than blanket support measures to aid Belarusian businesses in the EU effectively. These findings illustrate the dual burden faced by Belarusian entrepreneurs in the EU: they must contend with the general pressures of market competition while simultaneously addressing challenges linked to their legal status and national origin.

A comparison with the internal Belarusian business environment reveals a stark divergence in challenges. Before the socio-political crisis (2018), businesses inside Belarus struggled primarily with internal fiscal instability, citing high tax rates and variable legislation (IPM Research Center, 2018). By September 2023, the internal focus had become operational survival, driven by an acute lack of staff (due to emigration) and supply difficulties (due to sanctions and closed borders) (BEROC, 2023c). In contrast, Belarusian businesses operating in the EU face an acute geopolitical market penalty, where external obstacles like difficulty entering new markets and explicit unequal treatment dominate, illustrating that managing political association is now a primary operating cost outside the home country.

Despite the variety and complexity of these obstacles, the majority of entrepreneurs remain optimistic. Only 6% of respondents expressed the belief that external barriers are insurmountable and would likely lead to business closure. In contrast, 94% of respondents view these challenges as manageable and surmountable, exceeding the record-high 90% observed in Belarus in 2023. This widespread perception of resilience and adaptability suggests that, while the barriers are significant, they do not preclude successful integration and growth.

Businesses' responses to challenges

The analysis of businesses' responses to obstacles and risks indicates that, under external pressure and operational complexity, businesses are focusing on two main strategic directions: optimization of internal processes and adaptation of product/market strategy. For the overall sample, the primary priorities are "Searching for new business formats" (62%) and "Improvement of business process efficiency" (62%) (Figure 12). The Manufacturing & Construction sector is concentrated on searching for new business formats (77%). This indicates that, facing the most severe challenges in market access and regulation, manufacturing companies are actively restructuring their fundamental approaches to business to fit new markets and niches. In the Services & Trade sector, the most popular measures are "Searching for new business formats" (66%) and "Launching of new products/services" (66%). In the ICT Sector, the clear leader is "Improvement of business process efficiency" (67%). Thus, the focus in the ICT Sector is shifted towards internal efficiency to combat high labor costs, whereas the Services & Trade sector concurrently seeks new markets, which is likely a response to the problem of low market awareness and market entry difficulties.

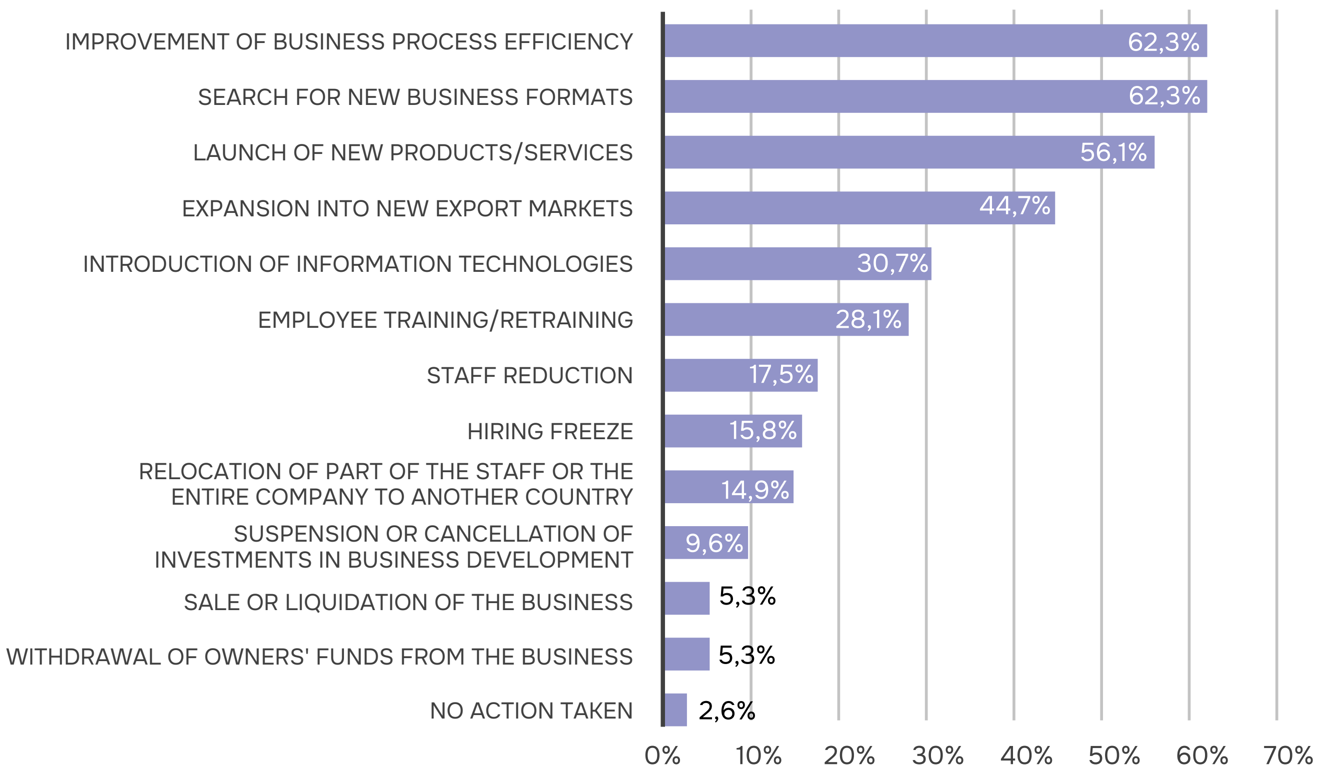


Figure 12. What steps is your company taking to minimize the impact of emerging risks and enhance competitiveness? (could be selected all that apply)

Source: Analysis of survey data

The political and regulatory wishlist

When asked what would most help their company's development, Belarusian businesses in the EU expressed a strong consensus that political and legal normalization is far more relevant than immediate economic aid or market-specific support. The top three most desired accelerants all relate directly to the macro-environment and their reputation (Figure 13).

End of war in Ukraine (58.8%) as the highest-ranked factor underscores that the geopolitical instability caused by the war is the single largest drag on their business, impacting everything from security to market perception. Next, a high figure for "Restoration of the reputation of Belarus and Belarusians" (54.4%) directly confirms the finding regarding "Discrimination" as one of the crucial barriers. Businesses believe that recovering their national brand image is essential to overcoming non-market barriers and fostering trust with EU clients and partners. More than half of respondents mentioning the "Simplification of legalization procedures for Belarusian-rooted businesses in EU countries" (53.5%) highlights the administrative friction and costs involved in obtaining visas, residence permits, and registering entities. While "Changing legislation" was a barrier, the strong demand for simplification stresses that existing regulatory complexity is a primary block to efficient operation and growth, particularly for sectors reliant on staff mobility (like ICT).

The data clearly indicates that, for the Belarusian business community in the EU, the development pathway is not primarily economic – it is fundamentally geopolitical and administrative. The highest-ranking factors are outside the control of individual companies and require political resolution and regulatory simplification from EU member states. Less than a quarter of respondents cited technical economic issues such as "Stability of legislation regulating business activities" (21.9%) or "Reduction of interest rates on loans" (14.9%) as top priorities, suggesting that their current capacity for growth is being throttled by political and migratory issues, which must be addressed before market-based tools become effective.

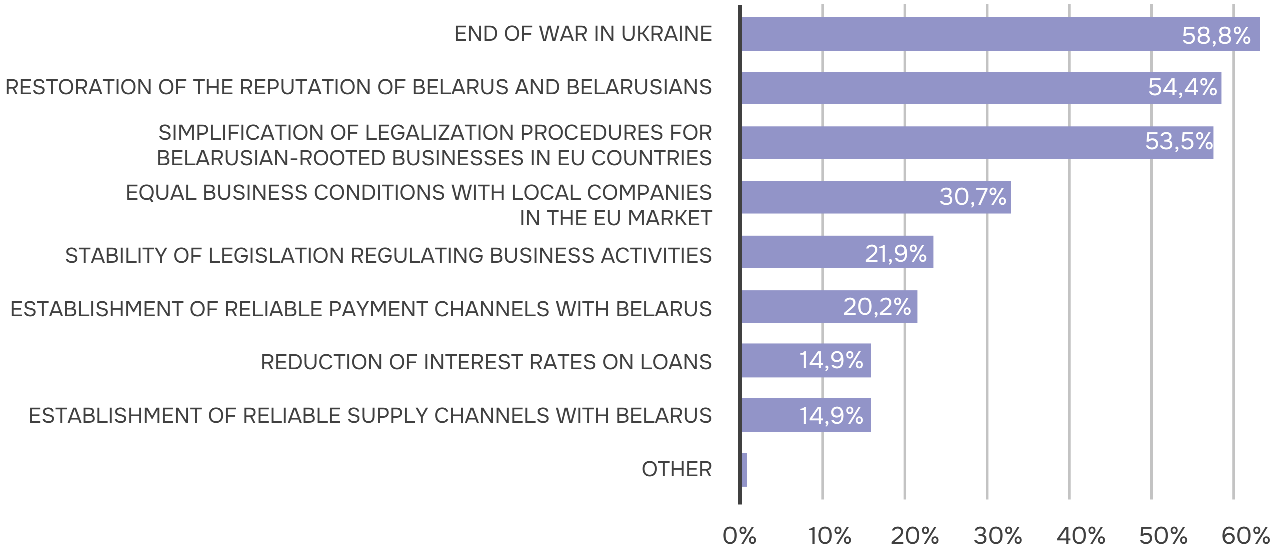


Figure 13. What would most help your company's development at the moment? (could be selected all that apply)

Source: Analysis of survey data

Support needs

Survey findings show that the most important support measures for business success, regardless of location, are grant support (58%), networking with local entrepreneurs (50%), and networking with fellow entrepreneurs (49%) (Figure 14). The responses show a clear split between the capital-intensive Manufacturing & Construction sector and the service-oriented ICT and Services & Trade sectors. The ICT Sector exhibits the strongest demand for networking support, with "Networking with local entrepreneurs" (74%) and "Networking with other Belarusian entrepreneurs" (60%) being the top priorities. This indicates that, for the mobile and competitive IT industry, the greatest need is for integration into the local EU business ecosystem – finding partners, building trust and relationships. The Services & Trade sector shows a more balanced reliance on grants and networking: "Grant support" (60%) appeared the most desired measure. Other desired aids include "Networking with other Belarusian entrepreneurs" (48%) and "Support in product/service realization (online platforms, exhibitions, etc.)" (42%). This suggests businesses in this sector are struggling with both market access (hence the need for platforms and exhibitions) and the high cost of operations (driving the need for direct grant support). The Manufacturing & Construction sector prioritizes financial support, demonstrating its higher dependence on capital and investment for long-term projects compared to the service industries. Grant support (59.1%) is a leading factor, followed by "Access to borrowed funding (loans, investments, etc.)" (50%), suggesting that while loans are necessary, direct non-refundable support is still highly valued to mitigate geopolitical risk.

These priorities underscore the significance of securing financial resources and building strong professional networks to bridge the gap between Belarusian-rooted businesses and the established EU environment. The high demand for grant support across all three sectors (55% to 60%) highlights the widespread need for risk mitigation and capital to overcome reputational hurdles and high operational costs without incurring further debt. The ICT and Services & Trade sectors prioritize Networking with local entrepreneurs, confirming that their primary obstacle is not a lack of product or skill, but rather a lack of trust and connectivity within EU markets. The Manufacturing & Construction sector's unique emphasis on access to borrowed funding stresses a fundamental difference in capital structure, requiring solutions focused on de-risking larger, longer-term debt and equity investments necessary for production scale.

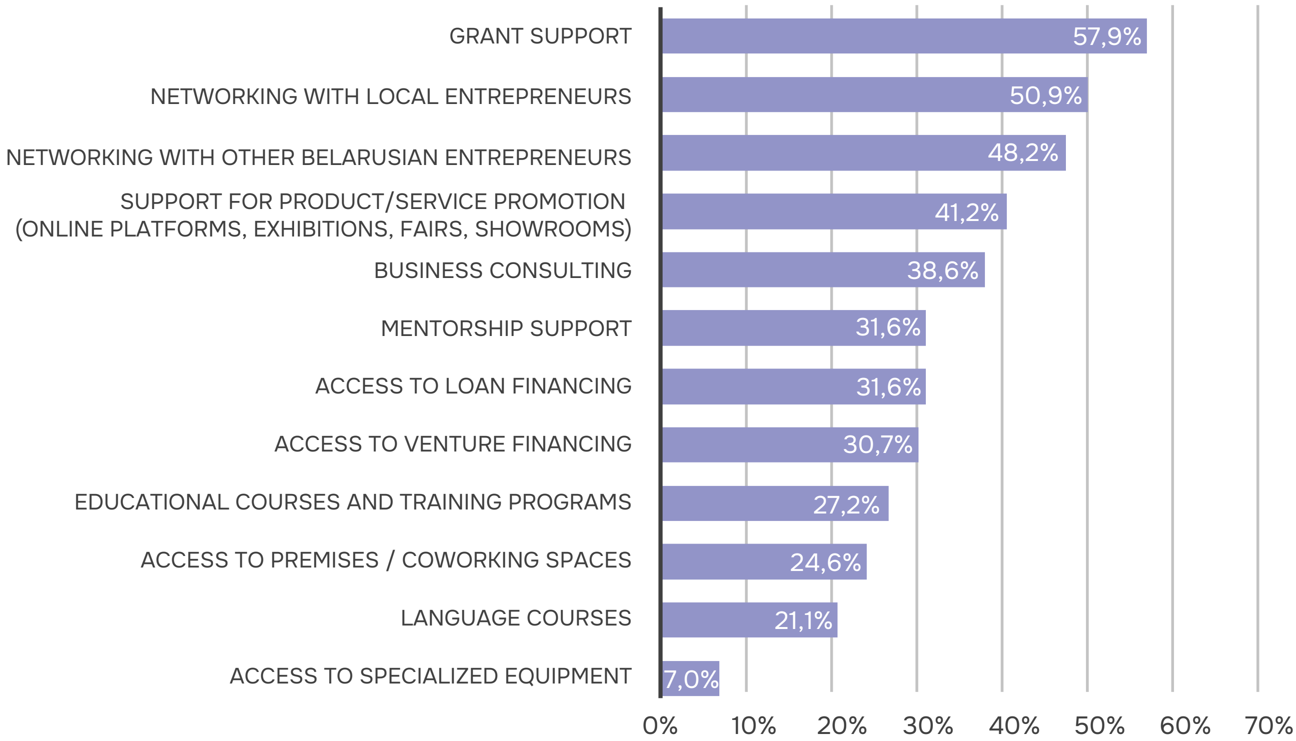


Figure 14. What types of support would be most important for the success of your business? (could be selected all that apply)

Source: Analysis of survey data

The rise of diaspora business associations

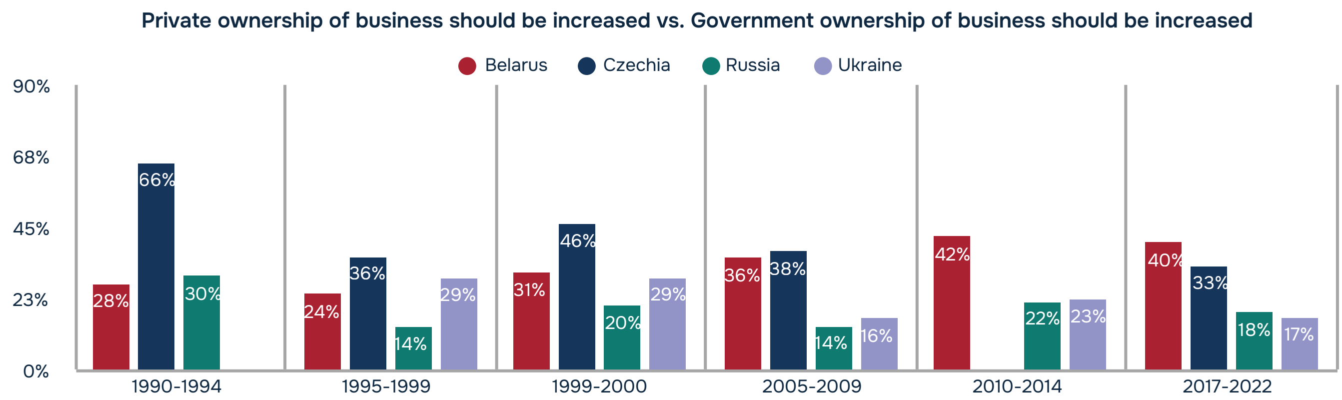
The shared history of forced migration, new challenges, as well as the innate resilience and adaptability of Belarusian entrepreneurs (Marozau, 2023), appeared to be prerequisites for collaboration, joint efforts, and the development of a sound ecosystem across Poland and Baltic countries. The commitment to market principles has rapidly manifested in a practical and institutional form: the proliferation of Belarusian business associations, clubs, and informal communities across the European Union (Krasko & Daneyko, 2023). This phenomenon is new and crucial, as it represents the spontaneous development of civil society structures that are atypical for Belarus and deeply characteristic of the EU's decentralized business environment (Greenwood, 2002). In post-2020 Belarus, the state tightened control over organized social and business groups, often limiting their function to compliance and information dissemination rather than genuine advocacy or mutual support (Daneyko et al., 2021). In stark contrast, the diaspora has, in a very short period, established functional, self-governing networks in host countries, which is a clear indicator of the diaspora's capacity for democratic practice. These organizations fulfill a critical function that the state in Belarus actively suppresses: collective action and advocacy. By building peer-to-peer trust and creating formal structures for cooperation, these groups actively substitute for the non-existent institutional trust and stability of their home country. They serve to mitigate the geopolitical risk and unequal treatment faced by their members by providing networking opportunities, legal and practical consultation, and, most importantly, trying to act as a collective representative to local governments and EU institutions (Marozau, 2024). It demonstrates that these entrepreneurs are capable of deploying the democratic institutions – freedom of association, voluntary collective action, and self-governance – to solve their shared challenges.

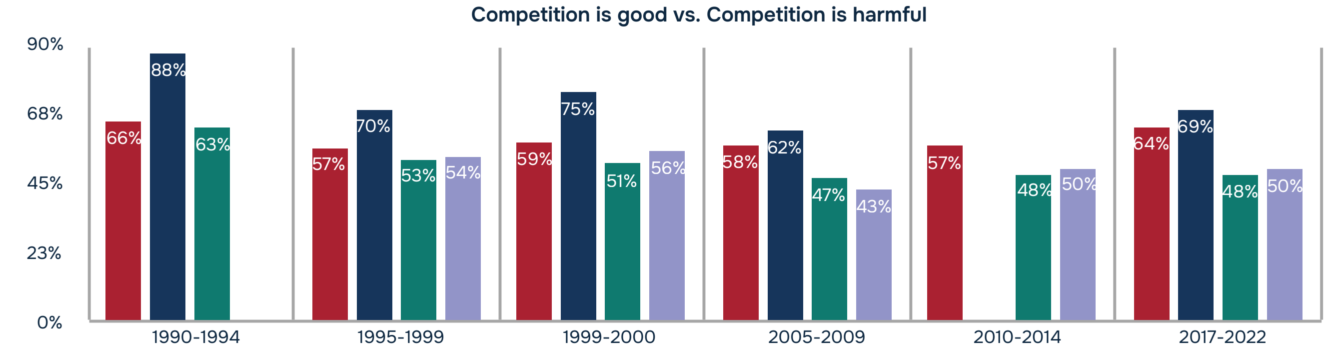
6. Agents of transformation. The analysis of value alignment

The resilience and expansionary goals documented in the survey analysis raise a fundamental question regarding the set of internal values that enables Belarusian entrepreneurs to consistently pursue growth despite significant external political and administrative headwinds (Marozau & Kosyak, 2022). This section shifts the focus from the external environment to the seamless European integration and alignment of the business community, examining whether their mindset is compatible with the foundational principles of the market economy. The analysis is built on the premise that sustained success and effective integration are impossible without a deep-seated commitment to core values such as competition, private ownership, and self-reliance.

The evolution of pro-market values within Belarusian society highlights the decades-long shift from state paternalism to individual responsibility and private initiative (BISS, 2021). The analysis based on data from the World Values Survey and European Values Study (Daneyko et al., 2023) shows that since the mid-1990s, Belarusians have steadily moved away from a purely state-centric outlook (Figure 15) that increasingly aligns with European norms while simultaneously diverging from its Eastern neighbors, Russia and Ukraine.

Support for private ownership increased from 24% in 1996 to 40% in 2018, while around two-thirds of respondents consistently affirm that competition is beneficial. Equally important is the rise of individual responsibility as a guiding principle: by 2018, 46% of Belarusians prioritized self-reliance over state welfare, representing a 30 percentage-point increase since 1996.





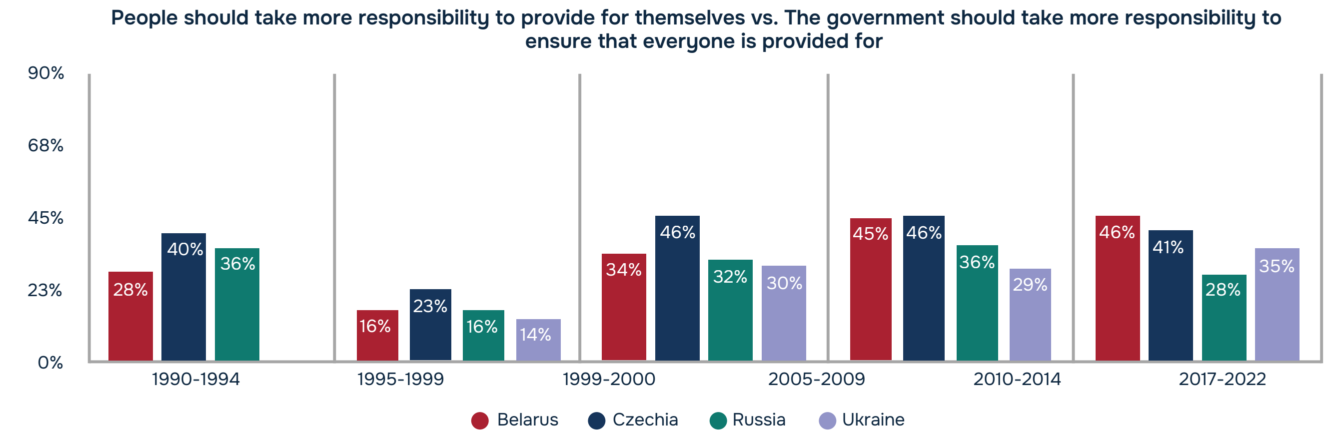


Figure 15. Comparison of market-related values by country

Source: Analysis of the World Values Survey data

Although the Adult Population Survey by Global Entrepreneurship Monitor for Belarus revealed notable differences in entrepreneurial values and perceptions between individuals in Belarus who have started a business and those who have not (Figure 16), at the societal level, both groups converge in their views: entrepreneurship is widely regarded as a desirable career path, and entrepreneurial success is associated with high social status (GEM-Belarus, 2025).

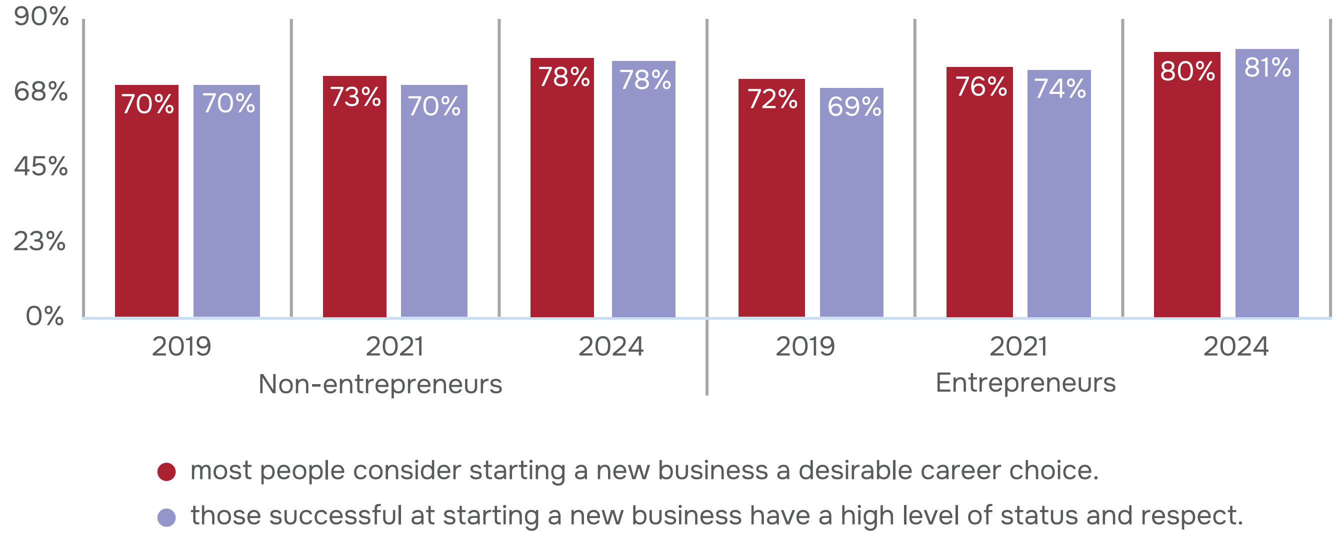


Figure 16. Comparison of market-related values by country

Source: GEM-Belarus (2025)

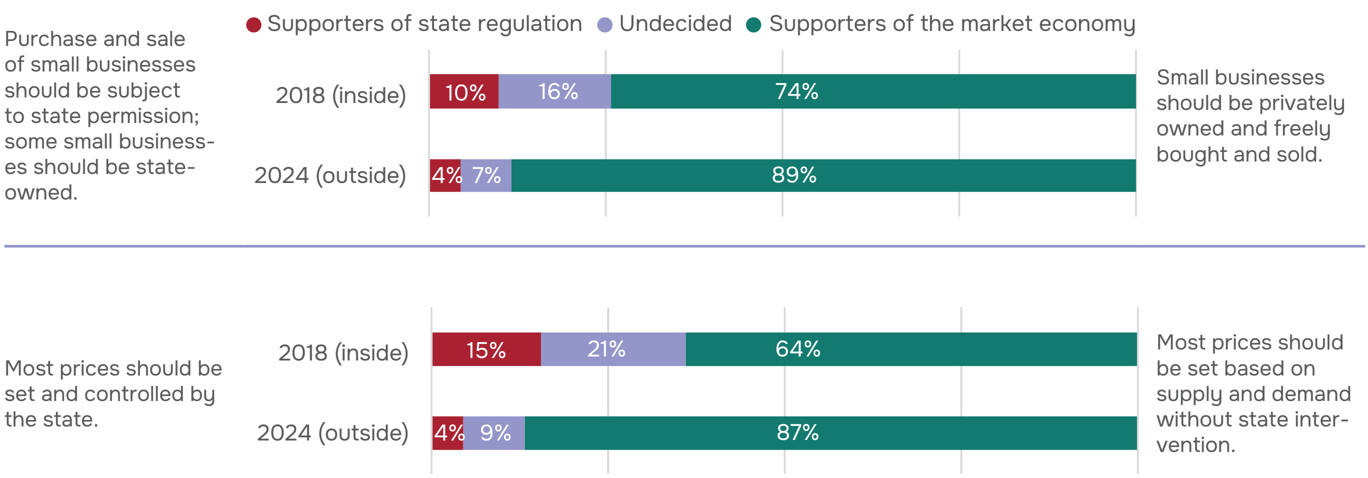
Overall, the GEM results highlight that self-efficacy, risk orientation, and opportunity recognition remain the key distinctions between entrepreneurs and the general population. At the same time, broader societal attitudes toward entrepreneurship are widely shared (GEM-Belarus, 2025). These evolving economic, entrepreneurial, and pro-democratic values – rather than explicitly political or cultural ones – served as unifying factors for Belarusian society during the 2020 protests (Daneyko et al., 2023).

The combination of a long-term societal shift toward market principles and the unique psychological profile of Belarusian entrepreneurs has profound political implications. In general, previous research collectively positions the entrepreneurial class – and by extension, the business diaspora – as a proactive, motivated, and democratically aligned segment of Belarusian society (Bornukova & Friedrich, 2021). Their strong preference for self-reliance over state welfare, their belief in the benefits of competition, and their demonstrated risk tolerance are not merely business characteristics; they are foundational democratic values centered on individual agency and responsibility (Audretsch & Moog, 2022; Marozau, 2023). Unlike the general population, which still tempers its market views with expectations of state-led redistribution, entrepreneurs have clearly rejected paternalistic trade-offs, embodying a mature commitment to the free-market principles (Urban, 2018) that underpin European economies.

Following these ideas, the embracement of the foundational principles of a liberal market economy was tested using responses to sixteen items and compared to results obtained from the business survey in Belarus in 2018 (Urban, 2018). Each survey item presented respondents with a forced choice between two contrasting economic positions: one reflecting a statist or interventionist approach, and the other embodying the principles of a free-market economy. Across the board, the responses demonstrate a strong and recurring preference for the latter. While the intensity of this support varies across issues, the general pattern is clear – Belarusian business leaders show a broad commitment to liberal economic norms. Respondents who scored 1 to 2 are marked on the chart as supporters of state regulation, 3 as undecided, and 4 to 5 as supporters of the market economy.

The comparison provides evidence that the Belarusian business diaspora operating outside the country holds a stronger commitment to self-reliance, risk-taking, and core market principles than business representatives operating inside Belarus just a few years earlier (Figure 17). The strongest consensus appears in key domains such as private ownership of small enterprises, the regulation of labor relations through contractual freedom, and the importance of competitive market mechanisms. Respondents overwhelmingly support the idea that property, including land and company shares, should be freely traded under transparent, internationally recognized rules. There is also strong opposition to state intervention in pricing, favoring instead the self-regulating forces of supply and demand. Respondents also reject the notion that uncompetitive firms should be propped up by state subsidies, favoring instead a market-based test of viability.

At the same time, support for market-oriented principles surged among the diaspora compared to 2018 in nearly every category. Most notably, the diaspora exhibits a near-unanimous commitment to private autonomy, supporting the idea that employment and wages should be the subject of an employment contract (vs. state regulation) – 91%; sharing the belief that small businesses should be privately owned and freely bought and sold – 89%; supporting the free purchase and sale of enterprises (vs. state determination) – 90%, showing a clear preference for transparent, global financial rules.




The vast majority of large enterprises should be state-owned.
2018 (inside)
26%
32%
42%
2024 (outside)
6%
19%
75%
The vast majority of large enterprises should be privately owned.
The largest banks should be state-owned and have privileges over private banks.
2018 (inside)
18%
18%
65%
2024 (outside)
4%
14%
82%
All banks should be on equal terms, and banking regulation should be based on international standards.
Loss-making and uncompetitive enterprises should be subsidized by the state.
2018 (inside)
7%
15%
78%
2024 (outside)
5%
10%
85%
The viability of enterprises should be determined by their ability to produce competitive products.
High tariffs on imported goods should protect the interests of national producers.
2018 (inside)
23%
21%
57%
2024 (outside)
13%
17%
70%
National producers should compete freely with foreign producers.
The state should create special conditions for specific enterprises and sectors and support domestic producers.
2018 (inside)
31%
17%
52%
2024 (outside)
24%
17%
60%
There should be uniform, transparent “rules of the game” for all enterprises (including foreign ones).
The state should determine which enterprises’ shares can be sold and which cannot.
2018 (inside)
20%
17%
63%
2024 (outside)
6%
4%
90%
Free purchase and sale of securities, with regulation based on international standards.
Energy, telecommunications, housing and utility services, and road infrastructure should be state-owned.
2018 (inside)
33%
19%
48%
2024 (outside)
18%
14%
68%
Private companies should be allowed access to energy, telecommunications, housing and utility services, and road infrastructure.

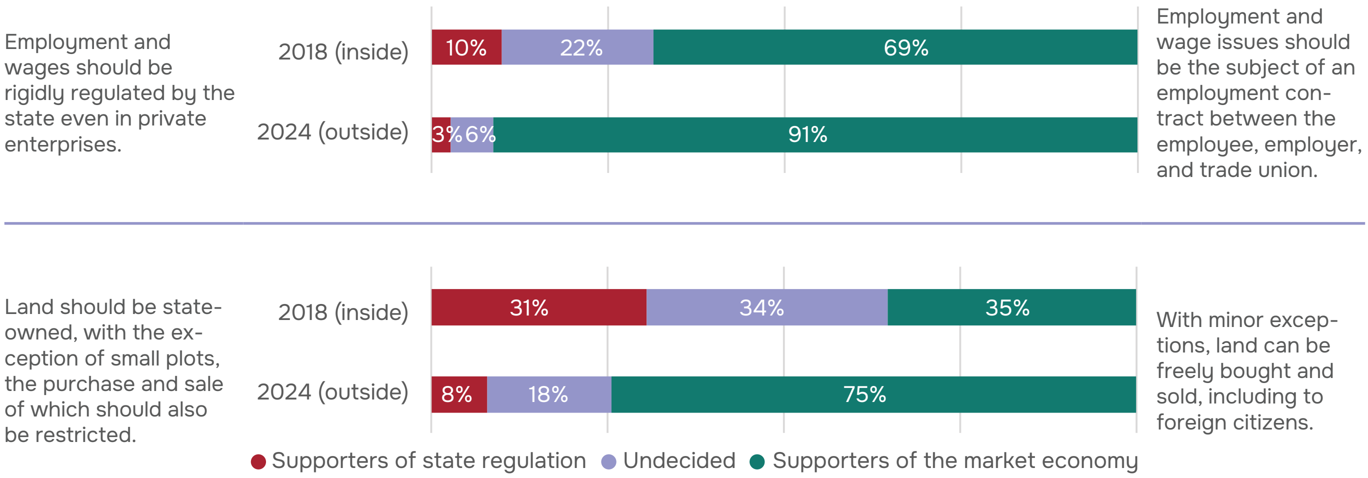


Figure 17. Comparison of market-related values of entrepreneurs inside and outside Belarus

Source: Analysis of survey data and IPM Research Center (2018)

This growing commitment to market-oriented principles is further substantiated by an analysis of attitudes toward broader social and economic trade-offs, which reveal a consistently individualistic and entrepreneurial mindset. In the final section of the survey in 2024, respondents were invited to indicate agreement with a series of statements reflecting paternalistic and protectionist preferences (Figure 18). These included propositions such as "It is better to have a lower salary but a guaranteed job," "It would be better if Belarusian enterprises earned not very large profits, but were not bought up by foreigners," and "It is better to distribute graduates by force, but not to leave them unemployed." Respondents could choose more than one answer. A striking 70% of participants (vs. 27% in 2018) selected "I don't agree with any of the statements," clearly rejecting all the paternalistic and state-dependent views presented. 21% agreed that average but free medical care is preferable.

Support for the remaining statements was marginal: only 6% agreed with the notion that a lower salary is acceptable in exchange for guaranteed employment, and the same share endorsed the idea that foreign investment in Belarusian enterprises should be avoided even at the expense of profitability; 1% favored forced graduate placement to prevent unemployment; and not a single respondent agreed that it is better to work for a state enterprise than a private one. This widespread rejection of paternalistic trade-offs underscores a culture of self-reliance and market realism. It reflects a worldview rooted in risk-taking, personal responsibility, and a positive-sum understanding of competition and ownership. These are not abstract preferences but hard-earned convictions, shaped by experience in an environment where state intervention was frequently inefficient, arbitrary, or counterproductive. Rather than seeking protection or guarantees, the respondents demonstrate an internalized belief in agency, meritocracy, and open economic engagement. This mindset, resistant to the allure of state paternalism, is emblematic of a mature entrepreneurial class already operating within the normative framework of European market democracies.

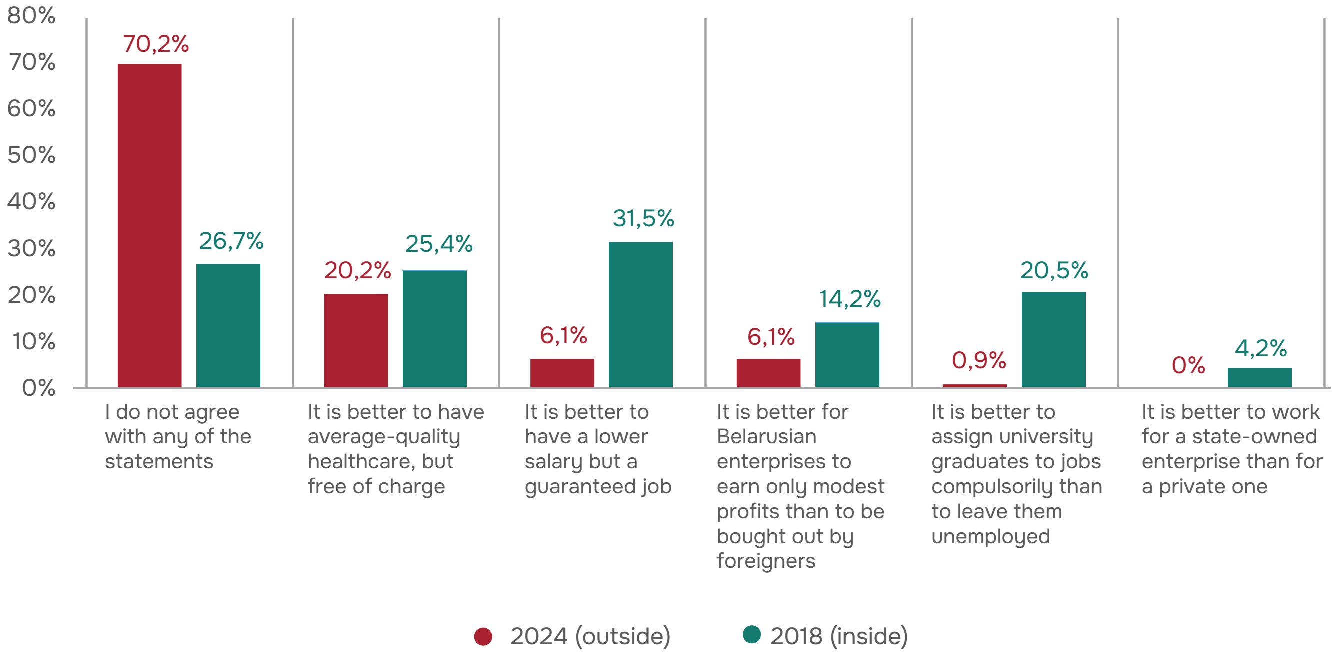


Figure 18. Comparison of paternalistic and protectionist preferences of entrepreneurs inside and outside Belarus

Source: Analysis of survey data and IPM Research Center (2018)

7. Conclusion and policy recommendations

The data analysis consistently demonstrates that the Belarusian business diaspora in the EU is operating with an expansionary mindset. An overwhelming 74% of surveyed companies are focused on business expansion, compared to only about a quarter of companies inside Belarus. This strong growth orientation, coupled with projected workforce increases, frames this community not as a passive recipient of aid or a mere subject of migration policy, but as a potent cohort of active agents – individuals and firms who, by their nature, not only seek to build, innovate, and compete but do so from a foundation of shared economic values. This evidence suggests that the post-2020 wave of Belarusian entrepreneurial relocation is not a typical case of economic migration but a politically driven process of "forced internationalization" that has led to the displacement of some of the country's most innovative, resilient, and forward-looking enterprises. Crucially, the relocation of these entrepreneurs to the EU does not represent a break with the past so much as a fulfillment of long-standing aspirations, but these values appear to have developed before, often in defiance of a more centralized and restrictive policy environment in Belarus. Consequently, success abroad is based on the entrepreneurial principles already cultivated under challenging conditions and is not merely the result of adapting to new institutional settings. Strong alignment with liberal market values – including private ownership, individual initiative, fair competition, and transparent governance – positions Belarusian entrepreneurs as a foundational pillar of a future democratic Belarus integrated into the European family. Therefore, supporting this diaspora is not merely a question of solidarity or migration management. It is a high-return strategic investment that strengthens the EU's economic base, supports democratic transition in its neighborhood, and affirms the values that underpin the Union itself. Tailored interventions are needed to address their legal vulnerabilities and enable their full participation in EU markets.

From a strategic perspective, two key policy imperatives emerge.

First, EU institutions and member states must go beyond standard SME support measures and treat the Belarusian business diaspora as a distinct policy constituency shaped by geopolitical disruption but endowed with high integration and growth potential. The specific wishlist identified – prioritizing the end of the war in Ukraine, the restoration of the reputation of Belarus, and the simplification of legalization procedures – are not typical requests for economic development. Instead, they represent a demand for the removal of geopolitical and administrative friction that currently impedes their inherent capacity for growth.

Support measures, therefore, should be less focused on basic business training (which is relatively low priority), i.e., shift from traditional SME assistance to combining equal access to mainstream business support with targeted interventions aimed at reducing the structural disadvantages.

Programs designed to support this community must prioritize the following:

- De-risking and trust-building measures should directly address treatment disparities by funding robust networking with local entrepreneurs (as strongly desired by ICT and Services & Trade firms) and providing equal access to finance (incl. grants, vouchers, and subsidies) to mitigate the risk premium associated with their origin.
- Implement targeted policies to simplify legalization for founders and key employees, recognizing that administrative delays are a direct bottleneck to expansion and job creation within the EU.
- For the Manufacturing & Construction sector, policy should focus on providing access to borrowed funding through guarantee schemes or de-risked investment mechanisms that recognize the sector's long-term capital needs while offsetting geopolitical uncertainty.
- Stimulation of cross-cutting projects and initiatives that involve the capabilities of different actors and stakeholders should promote a sense of community and solidarity within the Belarusian diaspora. One of the overarching topics of joint efforts of Belarusian entrepreneurs, civil society organizations, and democratic forces could be education and employability of Belarusians in the EU.

Second, the Belarusian business diaspora should be recognized as a long-term strategic asset for regional transformation. Supporting their stability and growth not only contributes to local economies but also cultivates a new entrepreneurial elite capable of driving the democratic reconstruction of Belarus. In this regard, European policymakers must recognize, empower, and strategically engage this community as both a driver of integration and a vector of change. In this regard,

- The European Commission, in partnership with Member States, should explore the creation of a standardized, streamlined temporary residency and work permit pathway or the expanded use of existing instruments (e.g., the EU Blue Card) for Belarusian entrepreneurs and essential employees. This pathway should take into account their displacement due to political and economic repression by the regime that actively undermines European security.
- The promotion of a positive narrative about the diaspora's economic contributions and low integration risk, countering stereotypes and disparities in treatment, would address the most frequently cited barriers and align with the diaspora's strong preference for merit-based competition. This narrative should also advocate the role of the business diaspora as a driver of the re-Europeanization of Belarus.

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Computable general equilibrium model for Belarus: theoretical aspects and practical applications

Co-funded by
the European Union

2025

Working Paper Series, WP no. 90

Abstract:

The paper develops a computable general equilibrium (CGE) model for Belarus to assess the consequences of alternative integration strategies and external shocks. The modeling exercise suggests that Belarus will face difficult choices and substantial risks in the event of geopolitical and economic realignments. Primary raw material processing industries, as well as industrial sectors heavily dependent on the Russian market and low-cost energy, could suffer significant output losses if oil and gas prices rise sharply and Belarus reorients trade away from Russia toward the EU. Export-oriented, higher value-added sectors (mechanical engineering, communications, pharmaceuticals, and light industry) have the potential to increase production and export through labor and capital flows. With carefully designed EU support – focusing on targeted energy subsidies, helping Belarusian firms integrate into European production chains, and providing productivity-oriented financial assistance – the negative short-term effects of energy shocks and the shift in trade from Russia to Europe can be mitigated. While short-term adjustment costs are unavoidable, closer ties with the EU can help Belarus overcome its structural dependence on Russia and secure long-term gains in growth and welfare.

Keywords: CGE, model, simulation, GDP, value added, output, energy, trade, integration, liberalization.

JEL: C68, F15, F14, Q43, O52.

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1. Introduction

For Belarus, one of the most important strategic choices is about its future orientation between continued reliance on Russia and deeper integration with the European Union (EU). At present, the Belarusian economy is strongly integrated with Russia: around 60% of foreign trade turnover is connected to the Russian market, and Belarus benefits from heavily subsidized energy imports. While this arrangement has ensured short-term stability, it creates long-term vulnerabilities. Structural dependence makes Belarus highly sensitive to political or institutional changes in its relations with its eastern neighbor, limits opportunities for productivity gains, and undermines household welfare through lower real income growth relative to neighboring EU countries.

Closer integration with the EU offers a different path. It features both opportunities and risks: opportunities in access to larger markets, advanced technologies, and investment, and risks in the costs of adjusting the sectors currently reliant on protected access to Russian markets, as well as social challenges that may arise as the economy is rebalanced.

Understanding the trade-offs of these strategic choices requires a tool that captures both the immediate disruptions and the broader structural consequences of external shocks. For this purpose, this paper develops and applies a computable general equilibrium (CGE) model for Belarus. CGE models are particularly well-suited to analyze such complex scenarios because they simulate how an entire economy adjusts to shocks in trade, prices, or structural policy measures. CGE models provide a consistent framework that links sectoral interactions, resource allocation, and household welfare within a general equilibrium setting. These models are particularly well-suited for simulating scenarios that involve significant, economy-wide adjustments, such as trade liberalization, integration into new production chains, or energy price shocks. By considering both direct and indirect effects across industries and households, they assess the full range of potential impacts instead of focusing on isolated sectors.

The Belarusian case is a clear example where such modeling is crucial. The economy's dual dependence, on cheap energy imports and on access to the Russian market, creates vulnerabilities that cannot be understood through partial-equilibrium or sectoral analysis alone. Structural shocks, such as a sharp rise in energy prices or a reorientation of trade toward the EU, affect not only the directly exposed sectors but also the broader economy through changes in costs, relative prices, and resource allocation. A CGE framework is therefore indispensable for identifying these connections and providing a comprehensive view of possible outcomes. Existing studies on Belarus that apply CGE models are of limited relevance today, as they rely on outdated data and do not address the potential integration of Belarus into the EU.

This study aims to address this gap by examining the sectoral and macroeconomic consequences of Belarus's policy reorientation from Russia to the EU. For this purpose, simulations were run using the developed CGE model. The simulations focus on three major scenarios that reflect the critical challenges Belarus may face. The first is an energy shock – a sharp rise in energy prices with potential disruptions to the supply of Russian oil and gas. The second is liberalization of trade with the EU without an energy shock – lowering of tariff barriers with the EU accompanied by the complication of trade relations with Russia. The third is liberalization of trade with the EU under an energy shock – a combined scenario where energy prices rise sharply and trade shifts toward the EU. In addition to simulating the aforementioned shocks, the study also examines the potential effects of macro-financial support from the EU.

A key prerequisite for these scenarios is a change in the political situation in Belarus. The current political regime must either collapse or transform into inclusive political institutions that allow for democratic elections. This political transition is beyond the scope of this study. However, it is important to have economically sound estimates of the potential effects of a change in economic policy prepared in advance.

The simulation results emphasize the importance of reducing Belarus's structural dependence on Russia. Energy diversification, participation in European value chains, and productivity-enhancing reforms are essential for long-term resilience and growth. For the EU, the results suggest that targeted energy subsidies and productivity-oriented financial assistance could significantly mitigate short-term losses and lay the groundwork for sustainable growth.

The EU will also experience some economic and, possibly, socio-political effects from building closer ties with Belarus. Assessing these effects has implications for EU policy decisions, but it is beyond the scope of this study.

The structure of the working paper is as follows. Section 2 provides an overview of the CGE modeling framework, and Section 3 describes the CGE model for Belarus. Section 4 outlines the simulation design and elaborates on the key results. Section 5 evaluates the macroeconomic impact of potential economic support from the EU and offers policy recommendations. Section 6 concludes the study with reflections on limitations and directions for future research.

2. Overview of the CGE modelling

2.1 Characteristics of a CGE model

A CGE model is a system of equations that describes an economy as a whole and the interactions among its parts. The standard CGE model accounts for all payments recorded in the social accounting matrix (SAM), which serves as a form of data input for the model. SAM is a square matrix that describes the circular flow of income and spending in a national economy over a specific time period, typically a year. It reports the values of all commodities produced and the income generated from their sales (Burfisher, 2021).

A CGE model follows the SAM disaggregation of economic agents, and it is written as a set of simultaneous equations defining their behavior. In part, this behavior follows simple rules captured by fixed coefficients (for example, ad valorem tax rates). The equations also include a set of constraints that must be satisfied by the system as a whole but are not necessarily considered by any individual actor. These constraints cover markets (for factors and commodities) and macroeconomic aggregates (balances for savings-investment, government, and the balance of payments with the external sector) (Lofgren et al., 2001).

A CGE model includes exogenous and endogenous variables and market-clearing constraints. All the equations in the model are solved simultaneously to find an economy-wide equilibrium in which, at some set of prices, the quantities of supply and demand are equal in every market (Burfisher, 2021). To conduct an experiment, one or more exogenous variables are changed, and the model is then resolved to determine new values for the endogenous variables. Such a simulation aims to draw conclusions about the effects of an exogenous change (or an economic shock).

The key terms in CGE models are defined as follows:

- "Computable" refers to a model's ability to quantify the effects of a shock on an economy.
- "General" means that a model encompasses all economic activities simultaneously, including production, consumption, employment, taxes, savings, and trade, as well as connections among them.
- "Equilibrium" refers to a state in which all markets in an economy clear simultaneously, meaning that supply equals demand for every good, service, and factor of production.

CGE models have been applied to study a wide and owing range of economic problems, including taxation, economic development, trade policy, climate change, tourism, transportation, and disease.

2.2 Strengths and limitations of CGE models

A major advantage of CGE models is their flexibility. They can be customized to simulate a wide range of economic policies and shocks, including trade agreements, fiscal reforms, or public spending initiatives. Their capacity to reflect both price and quantity adjustments in response to policy interventions makes them a favored tool in government institutions, research organizations, and international bodies. By replicating how an economy functions, CGE models enable more comprehensive assessment of macroeconomic effects of policies and programs, offering richer insights compared to such tools as Input-Output models.

Other important strengths of CGE models include:

- internal consistency of an equilibrium. It ensures that systemic relationships across an economy are reflected, which may be overlooked by simpler frameworks.
- ability to account for price and quantity adjustments. CGE models allow both prices and quantities to dynamically respond to policy shifts.
- representation of behavioral responses. Microeconomic foundations enable these models to reflect the optimizing behavior of households, firms, and governments, yielding more realistic responses to policy changes or external shocks.
- comprehensive economy-wide perspective. CGE models provide an integrated picture of an economy as a whole. They capture both direct and indirect effects of policy changes, offering a robust analysis.
- recognition of connections across sectors and countries. CGE models are effective at mapping inter-industry and international links, which is particularly useful when analyzing trade policies, global value chains, or climate negotiations.

However, CGE models are inherently complex, involving thousands of equations and outputs, and require considerable expertise for effective operation and interpretation.

Generally, CGE modelling has several limitations:

- extensive data requirements and quality concerns. CGE models require vast amounts of accurate data (a social accounting matrix (SAM), input-output tables, trade flows, elasticities, etc.), making them particularly challenging for developing countries or sectors with limited statistical robustness (Devarajan & Robinson, 2013).
- static nature and limited dynamics. Many CGE models are static or comparative-static, focusing on steady states. They often fail to capture evolving dynamics such as technological change or capital accumulation.
- unsuitability for small-scale policy changes. Models' broad scope makes them less effective for evaluating policies or programs with only minor economic consequences.
- sensitivity to parameter values. Results are highly sensitive to parameter choices (e.g., substitution elasticities). Minor adjustments can significantly alter outcomes, raising robustness concerns.

- difficulty in incorporating non-market impacts. Environmental, health, and broader social impacts, along with their distribution consequences, are often reflected inadequately.

Despite these limitations, CGE models remain a highly valuable tool for policy evaluation, particularly when exploring complex, cross-sectoral, or international issues. Their strengths provide deep and realistic insights into economy-wide effects, but their findings should always be interpreted carefully, keeping transparency, sensitivity testing, and context in mind.

2.3 Application of CGE models for assessing integration effects and energy shocks

CGE models have become a key tool for policymakers and researchers seeking to understand the economy-wide impacts of trade, energy, and environmental policies. From evaluating Ukraine's strategic choices between competing integration blocs or free trade agreements (Movchan & Giucci, 2011; Movchan et al., 2023) to assessing Moldova's subsidy responses to energy price shocks (UNDP, 2023) and analyzing the EU's ambitious climate and energy security strategies (Perdana et al., 2022), CGE models offer a consistent framework for quantifying benefits and trade-offs. Recent applications extend further to innovations in energy substitution modelling in Latvia (Benkovskis et al., 2023), highlighting the versatility of CGE approaches for addressing pressing policy challenges in times of uncertainty.

Movchan and Giucci (2011) analyze Ukraine's strategic choice between two major integration paths: signing a deep and comprehensive free trade agreement (DCFTA) with the EU or joining the Customs Union of Russia, Belarus, and Kazakhstan (CU). The authors use a CGE model based on Ukraine's input-output data, distinguishing between competitive and imperfectly competitive industries. Additionally, the model differentiates between skilled and unskilled labor, allowing for a more detailed analysis of labor market impacts. The study concludes that signing a DCFTA with the EU would generate substantial welfare gains for Ukraine by boosting trade, wages, and access to advanced capital goods, while joining the Customs Union would slow modernization and conflict with the country's WTO commitments.

Movchan et al. (2023) evaluate potential economic consequences of a modern free trade agreement (FTA) between Ukraine and Turkey. The authors developed a 45-sector CGE model for Ukraine, incorporating 7 partner regions, including Turkey, the EU, Russia, the US, China, countries that have already signed FTAs with Ukraine, and the rest of the world. The results demonstrate substantial economic benefits for Ukraine if the FTA includes elements of deep integration. Beyond tariff elimination, reforms targeting trade facilitation and FDI liberalization would significantly boost Ukraine's economic performance, improve its competitiveness, and foster long-term growth.

The United Nations Development Programme's research examines how Moldova's economy responds to surging global natural gas prices and evaluates the effectiveness of various government subsidy mechanisms in protecting vulnerable households from energy poverty (UNDP, 2023). The analysis employs a recursive dynamic CGE model specifically calibrated for Moldova. The study finds that Moldova's heavy reliance on imported natural gas and limited diversification of energy sources make its economy extremely vulnerable to external price shocks. A sharp rise in global gas prices leads to lower GDP, reduced private consumption, lower investment, and higher unemployment. The CGE analysis provides clear evidence that while energy subsidies are vital for protecting vulnerable households, their design matters greatly. Cash transfers are a more effective option for sustaining household welfare and supporting economic resilience. However, structural reforms to diversify energy sources and improve energy efficiency are essential for Moldova to reduce its long-term vulnerability to global energy shocks.

Sun et al. (2024) investigate the global economic consequences of the Russia-Ukraine conflict through the lens of international energy price escalation. The authors employ a CGE model specifically built on the GTAPv10 database, which covers 141 countries and regions. The CGE framework is used to simulate exogenous shocks in global energy prices and trace their ripple effects across macroeconomic variables and sectoral outputs. The study concludes that while some energy producers gained short-term advantages, the broader global economy faced inflationary pressures, welfare losses, and increased vulnerabilities. The authors argue that the CGE model is particularly effective in capturing these complex, multi-sectoral interactions, making it a valuable tool for policymakers tasked with enhancing economic resilience amid geopolitical shocks.

Perdana, Vielle, and Schenckery (2022) examine the economic implications of the EU's reduction in energy imports from Russia. The study is set in the context of the EU's simultaneous pursuit of energy security and climate policy goals. The authors employ a multi-country, multi-sector CGE model. The model simulates international trade, energy markets, and greenhouse gas emissions, calibrated with the GTAP-Power database and policy targets. The authors conclude that while sanctions reduce Russia's revenue and support EU's energy diversification, they come with substantial welfare and economic costs for EU citizens, especially under a full gas embargo. The study highlights the CGE model's strength in capturing sectoral interdependencies but also acknowledges its limitations, including an underestimation of infrastructure bottlenecks and household-level distributional impacts.

Beņkovskis, Jaunzems, and Matvejevs (2023) introduce a novel purpose-based energy substitution structure for CGE models. The research is set in the context of the European Green Deal and Latvia's pledge to reduce greenhouse gas emissions by 17% by 2030. The innovation of this study lies in modelling energy substitution within the CGE framework according to the purposes of energy use, such as high- and low-temperature heat, transport, electricity, heating, and hot water. This approach allows energy sources (e.g. coal, gas, biomass, waste, and renewables) to replace one another within specific processes, reflecting technological and economic constraints more realistically. The authors conclude that the purpose-based CGE approach improves both realism and policy relevance, particularly when evaluating green transition strategies and carbon tax design in small open economies like Latvia's.

Taken together, these studies demonstrate the breadth of CGE models in informing critical policy debates across trade liberalization, geopolitical energy disruptions, and climate transition strategies. While the results vary by country and policy design, what unites them is the ability of CGE models to simulate complex policy shocks and their distributional effects at both national and global levels. As economic systems face mounting pressures from geopolitical conflicts, energy crises, and climate commitments, CGE analysis provides not only quantitative insights but also a structured framework for evaluating policy options, anticipating unintended consequences, and guiding decisions toward more resilient and sustainable outcomes.

2.4 Application of CGE models to Belarus

In the context of Belarus, CGE models were used to examine such scenarios as increases in gas prices, the country's accession to the WTO, and the effects of its integration into the Eurasian Economic Union (EAEU).

Tochitskaya and Shymanovich (2007) employ a CGE model to estimate the consequences of a gas price hike for the Belarusian economy. The results show that the growth of gas prices would most negatively affect the chemical, petrochemical, heating, and power industries. At the same time, a decline in these sectors would be accompanied by a redistribution of resources, mostly in favor of such sectors as machine building, light industry, and services.

Astrov et al. (2012) analyze alternative trade integration scenarios for the CIS. Using gravity and CGE modelling, the researchers evaluate the economic impact of the Belarus-Russia-Kazakhstan Customs Union and a potential Ukraine-EU free trade agreement, showing that Belarus benefits from deeper integration with Russia and Kazakhstan, while highlighting the country's vulnerability due to its high reliance on CIS trade and Russian energy imports.

Balistreri et al. (2017) use a CGE model to assess the economic impact of Belarus's joining the WTO and implementing large-scale privatization. The research highlights the crucial role of FDI and services liberalization in driving gains from WTO accession and finds that privatization would generate welfare benefits nearly four times those from WTO accession.

Vinokurov et al. (2015) use CGE models to estimate the economy-wide and sector-specific effects of reducing non-tariff barriers (NTBs) for Belarus, Russia, and Kazakhstan. According to the simulation results, among the studied countries, Belarus would benefit most significantly from lower NTBs: in the medium term, real GDP would increase by 2.8%, and welfare – by a total of 7.3%. The distribution of the impact of reducing NTBs across activities supports this conclusion: most of the positive impact would be received by Belarusian mechanical engineering (specifically production of machinery and equipment), production of chemicals, rubber and plastic products, as well as metallurgy.

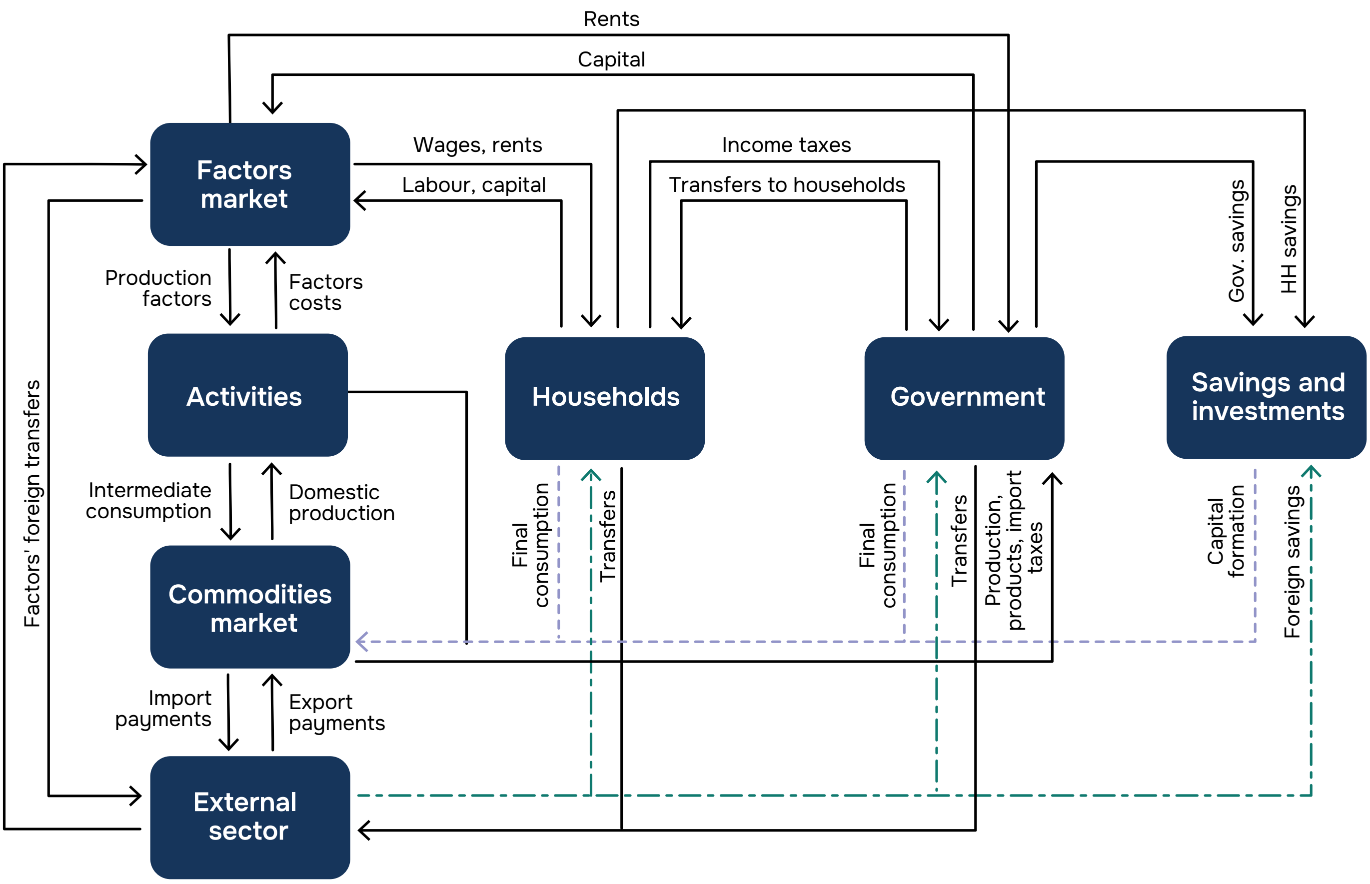
The aforementioned studies that used CGE models for Belarus are currently of limited relevance, as they are based on outdated data and do not account for economic changes that have occurred since Belarus acceded to the EAEU in 2015. Furthermore, the presented studies do not examine the potential integration of Belarus with the EU.

3. CGE model for the Belarusian economy

3.1 Model structure

The model for the Belarusian economy is built on the basic postulates of the CGE modeling. The Belarusian CGE framework is illustrated in Figure 1. The equations describing the relations between the economic agents are described in detail in Appendix A.

Figure 1: CGE model for Belarus: agents and flows



Source: built by the authors

The factors market supplies factors of production, such as labor and capital, to activities. The source of labor is households; capital comes from households and government. For factors utilization, the factors market pays wages for labor to households and rents to households and government. As part of its profit-maximizing decision, each activity utilizes the production factors up to the point where the marginal revenue product of each factor equals its wage or rent. Factor wages and rents may differ across activities, not only when the market is segmented but also for mobile factors. The factors market interacts with the external sector via bilateral international transfers of production factors.

Activities produce commodities (products and services) and are introduced by producers – sectors. Each activity produces one or more commodities according to fixed yield coefficients. It uses labor and capital from the factors market and intermediate inputs from the commodities market as factors of production. For factors utilization the sector pays factors costs. Each sector is assumed to maximize profits, which are the target subject to a production technology: the technology is specified by a constant elasticity of substitution (CES) function and a Leontief function for the quantities of value-added and aggregate intermediate consumption. The commodities are released on the commodities market as aggregate domestic output, generating sales income for activities. Activities pay production taxes to the government at a fixed rate.

The commodities market distributes products and services – commodities – produced by activities. Domestic output enters the commodities market; part of it is exported, while imports, together with domestically consumed domestic output, generate domestic demand. Commodities are purchased for intermediate consumption by activities, for final consumption by households and government, and for capital formation. The prices paid by demanders include the cost of transaction services – transport and trade margins. The prices received by domestic suppliers are net of these transaction costs. From the external sector, the commodities market receives export income and incurs import costs. The government receives product and import taxes from the commodities market at fixed rates.

The external sector is connected to other Belarusian economic agents in many different ways. As mentioned above, the external sector buys Belarusian exports and provides imported commodities through the commodities market.

The decision on export volume is based on the assumption that suppliers maximize sales revenue for any given aggregate output level, subject to imperfect transformability between exports and domestic sales, expressed by a constant elasticity of transformation (CET) function. In the international markets, export demands are infinitely elastic at given world prices. The price received by domestic suppliers for exports is expressed in domestic currency.

The import demands are derived from the assumption that domestic demanders minimize cost subject to imperfect substitutability, which is reflected in the Armington CES function. The demands derived for imported commodities are met by international supplies that are infinitely elastic at given world prices. The import prices paid by domestic demanders also include import tariffs (at fixed ad valorem rates) and the cost of a fixed quantity of transaction services – margins – per import unit.

Moreover, the external sector interacts with the factors market by providing and receiving income on capital, paying wages to domestic labor employed abroad, and receiving wages from foreign labor employed in the Belarusian economy. The external sector is connected to households and government through bilateral transfers. Also, the external sector makes savings in the country, which are the difference between foreign currency spending and receipts. The model assumes a flexible exchange rate, while foreign savings are fixed.

Households provide factors of production – labor and capital – and receive wages and rents as income in return. Households also receive transfers from the government and net transfers from the external sector fixed in foreign currency. They pay income taxes to the government, purchase commodities for final consumption, and make savings. Direct taxes and transfers to other economic agents are defined as fixed shares of household income, whereas the savings share is flexible and depends on households' marginal propensity to save. The households' utility function is evaluated based on the set of commodities they purchase.

Government receives rents for providing capital to the factors market; it also receives tax revenues from households, activities, and the commodities market, as well as net transfers from the external sector. It then spends its income on the final consumption of commodities, provides transfers to households, and saves the residual between revenues and expenditures.

Savings and investments consist of the accumulated savings of households, government, and the external sector, which are subsequently invested in capital formation. Capital formation includes gross fixed capital formation and changes in inventories, with commodities for capital formation purchased from the commodities market.

The Belarusian CGE model is implemented in two specifications. The baseline specification covers 17 production sectors, with the external sector represented by four counterparties – Russia, the EU, China, and the rest of the world. In the alternative specification, activities are disaggregated into 22 production sectors, and the external sector is modeled as a single counterparty without regional differentiation. The description of the sectors is provided in Appendix B.

3.2 Data and parametrization

The core of a SAM is data from the Input–Output table; it is built using the same principle: the intersection of row and column displays the flow from one economic agent to another. The introduced model uses 2019 data published by the Belarusian National Statistical Committee (Belstat) as input. The year was chosen because it is the most recent one with a complete set of available data, and it does not reflect significant external shocks.

Building a SAM also required some additional data. To reflect the division of the external sector into trade counterparties, their shares were calculated using trade data from Belstat. Data on international transfers and factors incomes were taken from the Balance of payments published by the National Bank of the Republic of Belarus (NBRB). For the breakdown of transfers and incomes by country, data on Russia were drawn from the

Balance of payments with the Russian Federation, while the shares of other counterparties were approximated. Data on transaction flows between the government and households were obtained from the IMF Government Finance Statistics database. Tariffs on imported goods were sourced from the World Integrated Trade Solution (WITS) database.

One of the key challenges in preparing data for the CGE model is forming technical substitution elasticities values for production factors and domestic versus imported commodities, which is a separate research task of interest. In this paper, the values of these elasticities are sourced from the Global Trade Analysis Project (GTAP) database, which can be considered universal but is also a limitation of the analysis. The GTAP elasticities for commodity items were averaged using export or import volumes to align with the commodity groups and sectors in the Belarusian model.

4. CGE model-based simulations for Belarus

4.1 Simulations design

The developed CGE model has been used to simulate three scenarios relevant to Belarus.

Scenario 1 "Energy Shock" assumes a sharp increase in the prices of energy resources imported by Belarus, i.e. natural gas and oil. Since 2018, Belarus has been importing natural gas from Russia at a contractual price close to 130 USD per thousand cubic meters. In 2023–2025, the actual import price of gas was lower due to the weakening of the Russian ruble against the US dollar. For comparison, according to the World Bank, the average monthly price of natural gas in Europe was about 388 USD per thousand cubic meters in 2024 and 450 USD in January–August 2025. If Belarus moves closer to the EU and exits the EAEU, the country's import gas price would very likely rise to the European level, regardless of the source of supply. This would mean a powerful shock, roughly equivalent to a threefold increase in the import price of natural gas.

Belarus also imports oil exclusively from Russia, at a price corresponding to Urals crude. Due to the widened discount of Russian Urals relative to the global Brent benchmark since 2022, Belarus received an additional benefit equal to this discount during 2022–2025. In the simulation of the energy shock scenario, it is assumed that Belarus's oil import price rises by the size of the discount, which is roughly equivalent to a 10% increase. Considering the value volumes of oil and natural gas imports, the overall external price increase for the product group "oil & gas, petroleum products" will amount to 60%.

In addition to rising import prices, Scenario 1 also assumes the elimination of interbudgetary transfers between Belarus and Russia. These transfers are primarily connected to obligations within the EAEU, as well as the inflow of reverse excise taxes on crude oil from the Russian budget into the Belarusian budget. Eliminating such transfers seems reasonable in the event of Belarus moving closer to the EU.

Scenario 2 "Integration with the EU" assumes active alignment between Belarus and the EU in the trade of goods. Currently, Belarus and Russia are members of the EAEU and apply zero import tariffs, while tariffs for other countries are set in accordance with EAEU regulations. To simulate the EU integration scenario, it is assumed that import tariffs on goods from the EU to Belarus are reduced to zero, while tariffs for other countries are set equal to the EU's 2021 weighted average tariffs. The year 2021 is used for analysis because, starting from 2022, EU sanctions on Russia and Belarus were significantly tightened, affecting mostly export-import operations. Table 1 presents the resulting changes in Belarus's import tariffs, which were subsequently used in the simulation.

Scenario 2 also assumes a reduction in external prices for Belarusian goods on the Russian market by an amount equal to Belarus's current tariffs on imports from the EU (the same as the tariff reduction with the EU in Table 1). This change reflects the likely imposition of import tariffs on Belarus by Russia should Belarus reorient itself toward the EU. No similar changes were assumed for export prices in the EU market, as there is a significant risk of overestimating the positive effects of trade liberalization with the EU, given the lack of competitiveness of Belarusian producers. Scenario 2 also stipulates the elimination of interbudgetary transfers between Belarus and Russia, similar to the energy shock scenario.

Scenario 2 assumes no increase in external prices for natural gas and oil. This would be possible if political agreements are reached with Russia or if global and European energy prices decline accordingly.

Table 1: Change in import tariffs for Belarus (p.p.)

	Russia	EU	China	Rest
Agriculture	7.9	-5.9	-0.6	2.2
Minerals	0.0	-6.6	-4.8	-0.5
Oil & gas, petroleum	0.0	-4.7	-4.5	-4.6
Food	5.3	-9.9	12.6	4.0
Textile & wood	1.5	-7.0	2.6	-3.8
Chemicals, rubber, pharma	3.9	-4.8	0.4	-1.6
Metals	1.1	-6.3	-4.2	-0.3
Electronics	1.9	-2.1	-0.8	-2.2
Machinery nec	1.9	-2.1	-0.8	-2.2
Motor vehicles	2.8	-8.3	-2.5	-5.4
Manufactures nec	1.0	-4.7	-5.8	-2.2
Utilities	1.9	-2.1	-0.8	-2.2

Source: compiled by the authors based on World Bank WITS data

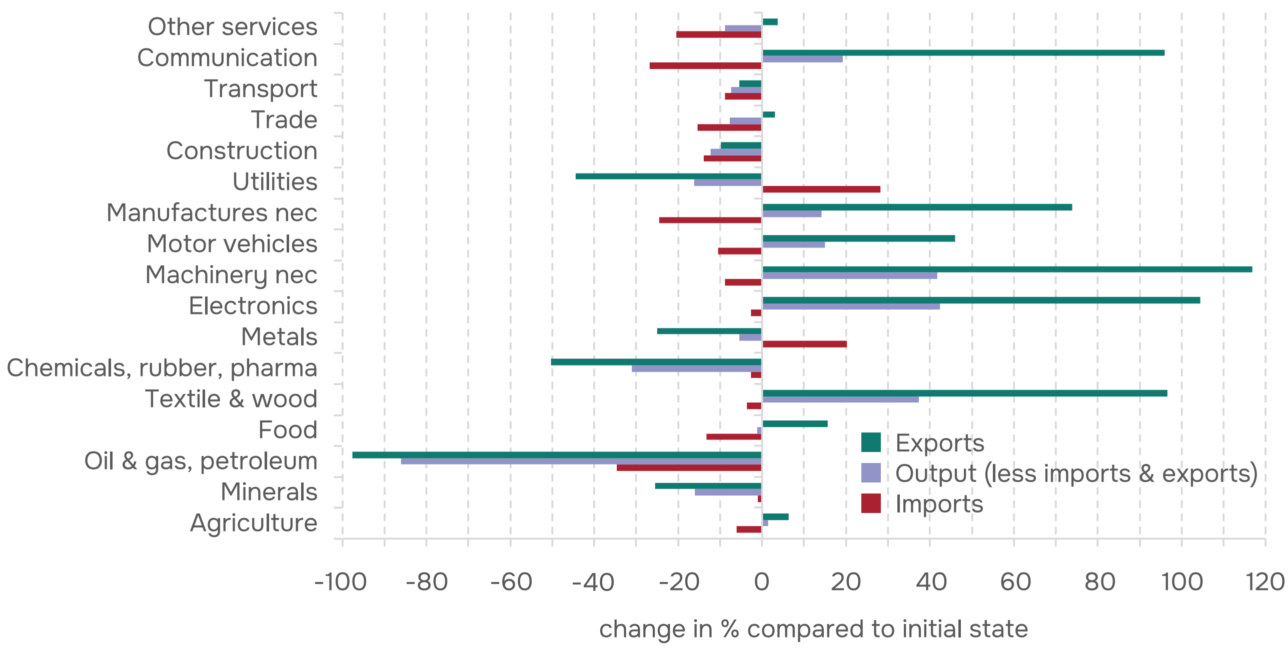
Scenario 3 "Integration with the EU under the energy shock" is a combination of Scenarios 1 and 2. Thus, Scenario 3 incorporates all the shocks from the first and second scenarios. This scenario appears to be the most likely one if Belarus moves closer to the EU and exits the EAEU.

4.2 Scenario 1 "Energy shock"

A 60% increase in the import prices of energy resources leads to a 35% decrease in their import volumes. Domestic production of petroleum products and their export practically cease to exist – the country's demand for fuel and energy resources is met exclusively through imports (Figure 2). The near elimination of domestic petroleum product production under such a severe price shock indicates that the viability of this sector in Belarus was primarily sustained by the redistribution of oil rent from Russia to Belarus through subsidized oil prices.

A significant increase in energy prices will have a strongly negative impact on industries related to the primary processing of raw materials. The chemical industry (where fertilizer production dominates in Belarus), the production of plastics and rubber products, metallurgy, extraction of non-oil-and-gas natural resources, and the manufacture of other non-metallic products (primarily construction materials), as well as power generation and water supply (utilities), will suffer significant losses in output and exports. Due to the substantial intersectoral effects generated by the oil refining industry, the output volume of wholesale trade, transportation, and other services will also decline. A decrease in construction materials output is also connected to a downturn in construction (Figure 2).

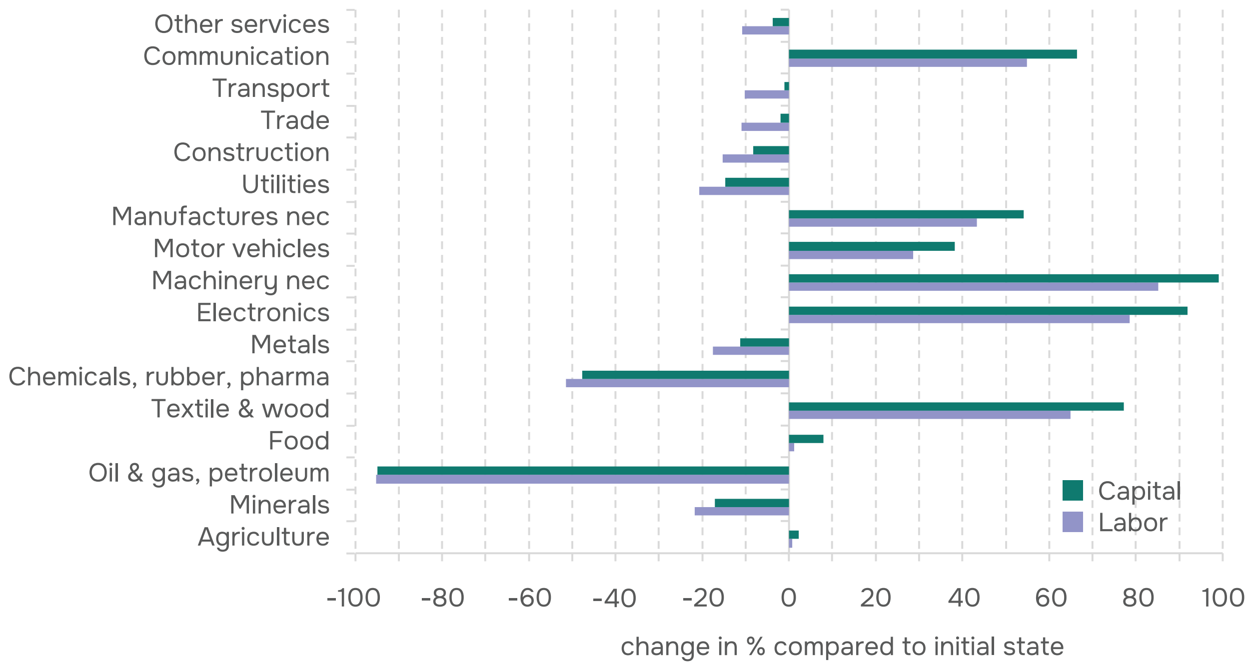
Figure 2: Exports, imports, and domestic production: results of scenario 1 simulation



Source: compiled by the authors

Labor and capital resources from the "losing" industries will be reallocated to sectors with higher export potential (Figure 3). Output and exports will increase significantly in mechanical engineering (including electronic, electrical, and optical devices, machinery and equipment), transportation vehicles, light industry (textile, clothing, and footwear production), woodworking, communication and computer services (Figure 2).

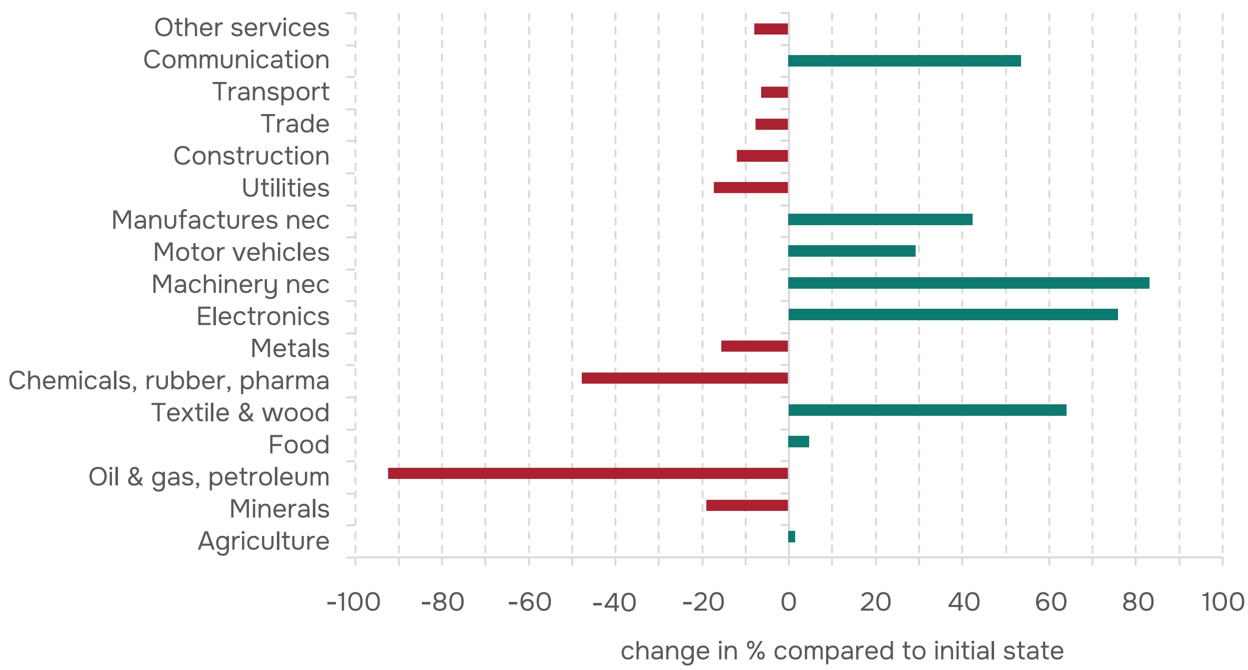
Figure 3: Factors of production: results of scenario 1 simulation



Source: compiled by the authors

As a result, under a severe energy shock, two groups of industries can be distinguished. The oil, gas, and petroleum products sector, extraction of other minerals, production of other non-metallic products, metallurgy, chemical industry, manufacture of rubber and plastic products, power generation and water supply, construction, trade, transportation, and other services will suffer substantial losses (Figure 4). These industries generally produce low- or medium-technology products.

Figure 4: Sectoral value added: results of scenario 1 simulation

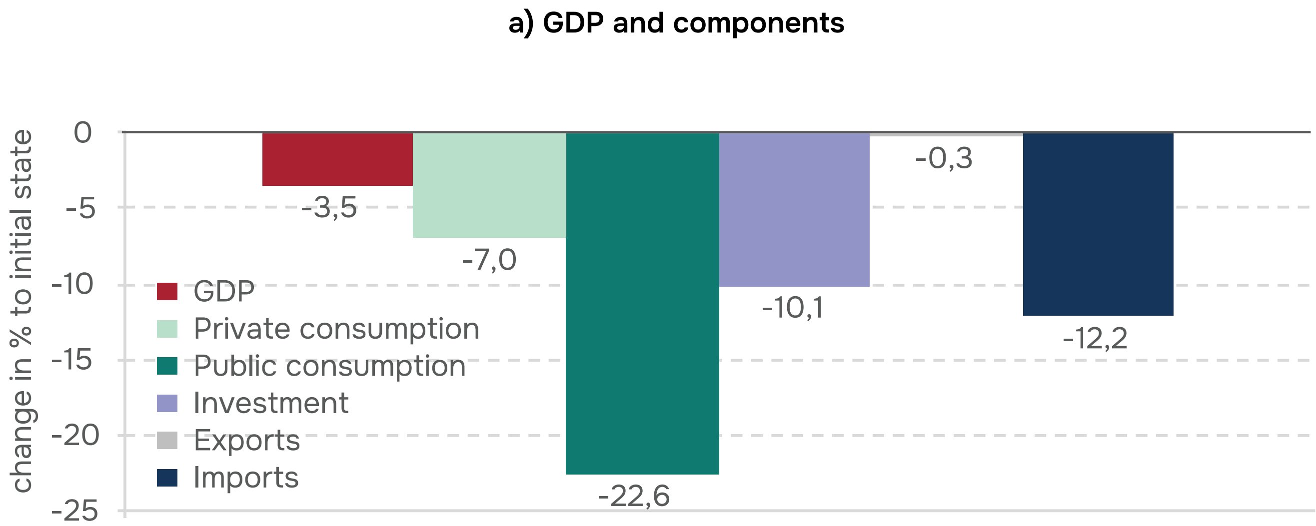


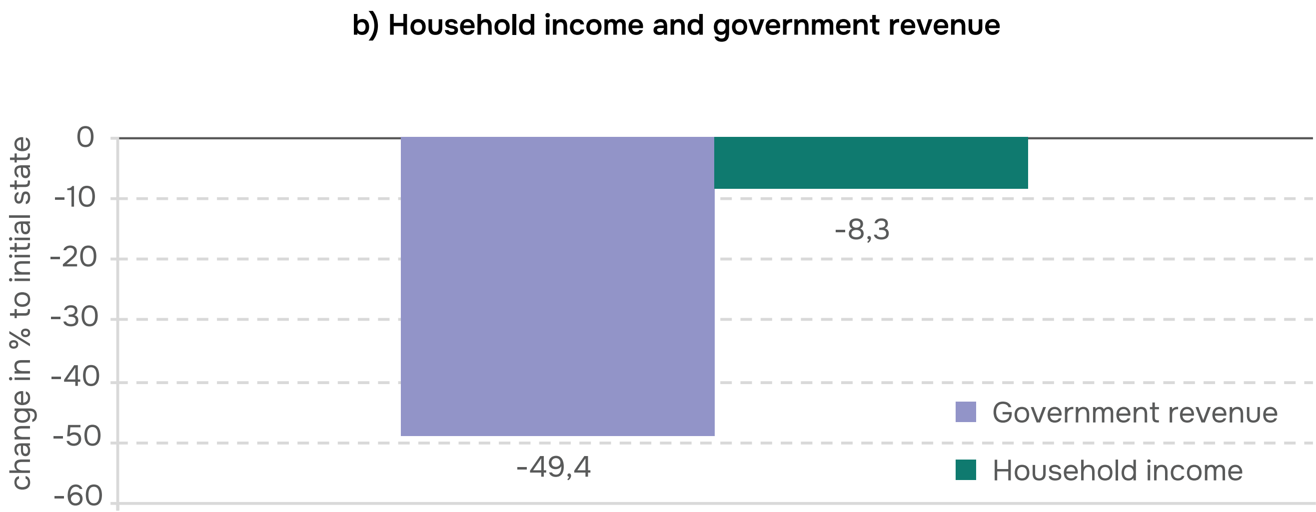
Source: compiled by the authors

At the same time, due to their export potential, lower dependence on oil and gas, and the inflow of labor and capital resources, sectors such as mechanical engineering, light industry, woodworking, other kinds of manufacturing (mostly furniture production), and information and communications, have the potential for a significant increase in value added (Figure 4). The benefiting sectors are, for the most part, more technologically advanced than the "losing" industries.

The macroeconomic effects of an implemented energy shock scenario will be reflected in declines in government and household income due to unfavorable price effects, loss of interbudgetary transfers from Russia, and reduced volumes of foreign trade operations. As a result, both public and private consumption and investment will decrease. The resulting GDP losses are estimated at 3.5% relative to the baseline period's real GDP (Figure 5). Thus, a sharp increase in the import price of oil and gas by an average of 60% will lead to large-scale but not critical welfare losses for Belarus.

Figure 5: GDP, government and household income: results of scenario 1 simulation

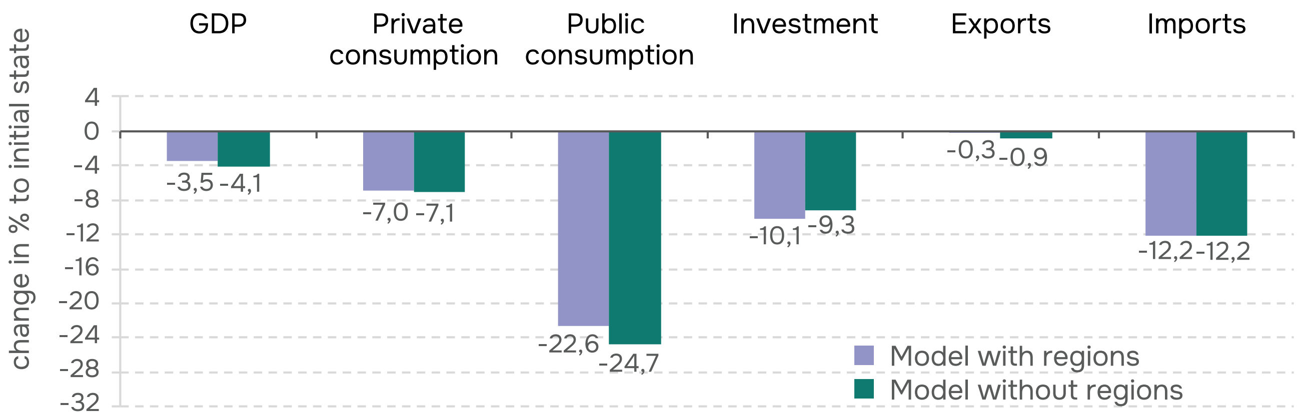




Source: compiled by the authors

The macroeconomic consequences of simulating the energy shock scenario using an alternative model (22 sectors, without separate trading partners) are generally close to those of the baseline model (Figure 6). A sharp rise in energy prices, combined with the loss of interbudgetary transfers from Russia, leads to a significant reduction in government and household income and consumption. Investment resources shrink, resulting in a substantial decline in investments. Imports fall by 12%, while exports remain almost unchanged as production factors shift into the export-oriented sectors of the economy. The resulting effect on GDP is a 4.1% reduction relative to the baseline year's real volume (Figure 6).

Figure 6: GDP and components: comparison of models for scenario 1 simulation

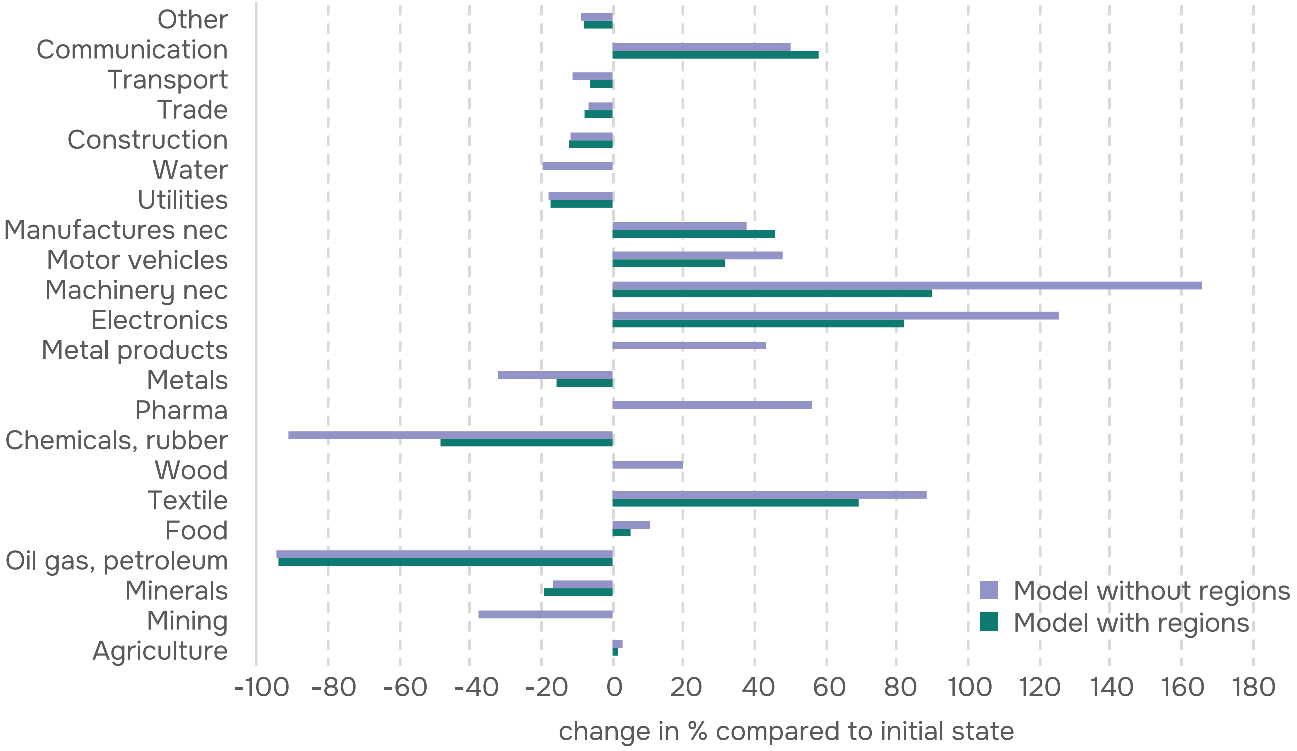


Source: compiled by the authors

The "losing" industries are still those less technologically advanced and related to the primary processing of raw materials: the oil and gas sector, power generation and water supply, chemical industry, production of rubber and plastic products, extraction of non-oil-and-gas minerals, manufacture of other non-metallic products, and metallurgy. Due to the significant intersectoral effects caused by these industries, value added also decreases in construction, trade, transport, and other services (Figure 7).

The "winning" industries are those technologically advanced and export-oriented: mechanical engineering, light industry, woodworking, other kinds of manufacturing, and, to a lesser extent, food industry. The information and communications sector also shows significant potential for value added growth. Moreover, the greater sectoral disaggregation of the alternative model makes it possible to identify two additional industries with potential for output growth: production of fabricated metal products and pharmaceuticals. This result once again proves the fact that with a significant increase in energy costs and losses from raw material exports, labor and capital resources shift into more sophisticated sectors with higher value added. That is why metallurgy and the chemical industry (connected to fertilizer production) suffer economic losses, while the production of fabricated metal products and pharmaceuticals can increase output (Figure 7).

Figure 7: Sectoral value added: comparison of models for scenario 1 simulation



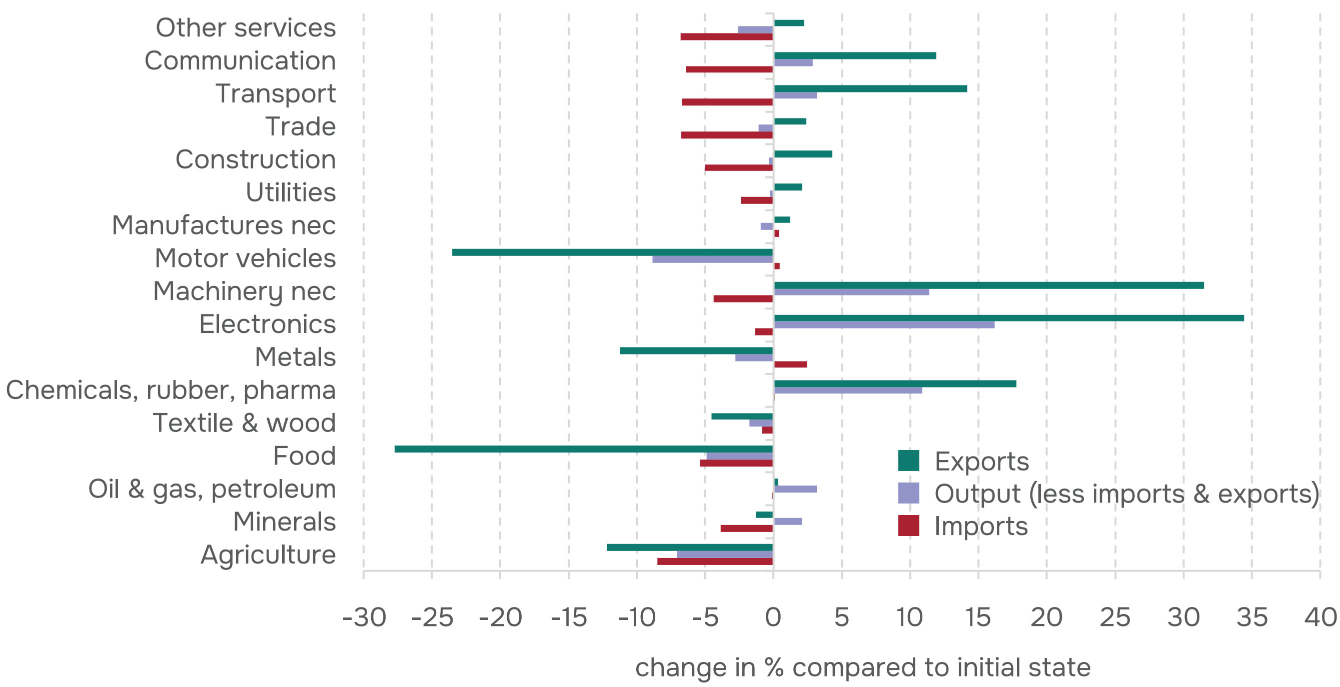
Source: compiled by the authors

4.3 Scenario 2 “Integration with the EU”

The results of the scenario involving trade liberalization between Belarus and the EU, combined with higher import tariffs on supplies from Russia, show that, same as in the energy shock scenario, the mechanical engineering and ICT sectors have the potential to increase output and exports (Figure 8), reflecting their higher capacity to integrate into European markets and adapt to new competitive conditions. The chemical industry and transportation services also have the potential to increase output and exports (Figure 8).

The outsiders in the simulation of this scenario are the food industry, agriculture, metallurgy, and vehicle production (Figure 8), which are currently heavily oriented toward the Russian market and would likely face difficulties adjusting to EU competition and new trade barriers with Russia.

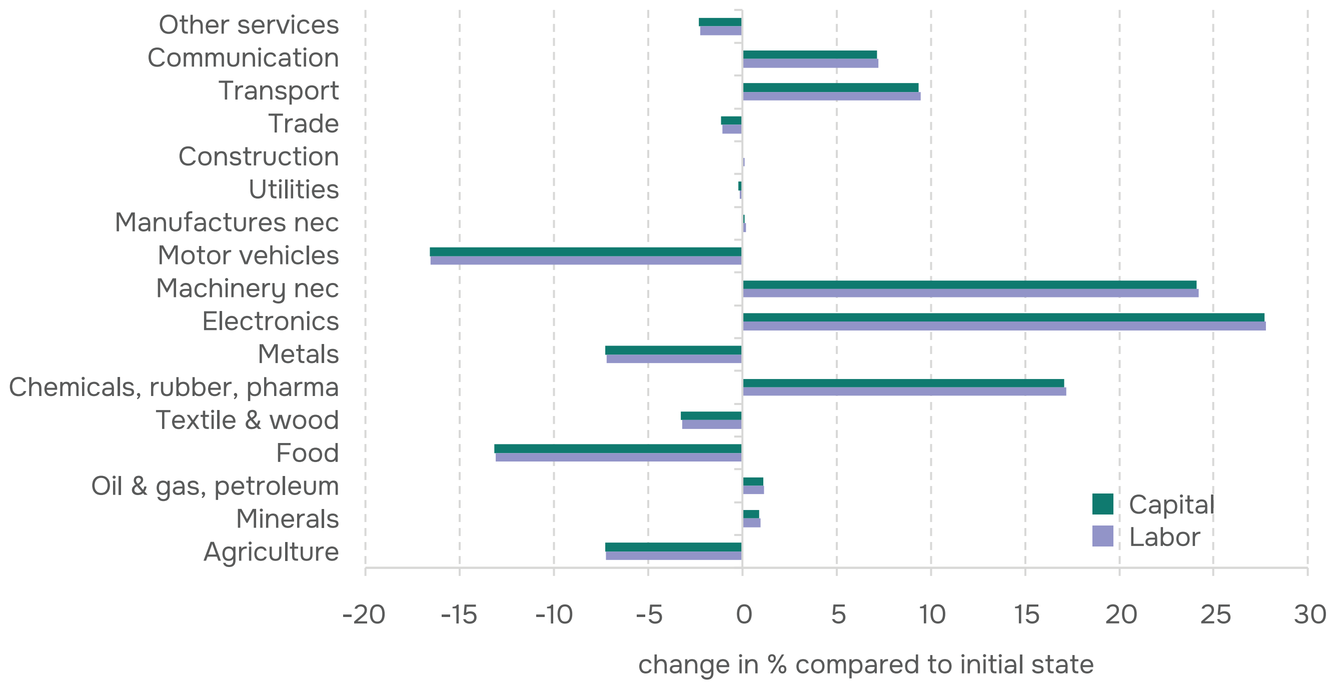
Figure 8: Exports, imports, and domestic production: results of scenario 2 simulation



Source: compiled by the authors

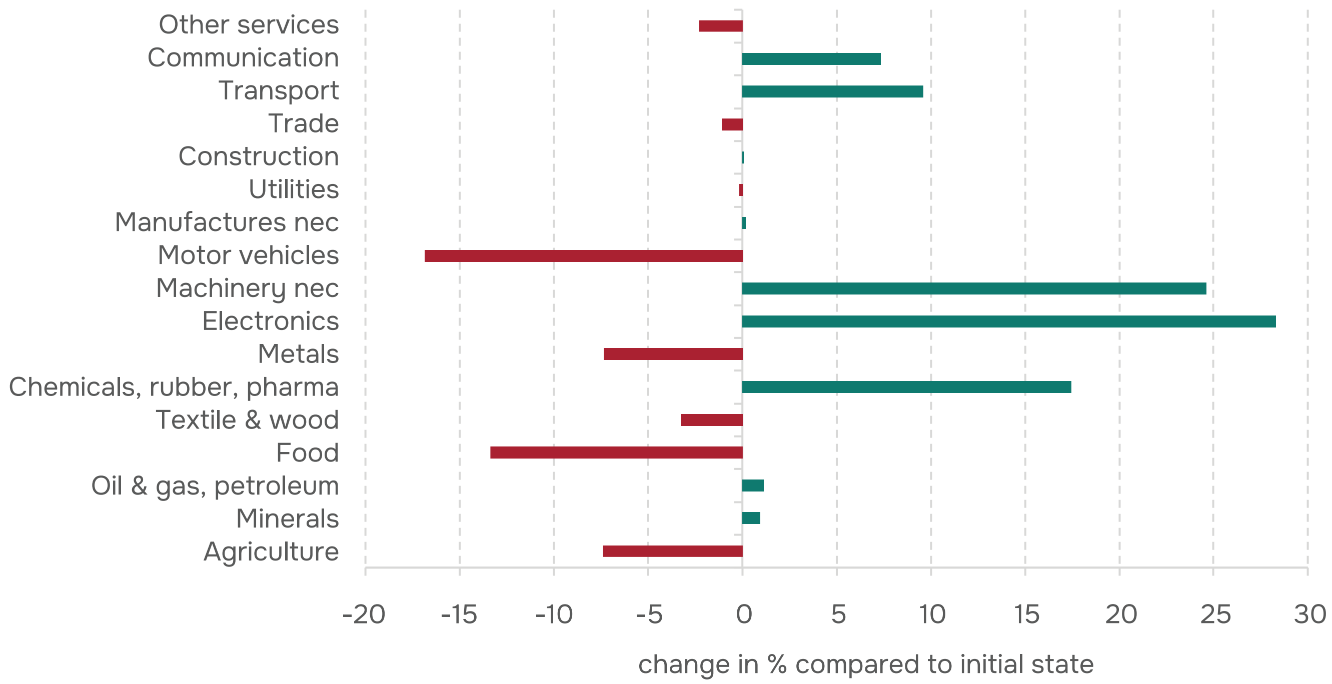
As a result, labor and capital resources flow from the “losing” industries (agriculture, food industry, metallurgy, vehicle production) into the benefiting industries – mechanical engineering, chemical industry, transportation, and ICT (Figure 9). The value added of the economic sectors changes accordingly (Figure 10).

Figure 9: Factors of production: results of scenario 2 simulation



Source: compiled by the authors

Figure 10: Sectoral value added: results of scenario 2 simulation

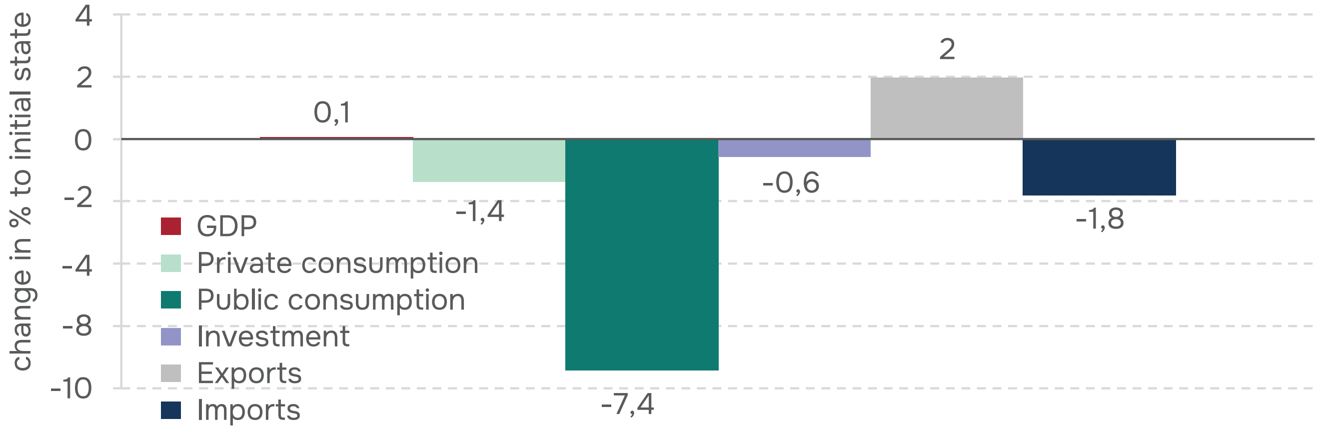


Source: compiled by the authors

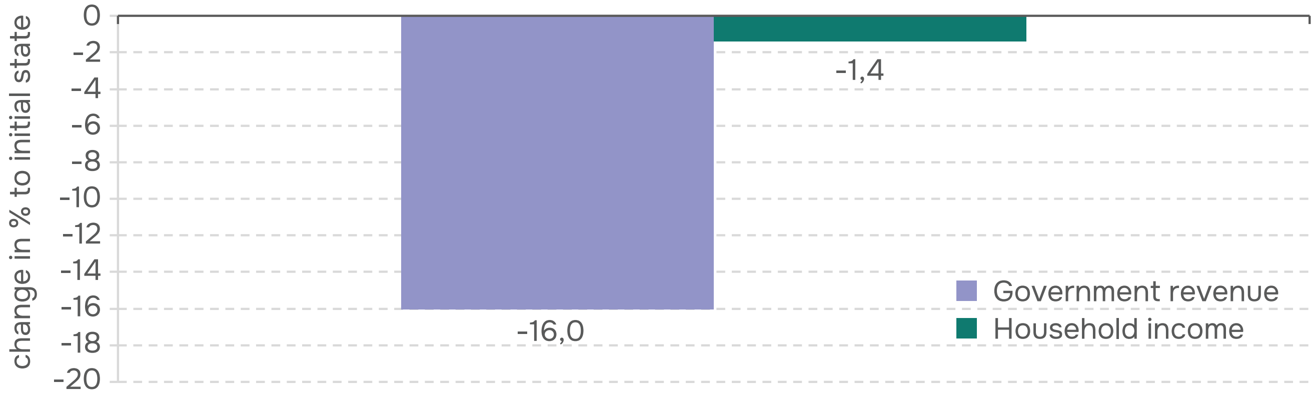
The effects on GDP caused by Belarus's trade reorientation from Russia toward the EU (assuming no energy shock) are expected to be neutral in the long run (Figure 11). Government revenues will decline mainly due to the loss of interbudgetary transfers from Russia, which will reduce public sector consumption. Household income and consumption, as well as investment, will also slightly decrease due to sectoral losses from the increasing complexity of trade with Russia. However, with net exports improved due to the development of export-oriented industries with higher value added, the resulting change in GDP is estimated to be near zero (Figure 11).

Figure 11: GDP, government and household income: results of scenario 2 simulation

a) GDP and components



b) Household income and government revenue

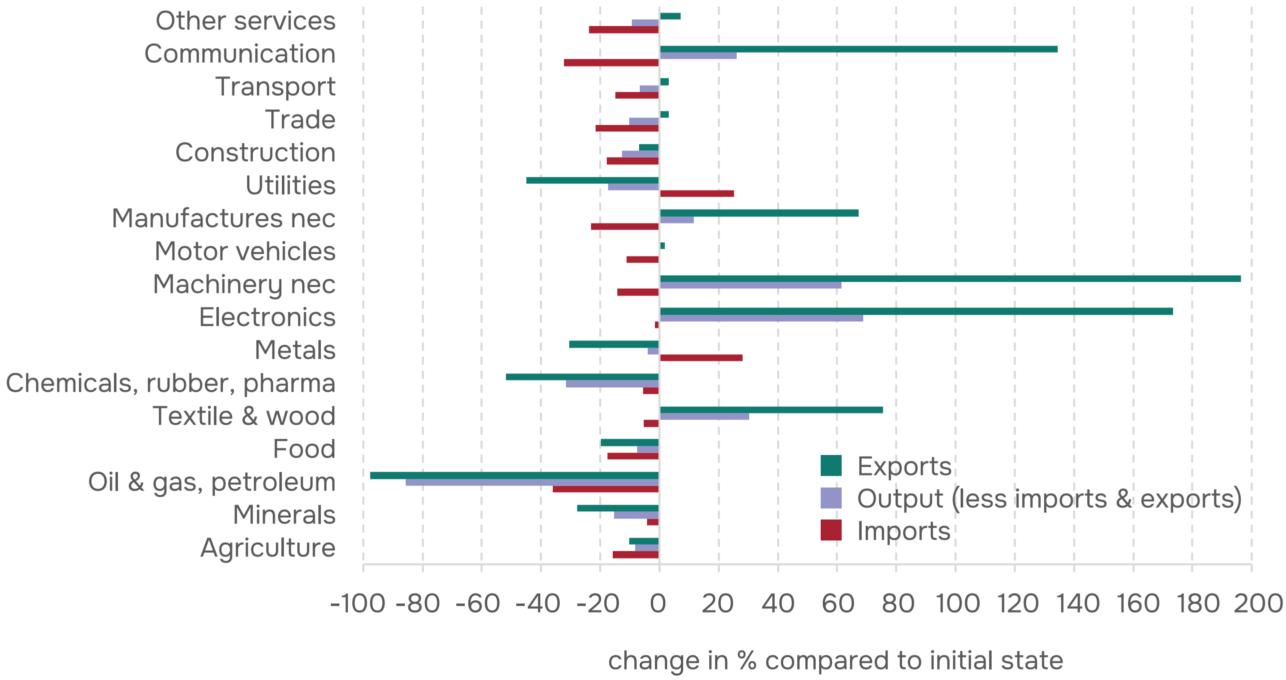


Source: compiled by the authors

4.4 Scenario 3 "Integration with the EU under an energy shock"

The liberalization of trade in goods with the EU, combined with a significant increase in oil and gas import prices for Belarus, generally has sectoral consequences similar to the first scenario. Domestic production and exports of petroleum products practically cease to exist, while the country's demand for energy resources is met entirely through imports (Figure 12).

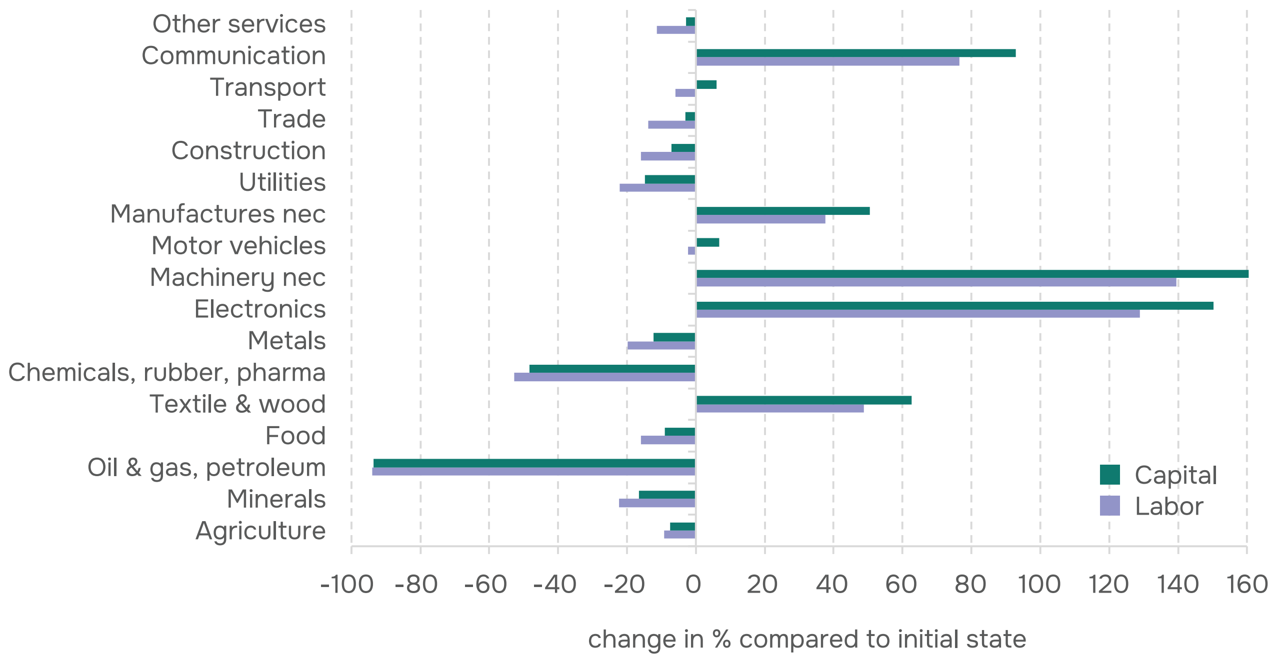
Figure 12: Exports, imports, and domestic production: results of scenario 3 simulation



Source: compiled by the authors

The outsiders are industries engaged in the primary processing of raw materials, for which fuel resources are highly significant: the chemical industry, production of plastic and rubber products, metallurgy, extraction of non-oil-and-gas minerals, and production of other non-metallic products (Figure 12). Output also declines in the power and water supply sectors, construction and trade. Agriculture and food industry also suffer losses in output, value added and exports due to their dependence on the Russian market (Figures 12 and 14).

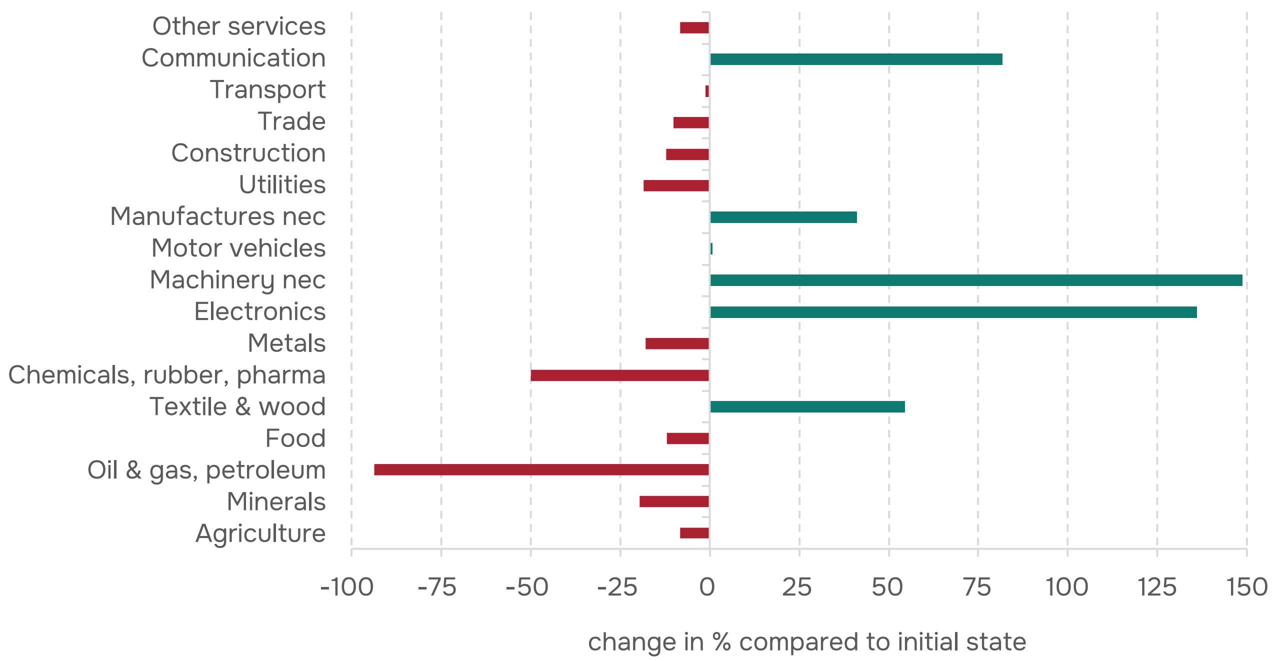
Figure 13: Factors of production: results of scenario 3 simulation



Source: compiled by the authors

Labor and capital resources from the predominantly low- or medium-technology industries mentioned above flow into sectors with higher value added and export potential (Figure 13).

Figure 14: Sectoral value added: results of scenario 3 simulation



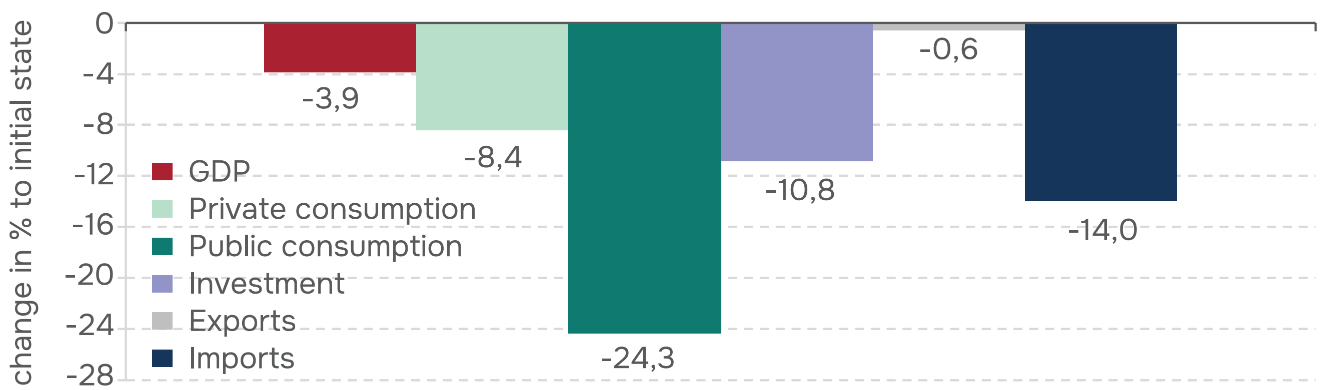
Source: compiled by the authors

As a result, the pool of beneficiaries remains roughly the same as in the simulations of Scenarios 1 and 2. Output, exports, and value added increase in the sectors of mechanical engineering, other kinds of manufacturing, light industry, woodworking, and information and communications (Figures 12 and 14). Notably, these industries expand production and exports while reducing imports, which indicates a decline in their import intensity.

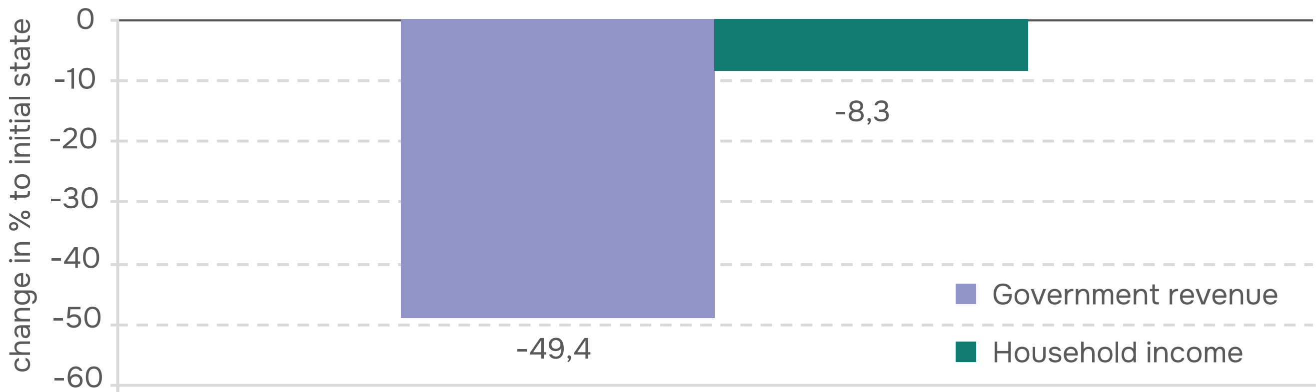
The macroeconomic effects of Belarus's trade liberalization with the EU and complication of its trade relations with Russia under an energy shock will be reflected in declining government and household income, which will result in reduced public and private consumption and investment (Figure 15). As a result, GDP will reduce by 3.9% in the long run.

Figure 15: GDP, government and household income: results of scenario 3 simulation

a) GDP and components



b) Household income and government revenue



Source: compiled by the authors

A comparison of the simulation results across different scenarios allows to draw the following conclusions.

Firstly, Belarus's energy and trade dependence on Russia creates significant risks for the country's macroeconomic stability. A deterioration in the terms of trade in energy resources would lead to a sharp decline in household welfare and a reduction in GDP (Table 2).

Table 2: Comparison of scenarios (change in % compared to the initial situation)

	Scenario 1	Scenario 2	Scenario 3
GDP	**-3.5**	**0.1**	**-3.9**
Private consumption	-7.0	-1.4	-8.4
Public consumption	-22.6	-7.4	-24.3
Investment	-10.1	-0.6	-10.8
Exports	-0.3	2.0	-0.6
Imports	-12.2	-1.8	-14.0
Government revenue	**-49.4**	**-16.0**	**-54.2**
Household income	**-8.3**	**-1.4**	**-9.8**

Source: compiled by the authors

Secondly, the near-total orientation of several large sectors of the Belarusian economy toward the Russian market will result in economic losses if Belarus reorients toward the EU. If liberalization of trade with the EU and complication of trade with Russia are not accompanied by an increase in factor productivity, the economic effectiveness of such a strategy for Belarus will remain debatable.

Thirdly, the Belarusian economy does have certain resilience even to severe energy and trade shocks. With the reallocation of labor and capital resources from the industries producing raw materials into sectors with higher levels of technology and value added, losses in household welfare and GDP would be significant but not catastrophic (Table 2). However, the large-scale intersectoral flows of labor highlight the need to develop social support and retraining measures for the population in advance.

5. Economic support from the EU: potential effects and policy implications

The EU may activate a large aid package for Belarus once the country embarks on a path of democratic transition. The EU Commission has stated that it will provide both immediate and long-term support to help stabilize the economy and reform institutions, making them more democratic and capable of benefiting citizens and society as a whole (EU Commission, 2021).

The EU intends to support five key areas:

1. An innovative and competitive economy (macro-financial assistance of up to €350 million).

2. Improved transport connectivity and facilitation trade at the EU–Belarus borders (up to €200 million).

3. Boosting innovation and digital transformation (up to €20 million).

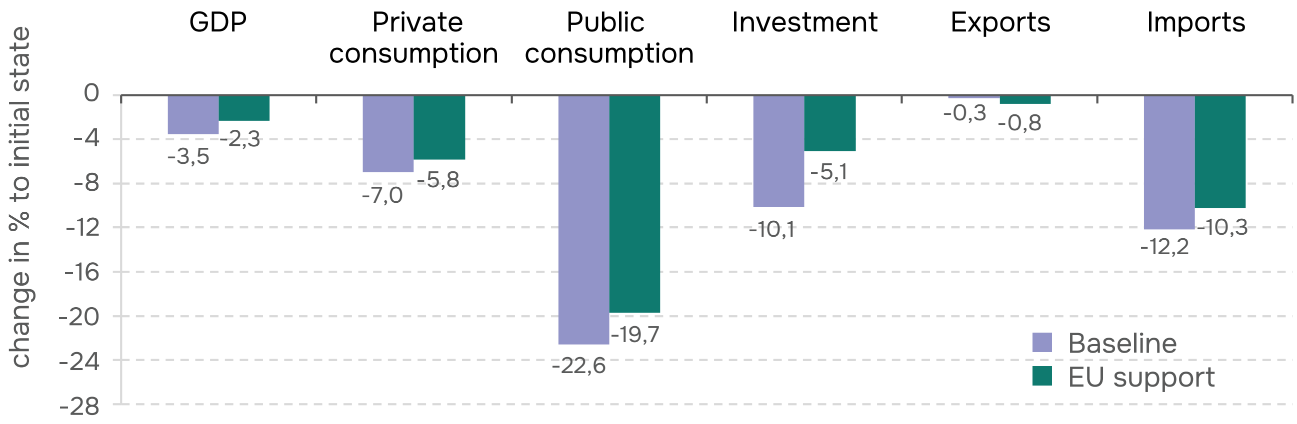
4. Supporting a green economy (up to €200 million).

5. Investing in a democratic, transparent, and accountable Belarus (up to €100 million).

Economic support from the EU could partially offset the negative consequences of an energy shock for Belarus. To assess this compensatory effect, additional simulations were carried out. Support in the first area is accounted for in the scenario as an increase in the EU transfers to the Belarusian government. Half of this aid is assumed to be directed to investment, leading to an increase in the capital stock, while the other half will be redistributed to households. Support in the second and fourth areas is modeled as an increase in the EU savings (directly leading to higher investment in Belarus), combined with a corresponding increase in the capital stock of the Belarusian economy. Support in the third and fifth areas is modeled as an increase in transfers from the EU to the Belarusian government. Overall, the simulation scenario accounts for the EU's €870 million in assistance.

The results of simulating the energy shock scenario with the EU's financial support indicate that €870 million in European aid can offset approximately 1.2 p.p. of Belarus's GDP decline (Figure 16). This is achieved mainly due to a smaller reduction in household consumption and investment compared to the baseline scenario – by 1.2 p. p. and 5.1 p. p., respectively. At the same time, net exports decline compared to the baseline scenario due to a relative increase in imports, given the high initial import intensity of investment and consumption in Belarus.

Figure 16: Effects of EU's economic support: results of scenario 1 simulation

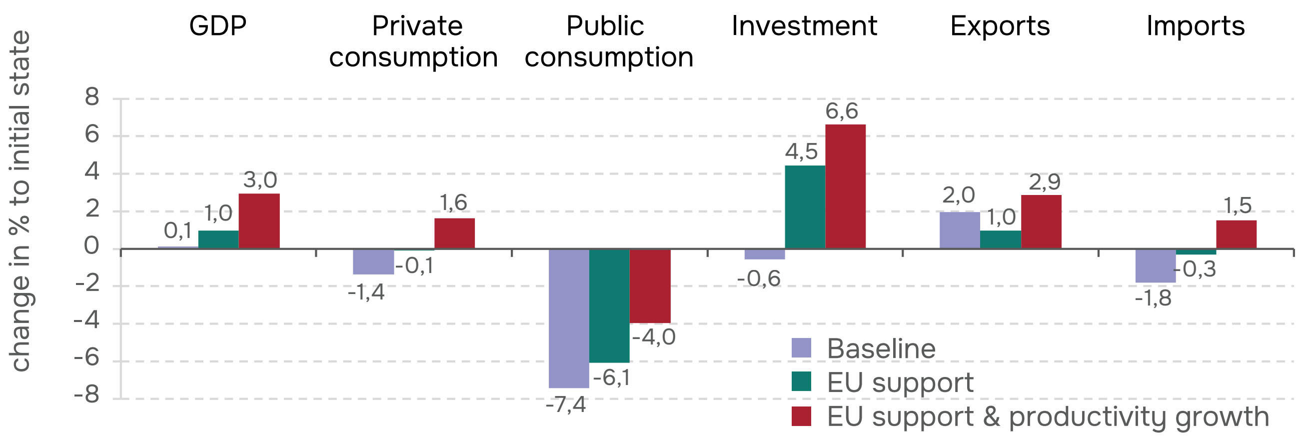


Source: compiled by the authors

When modeling the effects of the EU's economic support under scenarios 2 and 3, an additional assumption was considered: a 2% increase in factor productivity. The integration of Belarusian producers into European value chains and the likely transfer of advanced technologies could contribute to improving the efficiency of the Belarusian economy. The productivity increase of 2% assumed in the simulation is modest and largely conditional. The purpose of simulating such a scenario is to demonstrate the direction of the economic consequences of effectively implementing the EU's integration strategy rather than to obtain precise quantitative estimates of GDP and changes in other macroeconomic indicators.

The results of simulating scenarios 2 and 3 with the EU's assistance generally correspond to those from scenario 1. Without assuming factor productivity gains, EU's €870 million in financial support makes it possible to reduce GDP losses by mitigating the decline in private consumption and investment (Figures 17 and 18).

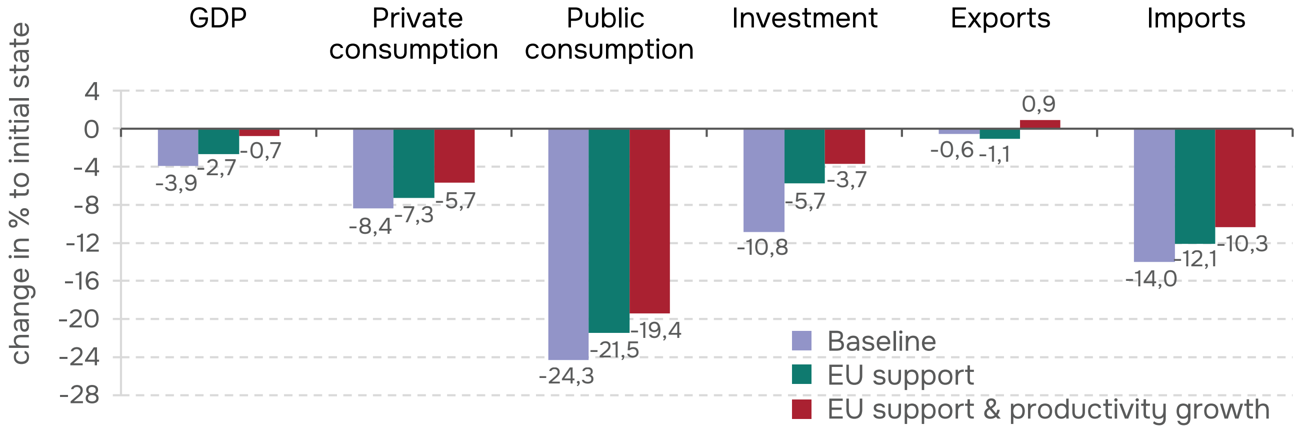
Figure 17: Effects of EU's economic support: results of scenario 2 simulation



Source: compiled by the authors

If the liberalization of trade with the EU is accompanied by even a small increase in factor productivity, then, in the absence of an energy shock, Belarus will gain substantial benefits, despite complications in access to the Russian market. GDP and investments will grow significantly, and household consumption will also increase (Figure 17). If such liberalization occurs during an energy shock, the productivity gains will substantially mitigate the negative effects on GDP and citizens' welfare (Figure 18).

Figure 18: Effects of EU's economic support: results of scenario 3 simulation



Source: compiled by the authors

These findings carry the following policy implications:

1. Integration into European value chains should be accelerated. Removing barriers to the participation of Belarusian firms in EU production networks would offset the costs of disintegration from Russia and create long-term growth potential. Access to EU markets, standards, and technologies would provide Belarus with a sustainable alternative growth model.

2. Financial support should focus on productivity. Direct EU's financial assistance can play a decisive role in offsetting GDP and welfare losses. However, to achieve lasting results, such support should be targeted toward raising factor productivity through investments in human capital, digitalization, and modern infrastructure. In scenarios without energy shocks, this could lead not only to recovery but to growth in GDP and household welfare.

3. Energy support is essential. Targeted subsidies or preferential financing for energy imports during the initial adjustment period would mitigate the large-scale negative effects of rising prices, preventing sudden collapses in key industries and ensuring social stability.

4. Social cushioning is required. The transition will inevitably involve sectoral losses and displacement of workers. EU's assistance should therefore also support retraining, labor mobility, and social protection mechanisms to ensure that adjustment costs do not translate into long-term social instability.

6. Conclusion

This study has proposed and tested the CGE model for Belarus. The model captures the structural features of the Belarusian economy, which remains highly dependent on Russian energy supplies, strongly connected to Russian markets, and only partially integrated into European production chains.

The application of the CGE model to the Belarusian economy has made it possible to conduct a systematic study of the potential consequences of different external shocks and integration scenarios. The model-based simulations highlight both vulnerabilities and opportunities for economic adjustment under scenarios of an energy shock and liberalization of trade with the European Union.

The first major finding concerns the impact of a severe energy shock, which is highly likely to follow if political relations between Belarus and Russia worsen. The simulations demonstrate that while such a shock would have a large-scale negative impact on output and consumption, it would not result in an existential collapse of the Belarusian economy. The most significant losses would be concentrated in the industries connected to the primary processing of raw materials – oil refining, metallurgy, mineral extraction and production of building materials, chemical industry, electric power, and water supply. These sectors are highly dependent on cheap imported natural gas and oil, and their competitive position would deteriorate sharply under significantly higher energy prices. The construction, transportation, and trade sectors will also suffer losses in value added due to significant intersectoral effects generated by the affected industries. Nevertheless, other industries, such as mechanical engineering, light industry, pharmaceuticals, and ICT, may benefit from the reallocation of production resources. This suggests that the economy exhibits structural resilience, where certain sectors are able to absorb resources and expand, even as traditional industries contract. In the medium term, this reallocation can mitigate the overall economic losses, although the transition process would be socially and politically challenging.

The second key finding concerns the liberalization of trade with the European Union under the assumption of stable energy supplies. Here, the model indicates relatively small overall welfare losses due to the negative effects of the complication of relations with Russia, but the distribution of effects across industries is uneven. The most vulnerable sectors would be the food industry, agriculture, metallurgy, and vehicle production, which are currently heavily oriented toward the Russian market and would probably face difficulties adjusting to EU competition and new trade barriers with Russia. By contrast, mechanical engineering and ICT emerge as potential winners, reflecting their higher capacity to integrate into European markets and adapt to new competitive conditions. Importantly, these outcomes highlight that the Belarusian economy would not uniformly benefit from or suffer under EU integration; rather, the gains and losses would depend critically on sectoral structures, trade patterns, and the ability of companies to adapt.

The scenario in which trade liberalization with the EU is combined with a severe energy shock will result in significant losses in both output and household welfare. A sharp rise in energy prices would exacerbate the vulnerability of energy-intensive industries, while the simultaneous deterioration of relations with Russia would undermine existing trade flows. The most severely affected sectors would include oil refining, energy supply, metallurgy, chemical industry, food industry, and services closely tied to industrial demand, such as construction and trade. However, some sectors could gain: mechanical engineering, light industry, woodworking, and ICT show the capacity to expand as production factors shift toward export-oriented activities with higher value added. This again highlights the structural heterogeneity of the Belarusian economy and the importance of identifying sectors with genuine long-term growth potential.

One source of uncertainty in Belarus's deeper integration with the EU and the complication of its relations with Russia is the movement of Russian capital, which is currently present in the Belarusian market (including the banking system, industry, and information and communication services). A certain degree of Russian capital outflow cannot be ruled out, which could have negative economic consequences in the short term. In the long term, Russian capital may be replaced by European capital.

From a policy perspective, these findings suggest several recommendations. Firstly, targeted energy subsidies from the European Union could play a crucial role in cushioning the immediate impact of higher energy prices. Such subsidies would prevent an abrupt collapse of energy-intensive industries and allow time for structural adjustment. Secondly, efforts to remove barriers to the participation of Belarusian firms in European value chains could significantly mitigate the adverse short-term effects of deteriorating trade relations with Russia. By facilitating access to new markets, technologies, and standards, integration into European supply chains could not only soften the transition but also enhance long-term competitiveness. Thirdly, direct financial support from the EU has the potential to offset a substantial part of GDP and welfare losses. If such support is strategically targeted to raise factor productivity, through investment in technology, human capital, and infrastructure, the result could be positive growth of both output and welfare, at least in scenarios without severe energy shocks. Fourthly, social safeguards are essential. A shift toward the EU will unavoidably bring sectoral declines and job displacements. EU's support should therefore extend to retraining programs, measures that promote labor mobility, and social protection systems, ensuring that the short-term adjustment costs do not lead to lasting social instability.

At the same time, it is essential to acknowledge the limitations of the CGE modeling applied in this study. Firstly, the data used to construct the benchmark equilibrium is incomplete and, in some cases, not fully up to date. Issues such as the aggregation of tariffs, absence of non-tariff barriers, and incomplete information on foreign transfers and trade flows reduce the precision of the results. Secondly, the key parameters, such as elasticities of substitution, are borrowed from GTAP rather than estimated directly for Belarus. This ad hoc calibration introduces uncertainty and reduces the extent to which the results reflect the unique structural characteristics of the Belarusian economy. Thirdly, the aggregation of sectors itself introduces potential biases: results may be sensitive to the level of disaggregation, and important in-sector heterogeneity may not be accounted for.

The structural assumptions of the CGE framework also impose constraints. The model assumes perfect competition, full utilization of resources, and frictionless adjustment. Similarly, the static nature of the model means that it cannot capture dynamic processes such as technological progress or expectations of households and companies. The absence of a financial sector is another important drawback, particularly in an economy where monetary and exchange rate policies play a central role. As a result, while the model provides useful insights into the direction and relative magnitude of impacts, it should not be interpreted as a precise forecasting tool.

Despite these limitations, the CGE model remains a valuable instrument for policy analysis. It offers a consistent and transparent framework for evaluating complex interactions among sectors, households, and external shocks. For a small, open, and structurally dependent economy like Belarus's, such tools are essential for assessing the trade-offs of alternative policy choices. The results highlight both the risks caused by external shocks – particularly energy shocks and complications of trade with Russia – and the potential opportunities of gradual integration into the European economic space. They also emphasize the importance of carefully designed compensatory policies, including targeted subsidies, integration support, and financial assistance to enhance productivity.

The developed CGE model makes one step toward a deeper understanding of these processes and policies, and future work should aim to refine the database, estimate country-specific parameters, incorporate dynamic features, and explore the role of institutions and market frictions. Such efforts would enhance the robustness of the analysis and provide even more relevant guidance for policymakers facing the challenges of integration, adjustment, and development. Exploring the potential effects of Belarus's rapprochement with the EU is also an important area for further research.

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Appendix A

Description of equations in the CGE model for Belarus

Appendix A introduces the equations of the CGE model and calibrations of exogenous parameters. In calibration, the index 0 indicates the initial value of a variable from SAM.

Activities

The intermediate consumption of product i by sector j is described by the Leontief production function:

$$IO_{i,j} = \theta_{i,j}^{IO} q_j^{IO}, \tag{1}$$

where $\theta_{i,j}^{IO}$ is the share of product i used in intermediate consumption by sector j, an exogenous parameter with the following calibration:

$$\theta_{i,j}^{IO} = \frac{IO_{i,j}^{0}}{q_j^{IO0}}, \tag{2}$$

q_j^{IO} is the volume of intermediate consumption by sector j.

The breakeven condition for intermediate consumption by sector j:

$$p_j^{IO} q_j^{IO} = \sum_{i=1}^{N} p_i IO_{i,j}, \tag{3}$$

where p_j^{IO} is the price of intermediate consumption by sector j (equal to 1 in the initial state),

p_i is a consumer price of product i (equal to 1 in the initial state).

Intermediate consumption in the production of sector j – Leontief function:

$$q_j^{int} = \theta_j^{int} q_j^A, \tag{4}$$

where θ_j^{int} is the share of intermediate consumption in the production of sector j, an exogenous parameter with the following calibration:

$$\theta_j^{int} = \frac{q_j^{IO0}}{q_j^{A0}}, \tag{5}$$

q_j^A is the volume of production of sector j.

Value added in the production of sector j – Leontief function:

$$q_j^{VA} = \theta_j^{VA} q_j^A, \tag{6}$$

where θ_j^{VA} is the share of value added in the production of sector j, an exogenous parameter with the following calibration:

$$\theta_j^{VA} = \frac{q_j^{VA0}}{q_j^{A0}}, \tag{7}$$

Breakeven condition for sector j's production:

$$\left(1 - t_j^A\right) p_j^A q_j^A = p_j^{VA} q_j^{VA} + p_j^{IO} q_j^{IO}, \tag{8}$$

where t_j^A is a production tax rate for sector j, an exogenous parameter with the following calibration:

$$t_j^A = \frac{SAM\left(tax^A, j\right)}{SAM(Total, j)}, \tag{9}$$

p_j^A is a basic price in sector j (equal to 1 in the initial state).

Factors market

The distribution of production factors' utilization in sector j is based on the CES production function:

$$q_j^{VA} = A_j \left[\delta_j L_j^{\frac{\varepsilon_j - 1}{\varepsilon_j}} + (1 - \delta_j) K_j^{\frac{\varepsilon_j - 1}{\varepsilon_j}} \right]^{\frac{\varepsilon_j}{\varepsilon_j - 1}}, \tag{10}$$

where δ_j is the share of labor's factor, an exogenous parameter with the following calibration:

$$\delta_j = \frac{w_{L0} L_{0j}^{\frac{1}{\varepsilon_j}}}{\left(w_{L0} L_{0j}^{\frac{1}{\varepsilon_j}} + w_{K0} K_{0j}^{\frac{1}{\varepsilon_j}} \right)}, \tag{11}$$

A_j is an exogenous parameter of production factors' allocation efficiency with the following calibration:

$$A_j = \frac{q_{0j}}{\left(\delta_j L_j^{0\frac{\varepsilon_j - 1}{\varepsilon_j}} + (1 - \delta_j) K_j^{0\frac{\varepsilon_j - 1}{\varepsilon_j}} \right)^{\frac{\varepsilon_j}{\varepsilon_j - 1}}}, \tag{12}$$

L_j is a volume of labor used by sector j,

w_L is a price of labor (equal to 1 in the initial state),

K_j is a volume of capital used by sector j,

w_K is a price of capital (equal to 1 in the initial state),

ε_i is elasticity of factors' substitution, set exogenously.

According to the abovementioned CES production function:

Condition for efficiency maximization of labor utilization in sector j:

$$L_j = \frac{q_j}{A_j} \left(\frac{\delta_j}{w_L} \right)^{\varepsilon_j} \left[\delta_j^{\varepsilon_j} w_L^{1-\varepsilon_j} + (1 - \delta_j)^{\varepsilon_j} w_K^{1-\varepsilon_j} \right]^{\frac{\varepsilon_j}{1-\varepsilon_j}}, \tag{13}$$

Condition for efficiency maximization of capital utilization in sector j:

$$K_j = \frac{q_j}{A_j}\left(\frac{1-\delta_j}{w_L}\right)^{\varepsilon_j}\left[\delta_i^{\varepsilon_j} w_L^{1-\varepsilon_j} + (1-\delta_j)^{\varepsilon_j} w_K^{1-\varepsilon_j}\right]^{\frac{\varepsilon_j}{1-\varepsilon_j}}. \tag{14}$$

Breakeven condition for production factors:

$$p_j^{VA} q_j^{VA} = w_L L_j + w_K K_j. \tag{15}$$

Commodities market

Condition for distribution of commodity i produced by sector j:

$$q_i^D = \sum_{j=1}^{N} \theta_{j,i}\ q_j^A, \tag{16}$$

Condition for setting a price of commodity i produced by sector j:

$$p_i^D = \sum_{j=1}^{N} \theta_{j,i}\ p_j^A, \tag{17}$$

where $\theta_{j,i}$ is the mapping coefficient, an exogenous parameter with the following calibration:

$$\theta_{j,i} = \frac{SAM_{j,i}}{q_j^{A0}}. \tag{18}$$

External sector

Commodity i's export price for country r is set as follows:

$$p_{i,r}^{ER} = \overline{pw_{i,r}^{ER}} EXR_r \tag{19}$$

$\overline{pw_{i,r}^{ER}}$ is commodity i's world export price for country r (equal to 1 in the initial state),

EXR_r is an exchange rate with country r (amount of foreign currency per unit of domestic currency, equal to 1 in the initial state).

Commodity i's distribution to country r is described by the CET function:

$$E_i = A_i^{ER}\left[\sum_{r=1}^{R}\delta_{i,r}^{ER}E_{i,r}^{R}{}^{\frac{\varepsilon_i^{ER}-1}{\varepsilon_i^{ER}}}\right]^{\frac{\varepsilon_i^{ER}}{\varepsilon_i^{ER}-1}}, \tag{20}$$

where E_i is commodity i's export volume,

$E_{i,r}^{R}$ is commodity i's volume of export to country r,

$\delta_{i,r}^{ER}$ is the share of commodity i's export to country r, an exogenous parameter with the following calibration:

$$\delta_{i,r}^{ER} = \frac{p_{i,r}^{ER0}E_{i,r}^{R0}{}^{\frac{1}{\varepsilon_i^{ER}}}}{\left(\sum_{rc=1}^{RC}p_{i,r}^{ER0}E_{i,r}^{R0}{}^{\frac{1}{\varepsilon_i^{ER}}}\right)}, \tag{21}$$

A_i^{ER} is the efficiency of commodity i's export to country r, an exogenous parameter with the following calibration:

$$A_i^{ER} = \frac{E_{0i}}{\left(\sum_{r=1}^{N}\delta_{i,r}^{RE}E_{i,r}^{R0}{}^{\frac{\varepsilon_i^{ER}-1}{\varepsilon_i^{ER}}}\right)^{\frac{\varepsilon_i^{ER}}{\varepsilon_i^{ER}-1}}}, \tag{22}$$

ε_i^{ER} is the elasticity of technical substitution of commodity i's export to country r, set exogenously.

According to the abovementioned function, maximization of distribution efficiency for commodity i's export to country r is set as follows:

$$E_{i,r}^{R} = \frac{E_i}{A_i^{ER}}\left(\frac{\delta_{i,r}^{ER}}{p_{i,r}^{ER}}\right)^{\varepsilon_i^{ER}}\left[\sum_{rc=1}^{RC}\delta_{i,rc}^{ER}{}^{\varepsilon_i^{ER}}p_{i,rc}^{ER}{}^{1-\varepsilon_i^{ER}}\right]^{\frac{\varepsilon_i^{ER}}{1-\varepsilon_i^{ER}}}. \tag{23}$$

Commodities' export breakeven condition:

$$p_i^E E_i = \sum_{r=1}^{R} p_{i,r}^{ER} E_{i,r}^R, \tag{24}$$

where p_i^E is commodity i's export price (equal to 1 in the initial state).

At the same time, the distribution of commodities produced domestically for export and domestic consumption is also described by the CET function:

$$q_i^D = A_i^E \left[\delta_i^E E_i^{\frac{\varepsilon_i^E - 1}{\varepsilon_i^E}} + \left(1 - \delta_i^E\right) q_i^{DD\,\frac{\varepsilon_i^E - 1}{\varepsilon_i^E}} \right]^{\frac{\varepsilon_i^E}{\varepsilon_i^E - 1}}, \tag{25}$$

where δ_i^E is the share of export of domestically produced commodity i, an exogenous parameter with the following calibration:

$$\delta_i^E = \frac{p_i^{E0} E_{0i}^{\frac{1}{\varepsilon_i^E}}}{\left(p_i^{E0} E_{0i}^{\frac{1}{\varepsilon_i^E}} + p_i^{DD0} q_i^{DD0\,\frac{1}{\varepsilon_i^E}} \right)}, \tag{26}$$

A_i^E is the commodity i's export efficiency, an exogenous parameter with the following calibration:

$$A_i^E = \frac{q_i^{D0}}{\left(\delta_i^E E_i^{0\,\frac{\varepsilon_i^E - 1}{\varepsilon_i^E}} + \left(1 - \delta_i^E\right) q_i^{DD0\,\frac{\varepsilon_i^E - 1}{\varepsilon_i^E}} \right)^{\frac{\varepsilon_i^E}{\varepsilon_i^E - 1}}}, \tag{27}$$

ε_i^E is the elasticity of technical substitution of commodity i's export, set exogenously.

Condition for efficiency maximization of domestically produced commodity i's export allocation:

$$E_i = \frac{q_i^D}{A_i^E} \left(\frac{\delta_i^E}{p_i^E} \right)^{\varepsilon_i^E} \left[\delta_i^{E\,\varepsilon_i^E} p_i^{E\,1-\varepsilon_i^E} + \left(1 - \delta_i^E\right)^{\varepsilon_i^E} p_i^{DD\,1-\varepsilon_i^E} \right]^{\frac{\varepsilon_i^E}{1-\varepsilon_i^E}}, \tag{28}$$

Condition for efficiency maximization of domestically produced commodity i's domestic consumption allocation:

$$q_i^{DD} = \frac{q_i^D}{A_i^E}\left(\frac{1-\delta_i^E}{p_i^{DD}}\right)^{\varepsilon_i^E}\left[\delta_i^{E\,\varepsilon_i^E} p_i^{E\;1-\varepsilon_i^E} + \left(1-\delta_i^E\right)^{\varepsilon_i^E} p_i^{DD\;1-\varepsilon_i^E}\right]^{\frac{\varepsilon_i^E}{1-\varepsilon_i^E}}, \tag{29}$$

Breakeven condition for domestically produced commodity i:

$$p_i^D q_i^D = p_i^E E_i + p_i^{DD} q_i^{DD}, \tag{30}$$

where p_i^{DD} is the price of domestic consumption of domestically produced commodity i (equal to 1 in the initial state).

Import prices for commodity i from country r are set as follows:

$$p_{r,i}^{MR} = \left(1 + t_{r,i}^M\right)\overline{pw^{MR}}_{r,i} EXR_r, \tag{31}$$

where $\overline{pw_{i,r}^{MR}}$ is commodity i's world price for import from country r (equal to 1 in the initial state),
$t_{r,i}^M$ is the commodity i's tax rate for import from country r, an exogenous parameter with the following calibration:

$$t_{r,i}^M = \frac{SAM\left(tax_r^M, i\right)}{SAM(RoW_r, i)}. \tag{32}$$

Trade and transport margins are included in the consumer price of commodity i:

$$p^{margin} = \sum_{i=1}^{N} sh_i^{margin} p_i, \tag{33}$$

where sh_i^{margin} is the share of trade and transport margins generated by demand on commodity i, an exogenous parameter with the following calibration:

$$sh_i^{margin} = \frac{SAM(i, margin)}{SAM(total, margin)}. \tag{34}$$

The distribution of commodity i's import among trade partner countries is described by the Armington CES function:

$$M_i = A_i^{MR}\left[\sum_{r=1}^{R}\delta_{r,i}^{MR}M_{r,i}^{R\,\frac{\varepsilon_i^{MR}-1}{\varepsilon_i^{MR}}}\right]^{\frac{\varepsilon_i^{MR}}{\varepsilon_i^{MR}-1}}, \tag{35}$$

where M_i is commodity i's import volume,

$M_{r,i}^{R}$ is commodity i's volume of import from country r,

$\delta_{r,i}^{MR}$ is the share of commodity i's import from country r, an exogenous parameter with the following calibration:

$$\delta_{r,i}^{MR} = \frac{p_{r,i}^{MR0}M_{r,i}^{R0\,\frac{1}{\varepsilon_i^{MR}}}}{\left(\sum_{rc=1}^{RC}p_{r,i}^{MR0}M_{r,i}^{R0\,\frac{1}{\varepsilon_i^{MR}}}\right)}, \tag{36}$$

where A_i^{MR} is the efficiency of commodity i's import from country r, an exogenous parameter with the following calibration:

$$A_i^{MR} = \frac{M_{0i}}{\left(\sum_{r=1}^{R}\delta_{r,i}^{MR}M_{r,i}^{R0\,\frac{\varepsilon_i^{MR}-1}{\varepsilon_i^{MR}}}\right)^{\frac{\varepsilon_i^{MR}}{\varepsilon_i^{MR}-1}}}, \tag{37}$$

ε_i^{MR} is the elasticity of technical substitution of commodity i's import from country r, set exogenously.

According to the abovementioned function, the function of efficiency maximization for commodity i's import from country r is as follows:

$$M_{r,i}^{R} = \frac{M_i}{A_i^{MR}}\left(\frac{\delta_{r,i}^{MR}}{p_{r,i}^{MR}}\right)^{\varepsilon_i^{ER}}\left[\sum_{rc=1}^{RC}\delta_{rc,i}^{MR\,\varepsilon_i^{MR}}p_{rc,i}^{MR\,1-\varepsilon_i^{MR}}\right]^{\frac{\varepsilon_i^{MR}}{1-\varepsilon_i^{MR}}}. \tag{38}$$

Commodity i's import breakeven condition:

$$p_i^M M_i = \sum_{r=1}^{R} p_{r,i}^{MR} M_{r,i}^{R}, \tag{39}$$

where p_i^M is commodity i's import price.

The distribution of domestically consumed commodities to domestically produced and imported commodities is also described by the Armington CES function:

$$q_i = A_i^M \left[\delta_i^M M_i^{\frac{\varepsilon_i^M - 1}{\varepsilon_i^M}} + \left(1 - \delta_i^M\right) q_i^{DD\frac{\varepsilon_i^M - 1}{\varepsilon_i^M}} \right]^{\frac{\varepsilon_i^M}{\varepsilon_i^M - 1}}, \tag{40}$$

where δ_i^M is the share of commodity i's import in its domestic consumption, an exogenous parameter with the following calibration:

$$\delta_i^M = \frac{p_i^{M0} M_{0i}^{\frac{1}{\varepsilon_i^M}}}{\left(p_i^{M0} M_{0i}^{\frac{1}{\varepsilon_i^M}} + \left(1 + t_i^C\right) p_i^{DD0} q_i^{DD0\frac{1}{\varepsilon_i^M}} \right)}, \tag{41}$$

where t_i^C is commodity i's product tax rate, an exogenous parameter with the following calibration:

$$t_i^C = \frac{SAM(tax^c, i)}{\sum_{j=1}^{N} SAM(j,i) - \sum_{r=1}^{R} SAM(r,i)}, \tag{42}$$

A_i^M is commodity i's import efficiency, an exogenous parameter with the following calibration:

$$A_i^M = \frac{q_i^0}{\left(\delta_i^M M_i^{0\frac{\varepsilon_i^M - 1}{\varepsilon_i^M}} + \left(1 - \delta_i^M\right) q_i^{DD0\frac{\varepsilon_i^M - 1}{\varepsilon_i^M}} \right)^{\frac{\varepsilon_i^M}{\varepsilon_i^M - 1}}}, \tag{43}$$

ε_i^M is the elasticity of technical substitution of commodity i's import, set exogenously.

Condition for efficiency maximization of commodity i's import allocation:

$$M_i = \frac{q_i}{A_i^M}\left(\frac{\delta_i^M}{p_i^M}\right)^{\varepsilon_i^M}\left[\delta_i^{M\,\varepsilon_i^M} p_i^{M\,1-\varepsilon_i^M} + \left(1-\delta_i^M\right)^{\varepsilon_i^M}\left((1+t_i^c)p_i^{DD}\right)^{1-\varepsilon_i^M}\right]^{\frac{\varepsilon_i^M}{1-\varepsilon_i^M}}, \quad (44)$$

Condition for efficiency maximization of domestically produced commodity i's domestic consumption allocation:

$$q_i^{DD} = \frac{q_i}{A_i^M}\left(\frac{1-\delta_i^M}{(1+t_i^c)p_i^{DD}}\right)^{\varepsilon_i^M}\left[\delta_i^{M\,\varepsilon_i^M} p_i^{M\,1-\varepsilon_i^M} + \left(1-\delta_i^M\right)^{\varepsilon_i^M}\left((1+t_i^c)p_i^{DD}\right)^{1-\varepsilon_i^M}\right]^{\frac{\varepsilon_i^M}{1-\varepsilon_i^M}}, \quad (45)$$

Commodity i's domestic consumption breakeven condition:

$$p_i q_i = p^{margin} t_i^{margin} q_i + p_i^M M_i + \left(1+t_i^C\right)p_i^{DD} q_i^{DD}, \quad (46)$$

where t_i^{margin} is commodity i's trade and transport margins' rate, an exogenous parameter with the following calibration:

$$t_i^{margin} = \frac{SAM(margin, i)}{q_i^0}. \quad (47)$$

Trade balance equation:

$$\sum_{i=1}^{N} \overline{pw^{MR}}_{r,i} EXR_r M_{r,i}^R + trf_r^{RoWLab} EXR_r + trf_r^{RoWCap} EXR_r + trf_r^{RoWHH} EXR_r + trf_r^{RoWGov} EXR_r =$$

$$\sum_{i=1}^{N} \overline{pw^{ER}}_{i,r} EXR_r E_{i,r}^R + trf_r^{LabRow} EXR_r + trf_r^{CapRow} EXR_r + trf_r^{RoWHH} EXR_r + trf_r^{GovRow} EXR_r + \overline{S^{RoW}}_r EXR_r, \quad (48)$$

where trf_r^{RoWLab}, trf_r^{RoWCap}, trf_r^{RoWHH}, trf_r^{RoWGov} are transfers of production factors (labor and capital) from households and government to the country r respectively,

trf_r^{LabRoW}, trf_r^{CapRoW}, trf_r^{HHRoW}, trf_r^{GovRoW} are transfers of production factors (labor and capital) to households and government from country r respectively,

$\overline{S^{RoW}}_r$ is savings of country r, fixed amount.

Households

In the CGE model, households own labor and capital. Brutto income of households consists of wages, rents, net transfers with the external sector, and government transfers:

$$
\begin{aligned}
Y^{HH} = {} & w_L\overline{L} + \sum_{r=1}^{R} trf_r^{LabRoW} EXR_r - \sum_{r=1}^{R} trf_r^{RoWLab} EXR_r + \\
& + sh^{CapHH}\left(w_K\overline{K} + \sum_{r=1}^{R} trf_r^{CapRoW} EXR_r - \sum_{r=1}^{R} trf_r^{RoWCap} EXR_r\right) + \\
& + \sum_{r=1}^{R} trf_r^{HHRoW} EXR_r - \sum_{r=1}^{R} trf_r^{RoWHH} EXR_r + \\
& + trf^{HHGov} CPI,
\end{aligned}
\tag{49}
$$

where $\overline{L}$ is labor supply in an economy, fixed amount,

sh^{CapHH} is the share of households in rents' distribution, an exogenous parameter with the following calibration:

$$
sh^{CapHH} = \frac{SAM(HH, Cap)}{w_K\overline{K} + \sum_{r=1}^{R} trf_r^{CapRoW} EXR_r^0 - \sum_{r=1}^{R} trf_r^{RoWCap} EXR_r^0}, \tag{50}
$$

$\overline{K}$ is capital supply in an economy, fixed amount,

trf_r^{HHGov} is government transfers to households.

The income of households is broken into final consumption, savings, and income tax. The function of households' final consumption of commodity i is set as follows:

$$
p_i h_i = \alpha_i^{HH}\left(1 - t^{Y^{HH}}\right)(1 - mps)Y^{HH}, \tag{51}
$$

where h_i is commodity i's households' final consumption volume,

α_i^{HH} is the share of households' income spent on commodity i's final consumption, an exogenous parameter with the following calibration:

$$\alpha_i^{HH} = \frac{p_i^0 h_i^0}{(1-mps)\left(1-t^{Y^{HH}}\right)Y^{HH0}}, \tag{52}$$

mps is households' marginal propensity to save, an exogenous parameter with the following calibration:

$$mps = \frac{SAM(IS,HH)}{Y^{HH0}\left(1-t^{Y^{HH}}\right)}, \tag{53}$$

$t^{Y^{HH}}$ is an income tax rate, an exogenous parameter with the following calibration:

$$t^{Y^{HH}} = \frac{SAM(Gov,HH)}{Y^{HH0}}. \tag{54}$$

Households' savings function:

$$S^{HH} = mps\left(1-t^{Y^{HH}}\right)Y^{HH}. \tag{55}$$

The change in consumer prices level is described by the following equation:

$$CPI = \sum_{i=1}^{N} \gamma_i^{CPI} p_i, \tag{56}$$

where γ_i^{CPI} is commodity i's share of input into the overall change of consumer prices level, with the following calibration:

$$\gamma_i^{CPI} = \frac{p_i^0 h_i^0}{\sum\limits_{ic=1}^{N} p_{ic}^0 h_{ic}^0}. \tag{57}$$

The variable of households' utility was implemented as a parameter and is described by the Cobb-Douglas function:

$$U = \prod_{i=1}^{N} {h_i}^{\alpha_i^{HH}}. \tag{58}$$

Government

In the CGE model government's income consists of tax income from activities, commodities market, households, rents, and net transfers with the external sector:

$$
\begin{aligned}
Y^{Gov} = {} & t^{Y^{HH}} Y^{HH} + \sum_{i=1}^{N} \sum_{r=1}^{R} t_{r,i}^{M} \overline{pw^{MR}}_{r,i} EXR_r M_{r,i}^{R} + \sum_{j=1}^{N} t_j^A p_j^A q_j^A + \sum_{i=1}^{N} t_i^C p_i^{DD} q_i^{DD} + \\
& + sh^{CapGov} \left(w_K \overline{K} + \sum_{r=1}^{R} trf_r^{CapRoW} EXR_r - \sum_{r=1}^{R} trf_r^{RoWCap} EXR_r \right) + \\
& + \sum_{r=1}^{R} trf_r^{GovRoW} EXR_r - \sum_{r=1}^{R} trf_r^{RoWGov} EXR_r - \\
& - trf^{HHGov} CPI,
\end{aligned}
\tag{59}
$$

where sh^{CapGov} is the share of government's distribution of rents, an exogenous parameter with the following calibration:

$$
sh^{CapGov} = \frac{SAM(Gov, Cap)}{w_K \overline{K} + \sum_{r=1}^{R} trf_r^{CapRoW} EXR_r^0 - \sum_{r=1}^{R} trf_r^{RoWCap} EXR_r^0}. \tag{60}
$$

Government's income is broken into government's final consumption and savings. The function of government's final consumption of commodity i is set as follows:

$$
p_i g_i = \alpha_i^{Gov} \left(Y^{Gov} - \overline{S^{Gov}} CPI \right), \tag{61}
$$

where g_i is the volume of government's final consumption of commodity i,

α_i^{Gov} is the share of government's income spent on commodity i's final consumption, an exogenous parameter with the following calibration:

$$
\alpha_i^{Gov} = \frac{p_i^0 g_i^0}{Y^{Gov} - \overline{S^{Gov}}}, \tag{62}
$$

$\overline{S^{Gov}}$ is government savings, fixed amount.

Savings and investments

In the CGE model, savings consist of households', government's, and external sector's savings; they are invested into capital formation. The function of commodity i's purchase for capital formation is set as follows:

$$p_i inv_i = \alpha_i^{inv}\left(S^{HH} + \overline{S^{Gov}} + \sum_{r=1}^{R} \overline{S^{RoW}}_r EXR_r\right), \tag{63}$$

where inv_i is the volume of commodity i purchased for capital formation,

α_i^{inv} is the share of investments which are allocated for the purchase of commodity i aimed at capital formation, an exogenous parameter with the following calibration:

$$\alpha_i^{inv} = \frac{p_i^0 inv_i^0}{S^{HH0} + \overline{S^{Gov}} + \sum_{r=1}^{R} \overline{S^{RoW}}_r}. \tag{64}$$

The variable of real GDP is implemented as a parameter and calculated based on the expenditure approach:

$$GDP = \sum_{i=1}^{N} h_i + \sum_{i=1}^{N} g_i + \sum_{i=1}^{N} inv_i + \sum_{i=1}^{N} E_i - \sum_{i=1}^{N} M_i. \tag{65}$$

Markets equilibrium

Commodity i's market equilibrium equation:

$$\sum_{j=1}^{N} IO_{i,j} + h_i + g_i + inv_i = q_i, \tag{66}$$

Labor market equilibrium equation:

$$\sum_{j=1}^{N} L_j = \overline{L}, \tag{67}$$

Capital market equilibrium equation:

$$\sum_{j=1}^{N} K_j = \overline{K}. \tag{68}$$

Appendix B

Description of sectors and commodities

Table A.1: Baseline model

Designation	Transcription
Agriculture	Plant growing and livestock breeding, provision of services in these areas; Hunting and provision of hunting services; Forestry and logging; Fisheries and fish farming.
Minerals	Coal mining; Mining of metal ores; Mining of other minerals; Providing services in the mining industry; Production of other non-metallic mineral products.
Oil & gas, petroleum	Crude oil and natural gas production; Production of coke and petroleum products.
Food	Production of food, beverages and tobacco products.
Textile & wood	Production of textiles, clothing and fur products; Production of leather, fur, leather products, except clothing, and production of footwear; Manufacture of wood processing products, wood and cork products, except furniture, straw products, and wicker materials; Production of pulp, paper, and paper products; Printing activities and replication of recorded media.

Chemicals, rubber, pharma	Production of chemical products; Production of basic pharmaceutical products and pharmaceutical preparations; Production of rubber and plastic products.
Metals	Metallurgical production; Production of finished metal products.
Electronics	Production of computing, electronic, and optical equipment; Production of electrical equipment.
Machinery nec	Production of machinery and equipment not included in other categories, except machinery for agriculture and forestry.
Motor vehicles	Production of machines for agriculture and forestry; Production of cars, trailers, and semi-trailers; Production of other vehicles and equipment.
Manufactures nec	Production of other finished products; Repair and installation of machines and equipment.
Utilities	Production, transmission, and distribution of electrical energy; Production and distribution of gaseous fuels; Production, transmission, distribution, and sale of steam and hot water, air conditioning; Collection, treatment, and distribution of water; Wastewater collection and treatment; Collection, treatment, and disposal of waste; recycling of materials; Cleanup activities and other waste disposal services.
Construction	Construction activities.
Trade	Wholesale and retail trade in cars, motorcycles, and their repairs; Wholesale trade, except trade in cars and motorcycles; Retail trade, excluding trade in cars and motorcycles.

Transport	Activities of land and pipeline transport; Water transport activities; Air transport activities; Warehousing and auxiliary transport activities; Postal and courier activities.
Communication	Publishing activity; Production of films, videos, and television programs, activities in the field of sound recording and publishing of musical works; Program creation activities. Radio and television broadcasting; Activities in the field of telecommunications; Computer programming, consulting, and other related services; Activities in the field of information services.
Other services	Other services.

Source: compiled by the authors

Table A.2: Alternative model

Designation	**Transcription**
Agriculture	Plant growing and livestock breeding, provision of services in these areas; Hunting and provision of hunting services; Forestry and logging; Fisheries and fish farming.
Minerals	Coal mining; Mining of metal ores; Mining of other minerals; Providing services in the mining industry.
Oil & gas, petroleum	Crude oil and natural gas production; Production of coke and petroleum products.

Food	Production of food, beverages and tobacco products.
Textile	Production of textiles, clothing, and fur products; Production of leather, fur, leather products, except clothing, and production of footwear.
Wood	Manufacture of wood processing products, wood and cork products, except furniture, straw products, and wicker materials; Production of pulp, paper and paper products; Printing activities and replication of recorded media.
Chemicals, rubber	PProduction of chemical products; Production of rubber and plastic products.
Pharma	Production of basic pharmaceutical products and pharmaceutical preparations.
Metals	Production of other non-metallic mineral products.
Electronics	Production of computing, electronic, and optical equipment; Production of electrical equipment.
Machinery nec	Production of machinery and equipment not included in other categories, except machinery for agriculture and forestry.
Motor vehicles	Production of machines for agriculture and forestry; Production of cars, trailers, and semi-trailers; Production of other vehicles and equipment.
Manufactures nec	Production of other finished products; Repair and installation of machines and equipment.
Utilities	Production, transmission, and distribution of electrical energy; Production and distribution of gaseous fuels; Production, transmission, distribution, and sale of steam and hot water, air conditioning.

Water	Collection, treatment, and distribution of water; Wastewater collection and treatment; Collection, treatment, and disposal of waste; recycling of materials; Cleanup activities and other waste disposal services.
Construction	Construction activities.
Trade	Wholesale and retail trade in cars, motorcycles, and their repairs; Wholesale trade, except trade in cars and motorcycles; Retail trade, excluding trade in cars and motorcycles.
Transport	Activities of land and pipeline transport; Water transport activities; Air transport activities; Warehousing and auxiliary transport activities; Postal and courier activities.
Communication	Publishing activity; Production of films, videos, and television programs, activities in the field of sound recording and publishing of musical works; Program creation activities. Radio and television broadcasting; Activities in the field of telecommunications; Computer programming, consulting, and other related services; Activities in the field of information services.
Other services	Other services.

Source: compiled by the authors

Migration and Belarusian EU Accession

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Table of Contents

Introduction

This chapter addresses a practical question with clear policy stakes for the European Union: what would Belarusian accession mean for migration, demography, and labour markets in the EU—and for Belarus itself? The analysis takes a comparative, evidence-led approach because choices on free movement, sequencing, and safeguards are most credible when grounded in what has actually happened elsewhere.

The chapter is organised around three objectives. First, it synthesises what is known about Belarusian migration—both to the EU and more broadly—covering the post-Soviet realignment of the 1990s, labour-mobility patterns through the 2000s, and the politically driven outflows of 2020–2025. Second, it draws lessons from the 2004 enlargement by examining countries most comparable to Belarus today—Latvia, Lithuania, Poland, and Hungary—tracking short-, medium-, and long-term impacts on population, labour markets, and society, and highlighting where policy design mattered. Third, it translates these insights into forward-looking implications for both Belarus and the EU: how flows are likely to evolve, what risks to anticipate, and which policy instruments can shift outcomes from brain drain to brain circulation.

The evidence base combines desk research (official statistics, comparative studies, and recent policy evaluations) with more than ten semi-structured interviews with senior experts and policymakers involved in the 2004 accession process in Lithuania, Latvia, Poland, and Hungary. These interviews clarify how enlargement worked in practice—what was planned, what was not, and which effects surprised decision-makers—and help separate policy-driven dynamics from background demographic trends.

The aim is not to predict exact headcounts but to equip EU institutions and Member States with an actionable framework for sequencing, de-risking, and harnessing Belarus–EU mobility, should the accession track open.

1. Belarusian Migration since the 1990s

1.1 Phase One: Post-Soviet Realignment (1990s)

The dissolution of the Soviet Union in 1991 marked a significant turning point for Belarus, leading to its independence. In 1994, Alexander Lukashenko came to power, winning Belarus's first and only free presidential election. During the 1990s, Lukashenko began to consolidate power through referendums that expanded presidential authority and aligned Belarus more closely with Russia (Hartwell et al., 2022).

The economic context of the decade was marked by significant challenges. The transition from a Soviet to a post-Soviet economy led to widespread poverty and unemployment, serving as a major push factor for emigration (Hanson, 2014). Political instability and limited economic opportunities further encouraged migration, setting the stage for ongoing demographic and economic challenges in subsequent years.

Migration Trends

Migration to and from Belarus in the 1990s was significantly shaped by the economic and political changes following the Soviet collapse. Many Belarusians migrated to Russia, Poland, Germany, the United States, and Canada. Labour migration to Russia increased over time, while temporary migration to the EU remained limited. The main push factors were economic instability, political uncertainty, limited economic opportunities, and ethnic tensions (Macrotrends, 2023).

Demographic Impacts

Out-migration of young and skilled workers during the 1990s contributed to an ageing population and a reduced workforce, exacerbating economic challenges. Despite some immigration, Belarus's population began to decline due to low birth rates and ageing trends. The emigration of skilled professionals reduced the country's economic potential, and return migration remained limited (Macrotrends, 2023).

1.2 Phase Two: Labour Migration (2000–2020)

Between 2000 and 2020, Belarus witnessed continued consolidation of power under Lukashenko. Referendums, particularly in 2004, removed presidential term limits, effectively allowing him to remain in office indefinitely. Despite occasional overtures to the EU and the West, the country largely maintained close ties with Russia. This period saw increasing authoritarianism, with elections frequently criticised for lacking fairness and transparency (Hartwell et al., 2022).

Over these two decades, Belarus generally experienced a positive net migration rate, suggesting that more individuals immigrated to the country than emigrated. However, this positive balance masked underlying complexities. The majority of migration flows remained within the Commonwealth of Independent States (CIS), particularly with Russia, reflecting historical ties and economic partnerships. A gradual shift emerged, with increasing numbers of Belarusians seeking opportunities in non-CIS countries—especially Poland and Lithuania—driven by evolving economic landscapes and political considerations within the region (Petrakova, 2022).

Labour migration played a critical role in Belarusian migration dynamics during this period. Immigration to Belarus, primarily from Ukraine, was consistently significant, with immigration figures surpassing emigration numbers between 2009 and 2019, reaching its peak growth between 2014 and 2016 as a result of Ukrainian emigration flows (Integral Human Development, 2022).

Migration patterns from Belarus were notably skewed towards men, who comprised a substantial portion of labour migrants. Political instability and economic challenges served as prominent push factors, particularly among younger and more educated individuals. These push factors intensified following the contentious 2020 presidential elections, prompting an acceleration of emigration to EU countries, particularly Poland (Chmiel et al., 2021).

Demographic and Economic Consequences

While a positive net migration rate was observed, Belarus's population continued to decline due to persistently low birth rates and an ageing demographic structure. The emigration of younger, more educated individuals further contributed to the ageing trend, posing challenges to the sustainability of pension and healthcare systems (Macrotrends, 2023). The emigration of skilled workers—predominantly male—resulted in a reduction of the workforce, impacting economic productivity and creating labour shortages across various sectors.

Migration patterns between rural and urban areas in Belarus widened existing disparities. Rural areas experienced substantial out-migration driven by limited economic opportunities and restricted access to services. Urban centres, particularly Minsk, attracted migrants seeking better prospects, contributing to population growth in urban areas.

Growth of the Belarusian Diaspora

Between 2000 and 2020, the Belarusian diaspora expanded significantly and became increasingly politically active. While Belarusian communities already existed in countries such as Poland, Lithuania, and the United States, migration driven by economic and political reasons expanded these networks. Following the 2020 elections, the diaspora was characterised by enhanced civic and political engagement, with Belarusians abroad actively supporting democratic movements and advocating for change (Chmiel et al., 2021).

1.3 Phase Three: Political Exodus and Geopolitical Instrumentalisation (2020–2025)

The period between 2020 and 2025 was marked by significant political upheaval. The 2020 presidential election, widely regarded as rigged, sparked unprecedented protests. The Lukashenko regime responded with a severe crackdown, resulting in mass arrests, police brutality, and the forced exile of opposition leaders. The Ryanair incident in 2021, in which a flight was forced to land in Minsk to arrest a journalist, drew international condemnation. Belarus's support for Russia's invasion of Ukraine in 2022 led to increased international isolation and sanctions, further destabilising the political landscape.

Political repression following the 2020 elections triggered a wave of emigration. Driven by fears for their safety and a lack of opportunities for political expression, many Belarusians sought refuge in neighbouring countries, particularly Poland, Lithuania, and Ukraine (until the escalation of the war). This exodus marked a significant brain drain, as many of those who left were skilled professionals, activists, and intellectuals. While economic factors existed, the overriding driver was political persecution (Luzgina & Koreyvo, 2023).

Weaponisation of Migration

Belarus was also implicated in the weaponisation of migration, particularly during the 2021 border crisis with Lithuania, Latvia, and Poland. The Belarusian government, allegedly in retaliation for EU sanctions, strategically facilitated the irregular entry of migrants—primarily from the Middle East and Africa—into the EU. This tactic involved providing migrants with visas, transportation to the Belarusian border, and instructions on how to cross illegally. The crisis resulted in significant humanitarian challenges, strained bilateral relations, and prompted accusations of Minsk using vulnerable individuals to exert political pressure on the EU (European Parliament, 2023).

Transformation of the Diaspora

The political crisis significantly reshaped the Belarusian diaspora. Existing communities in Poland, Lithuania, Germany, and the United States experienced a surge in new arrivals, revitalising these communities while presenting integration challenges. The diaspora became a crucial hub for organising political opposition, providing support for those persecuted in Belarus, and advocating for international pressure on the Lukashenko regime (Petrakova, 2022).

A defining characteristic of the post-2020 diaspora is its high degree of politicisation and civic engagement. Belarusians abroad became actively involved in supporting democratic movements, organising protests, and advocating for human rights. Online activism and social media campaigns played a crucial role in raising awareness (Chmiel et al., 2021). The presence of this large and politically active diaspora has significantly influenced EU–Belarus relations: the EU became more vocal in its criticism of the Lukashenko regime and imposed sanctions in response to human rights abuses (European Parliament, 2023).

Demographic and Social Consequences

The accelerated emigration had a profound impact on Belarus's demography. The exodus of young, educated individuals further exacerbated the country's existing demographic challenges, particularly its ageing population and shrinking workforce. This brain drain resulted in a loss of human capital, potentially hindering future economic growth and innovation (Petrakova, 2022; Macrotrends, 2023). Independent estimates suggest at least 100,000–200,000 departures since 2020, while official data understate the scale (Kłysiński, 2023).

Civil society organisations within Belarus faced increased pressure during this period, and independent media outlets were forced to shut down or operate from abroad. This erosion of civil society and the suppression of dissenting voices led to increased polarisation within Belarusian society (Chmiel et al., 2021). The war in Ukraine also influenced migration patterns, with Belarus becoming both a transit country and a potential destination for refugees.

2. Lessons from Enlargement: The 2004 Case Studies

This section examines what happened when countries with demographic and economic profiles similar to Belarus joined the European Union in 2004. By tracing migration flows, population changes, and labour-market adjustments in Poland, Hungary, Latvia, and Lithuania, it identifies the immediate, medium-term, and long-term impacts of EU accession on sending states. The analysis moves beyond numbers to consider economic outcomes, social transformations, and the role of public policies—or their absence—in shaping these trajectories.

2.1 Country Profiles at the Time of Accession

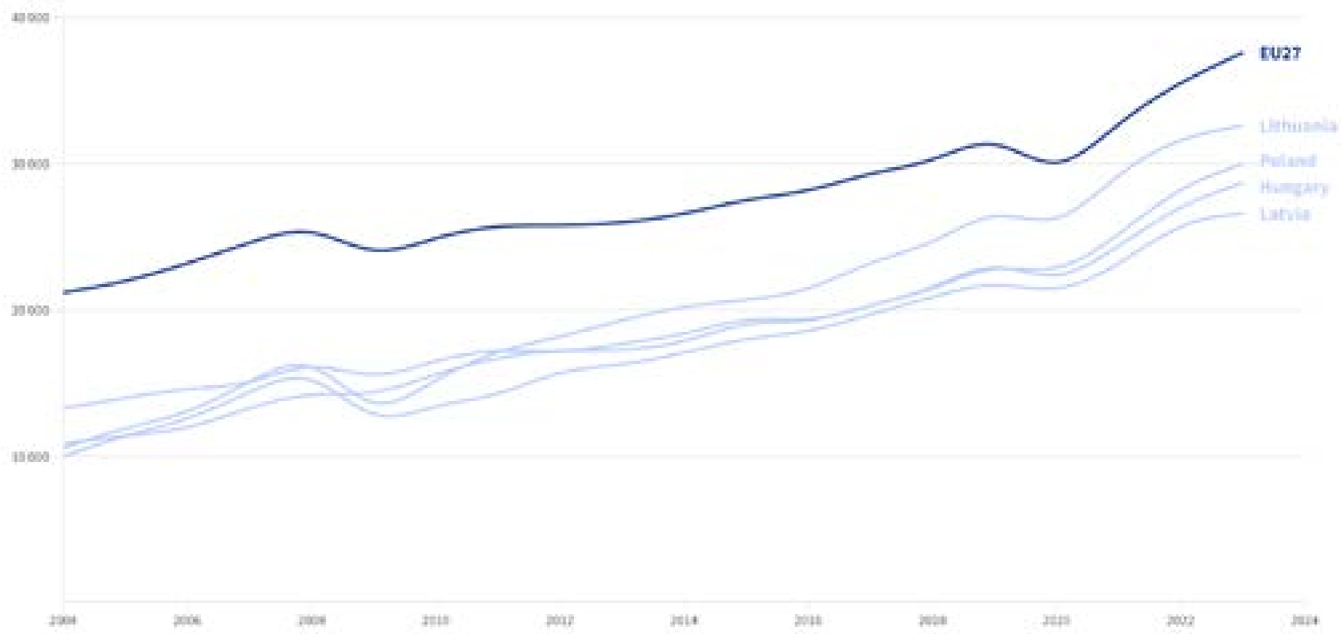
Economic Context

The 2004 EU enlargement marked the largest single expansion of the Union, adding ten new member states and more than 74 million people to a Union that grew from 15 to 25 members. The EU's share of global GDP (measured in purchasing power parities) increased from 19.3 per cent to more than 21 per cent (Council of the EU, 2024).

As an economic indicator, GDP per capita in Poland, Latvia, Lithuania, and Hungary ranged between 9,000 and 13,000 USD at the time of accession, markedly below the EU average. Hungary had pursued rapid market-oriented reforms from the early 1990s, while Latvia and Lithuania opted for more gradual transitions, and Poland underwent significant structural changes strongly shaped by EU integration dynamics (Black, Engbersen, Okólski, & Pantîru, 2010; Budnik, 2009; Bujor, 2024). By comparison, Belarus today remains slightly below the levels observed in these new member states at the time of their accession; Hungary in 2004 and Belarus today also present comparable population sizes, despite notable differences in land area (World Bank, 2025).

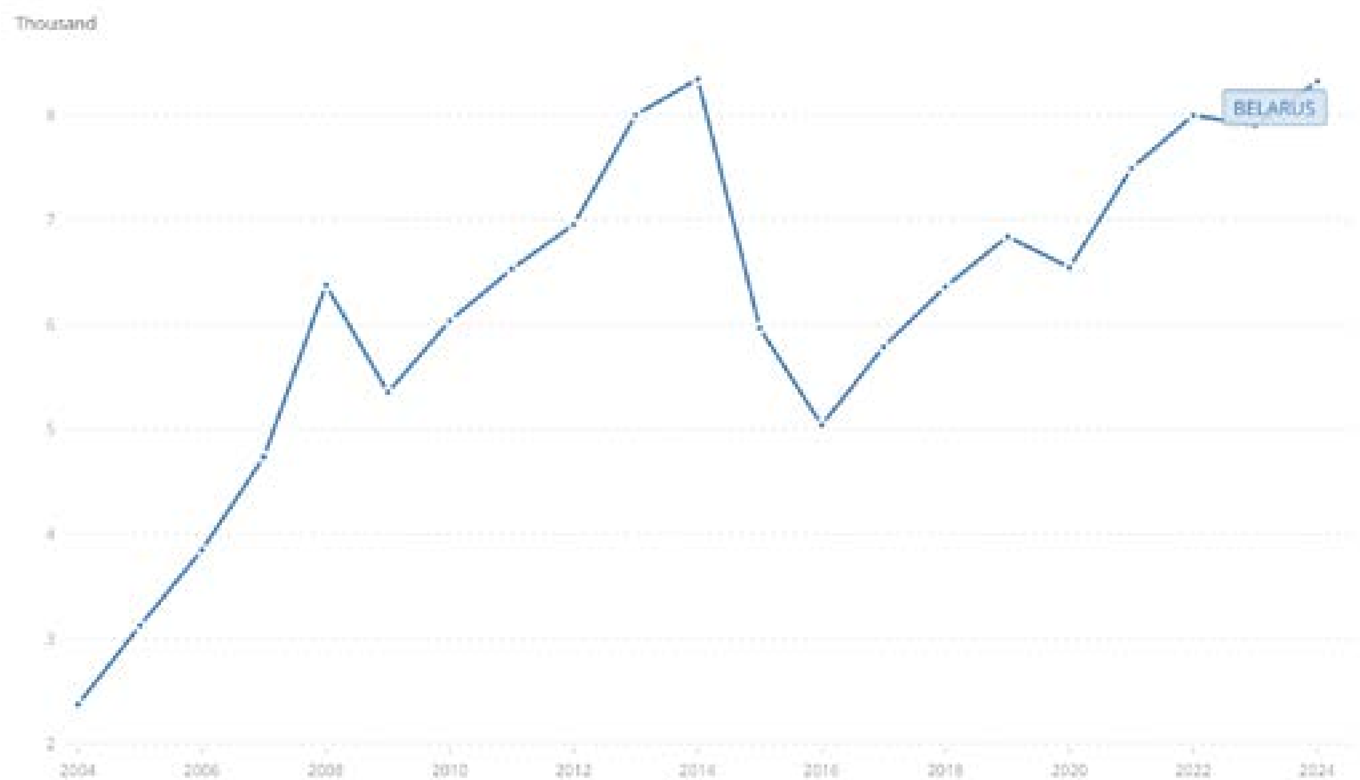
For the new member states, accession provided a framework for economic growth, stability, and integration into global markets. In 2004, the EU10's average GDP per capita in purchasing power standards (PPS) equalled 59 per cent of the EU27 average; by 2022 this had risen to 81 per cent (Council of the EU, 2024). Pasimeni (2024), reviewing the enlargement two decades later, concludes that most ex-ante expectations were realised: trade costs fell sharply, trade integration deepened, and EU10 firms became more firmly embedded in cross-border value chains, especially in manufacturing.

GDP per capita (purchasing power adjusted)



Source: Eurostat (dataset sdg_10_10), (dataset sdg_08_10)
https://www.consilium.europa.eu/en/infographics/2004-enlargement-facts-and-figures/#0

GDP per capita (current US$) - Belarus



Source: https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?end=2024&locations=BY&start=2004

Demographic Context

By the time of EU accession in 2004, all four countries already displayed demographic fragilities: low fertility, rising mortality, and significant emigration. In Poland, the population remained broadly stable in the early 1990s before the significant demographic shifts triggered by accession. Hungary experienced a steady decline throughout the 1990s and early 2000s, with natural decrease firmly entrenched as a structural challenge. In Latvia, the early 1990s brought a sharp population fall caused by both negative natural increase and sustained net emigration. Lithuania followed a similar trajectory, with fertility rates collapsing after independence and emigration increasing sharply, reducing the population from around 3.7 million in the early 1990s.

Hazans (2019) identifies four distinct waves of post-independence emigration from Latvia, which resonate with broader regional dynamics: a Pre-Accession Wave (2000–2003) shaped mainly by individual migrant characteristics; a Post-Accession Wave (2004–2008) strongly conditioned by institutional and market factors; Crisis-Driven Emigration (2009–2010) following the global financial crisis; and a Post-Crisis Wave (2011–2016) in which migration normalised as a life strategy. In the post-Covid period, Hazans notes the rise of remote work and transnational living among highly skilled workers as a further reshaping of mobility patterns (Hazans, 2019, pp. 64–65).

These demographic trajectories closely resemble those of contemporary Belarus, which since the early 1990s has combined low fertility with rising emigration, shrinking by about one million people to roughly 9.2 million by 1 January 2023, with the post-2020 crackdown accelerating outflows and tightening labour shortages in healthcare, construction, and IT (Kłysiński, 2023).

2.2 Migration Flows Post-Accession

Scale and Selectivity

The 2004 enlargement set off migration flows on a scale that many policymakers had not anticipated. Between 2004 and 2007 alone, approximately two million Poles migrated to other EU countries, primarily to the United Kingdom and Ireland (Drinkwater, Eade, & Garapich, 2006; Kaczmarczyk & Janicka, 2009; Kaczmarczyk, Aldaz-Carroll, & Hołda, 2020). Population decline followed across all four countries: Latvia fell from 2.263 million in 2004 to 1.862 million in 2024 (–17.7%); Poland from 38.18 million to 36.55 million (–4.3%); Lithuania from 3.377 million to 2.88 million (–14.7%); and Hungary from 10.11 million to 9.562 million (–5.4%) (World Bank, 2025).

Importantly, the character of migration also changed. Before accession, those leaving to the EU were mainly highly educated migrants who were competitive on European labour markets. After accession, both low-skilled and high-skilled workers left, in far higher numbers. The early opening of labour markets in the United Kingdom, Ireland, and Sweden made them the most accessible destinations for A8 workers in practical terms, demonstrating how policy openness channels flows (Okólski & Salt, 2014; Kahanec, Zaiceva & Zimmermann, 2009).

Destination Countries

The United Kingdom, Ireland, and Germany were the principal beneficiaries of post-accession migration. While most older member states applied transitional restrictions, the UK, Ireland, and Sweden opened their labour markets immediately in 2004, resulting in a surge of east–west migration (Dustmann et al., 2010; Zaiceva & Zimmermann, 2008). Ireland saw Poles become the largest non-Irish nationality within just a few years (Central Statistics Office, 2017). The UK experienced the largest immigration wave in its modern history, with over half a million workers arriving in the first years after enlargement (Dustmann et al., 2010). Germany, despite maintaining restrictions until 2011 (EU-8) and 2014 (EU-2), quickly became a central destination once its labour market opened fully, hosting more than 900,000 Romanian citizens alone by 2024 (Statistisches Bundesamt, 2024).

Network effects consolidated these flows, as established diaspora communities acted as magnets for newcomers, reinforcing the concentration of migrants in specific destinations (Beine, Docquier, & Özden, 2011).

2.3 Labour-Market Impacts in Sending Countries

EU accession initially had a positive impact on unemployment rates in sending countries. Latvia's unemployment rate dropped significantly from double digits prior to accession to single digits by 2007, largely due to mass emigration (Hazans, 2007). In Poland, unemployment rates decreased notably from approximately 20 per cent in 2003 to around 9 per cent by 2007 (Balcerowicz, 2007; Kaczmarczyk & Tyrowicz, 2015). Hungary saw a relatively smaller immediate emigration wave, though significant outward migration increased following the 2008 economic crisis (Fazekas & Blaskó, 2016).

This drop can be explained by two factors. First, those who were relatively marginalised in the labour market gained new opportunities as others left. Second, inward investment created new employment. Post-accession countries experienced improvements in labour-market conditions, gradually aligning with EU averages, with declining unemployment and steadily increasing employment rates over the subsequent decade (Bieszk-Stolorz & Dmytrów, 2020; Fazekas & Blaskó, 2016).

The emigration of younger, often highly skilled workers created immediate labour shortages, particularly in healthcare, construction, and information technology (OECD, 2013; Hazans, 2007). Poland experienced significant labour shortages in construction and healthcare (Kaczmarczyk & Janicka, 2009; Eldring, Fitzgerald, & Arnholtz, 2012), while Latvia encountered acute skill mismatches and labour-market disruptions (Braukša & Fadejeva, 2013). In response, substantial wage growth occurred: Latvia saw notable wage increases between 2005 and 2008, driven by competitive pressures to retain domestic workers (Hazans, 2007), and Poland experienced similar wage growth trends in sectors heavily affected by shortages (Balcerowicz, 2007; Budnik, 2009).

The selectivity of migration amplified its effects. Workers in medicine, ICT, engineering, and construction were disproportionately likely to leave, creating bottlenecks at home, while employers reported weakened innovation capacity and persistent vacancies. At the same time, emigrants often faced skills mismatches abroad, with up to 40 per cent of university graduates employed below their qualifications (Hazans, 2018). Across CEE the balance sheet was mixed: EU-wide output gains masked losses in sending states at least in the short run, while remittances mostly boosted consumption rather than investment (Holland et al., 2011; Barbone, Pietka-Kosińska & Topińska, 2012; OECD, 2006).

2.4 Labour-Market Impacts in Receiving Countries

Across the EU-15, EU-10 migrants registered high employment rates and strong labour-force participation, yet frequently entered segments of the market below their formal qualifications—especially in construction, hospitality, agriculture, and selected services (European Commission, 2011; Galgóczi & Leschke, 2012; Fihel, Kaczmarczyk, & Okólski, 2006). Evidence from the UK and Ireland documents high employment alongside occupational downgrading and lower average wages relative to natives (Currie, 2007; Voitchovsky, 2014). Model-based and descriptive analyses converge on modest, often temporary wage effects and limited displacement risks, with positive contributions to output and employment in receiving states (D'Auria, Mc Morrow, & Pichelmann, 2008; Kahanec, Zaiceva, & Zimmermann, 2009).

Benefits and adjustments were uneven within receiving countries: metropolitan regions and expanding tradable sectors absorbed EU-10 workers more readily, while peripheral areas and low-productivity sectors adjusted more slowly (European Commission, 2011; Galgóczi & Leschke, 2012).

2.5 Demographic Consequences and Long-Term Challenges

Latvia illustrates the demographic and human capital costs most starkly. Since 2000, the country has recorded among the fastest depopulation rates in the world, its population shrinking by around 18 per cent to 1.9 million. Between 2000 and 2013, approximately 259,000 Latvians emigrated without returning, with losses concentrated among the young and highly educated. By 2014, two in five Latvians with higher education under the age of 25—and more than one-third of those aged 25–34—were living abroad (Hazans, 2018). Net migration in Latvia remains deeply negative: net outflow of –4,600 was recorded in 2024 (Statistics Latvia, 2025), and it is estimated that the country's population may shrink by a further 35 per cent in the next 25 years. Lithuania experienced similar losses, though net migration turned positive in recent years (+23,140 in 2024), driven largely by arrivals from Belarus and Ukraine and by returning Lithuanian citizens (Statistics Lithuania, 2025).

Hungary followed a slightly different trajectory. Emigration accelerated after 2004 but peaked later, with particularly strong flows following the 2008 financial crisis and again after 2010, when political disillusionment became a growing driver. Highly skilled Hungarians—especially young graduates—moved in significant numbers to Germany, Austria, and the UK, often citing weak institutional trust alongside economic motives. Many accepted jobs below their qualifications, a form of "brain waste" (Szilasi et al., 2025). Net migration in Hungary is positive but modest (+4,900 in 2024), with 41,300 Hungarian citizens moving abroad and 28,900 returning (ÓIF, 2025; Hungarian Statistical Office, 2025).

In Poland, skilled mobility clustered around metropolitan centres, creating a dual pattern: large cities enjoyed net human capital gains while peripheral regions faced persistent drain (Herbst & Rok, 2016). Poland in 2024 registered positive net migration, partly due to fewer Poles leaving the country (Statistics Poland, 2025), but it recorded the EU's largest absolute population decline for the second year running, losing approximately 123,475 inhabitants in a single year (Notes from Poland, 2025).

Mass emigration intensified ageing processes, particularly in Latvia and Lithuania, with younger working-age populations disproportionately migrating abroad, resulting in higher dependency ratios and increased pressures on pension systems and public finances (Hazans, 2018).

2.6 Return Migration and Brain Circulation

Return migration has been promoted as a way to transform brain drain into brain gain. Evidence from Latvia, Lithuania, and Hungary shows that returnees bring valuable assets: international contacts, language skills, entrepreneurial ambition, and new managerial practices. Return migrants are more likely to engage in entrepreneurship than those who never left, with higher self-assessed capabilities and lower fear of failure (Fredheim, Varpina & Krumina, 2021; Varpina & Fredheim, 2022). Yet the scale of return remains too small to compensate for the magnitude of losses. In Latvia, for example, only about a quarter of emigrants return, and their profile does not mirror the groups most likely to have left.

Countries affected by these shifts implemented various measures to attract return migrants. Poland initiated targeted programmes to improve employment conditions and facilitate recognition of qualifications obtained abroad (Kaczmarczyk & Janicka, 2009; Kálmán, 2016), though effectiveness varied significantly across regions and sectors (Kaczmarczyk et al., 2020). Two levers matter most for sending countries: first, recognising soft skills and experience gained abroad reduces early unemployment spells for returnees and raises the odds of self-employment (Martin & Radu, 2012; Grabowska, 2018a); second, linking funding to local ecosystems that can absorb returnees' skills improves the odds that remittances become capital rather than consumption (OECD, 2006; Barbone et al., 2012).

Policymakers from the 2004 enlargement states recalled in interviews that return migration was simply not considered at the time. Social remittances—the skills, norms, and networks that circulate back even when diplomas are under-utilised abroad—only entered the policy conversation after the 2008–2009 financial crisis, when returns became more common (Levitt, 1998; Grabowska, 2018a; White et al., 2018).

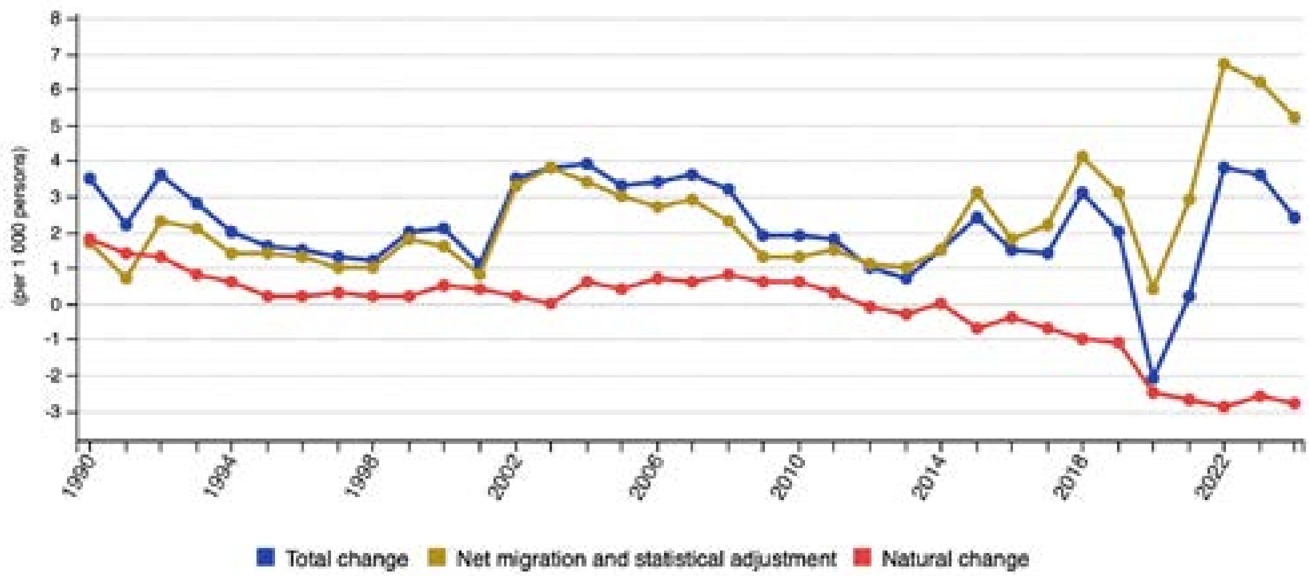
2.7 Political Knock-On Effects in Receiving Countries

While post-2004 mobility primarily generated labour-market complementarities, the political effects in receiving EU-15 countries proved more disruptive. Freedom of movement became politicised as part of wider debates over immigration, welfare, and sovereignty. Public opinion data show that migration from Central and Eastern Europe was often perceived more negatively than the macroeconomic evidence would justify (Brücker, Jahn, & Upward, 2013; Dustmann, Frattini, & Preston, 2010).

In the United Kingdom, the inflow of A8 migrants after 2004 coincided with the rise of UKIP, which linked free movement to welfare pressure and wage competition (Ford & Goodwin, 2014). In Austria, Denmark, and the Netherlands, mainstream parties adjusted their rhetoric to counter far-right challengers, contributing to a broader politicisation of intra-EU migration (Dennison & Geddes, 2019). The link between free movement and Euroscepticism is most clearly illustrated by Brexit: scholars identify the visibility of post-2004 migration, combined with narratives of "uncontrolled" borders, as a central driver of the Leave vote (Hobolt, 2016; Goodwin & Milazzo, 2017).

In Germany, where transitional restrictions delayed inflows, public opinion remained more muted until after 2011. Even then, discontent was less marked than in the UK, reflecting different institutional contexts and welfare regimes (Brücker et al., 2013). Taken together, the political record suggests that the enlargement triggered significant variation in responses across EU-15 states: where inflows were rapid and visible, they reshaped party competition and public discourse.

Population change by component (annual crude rates), EU, 1990-2024

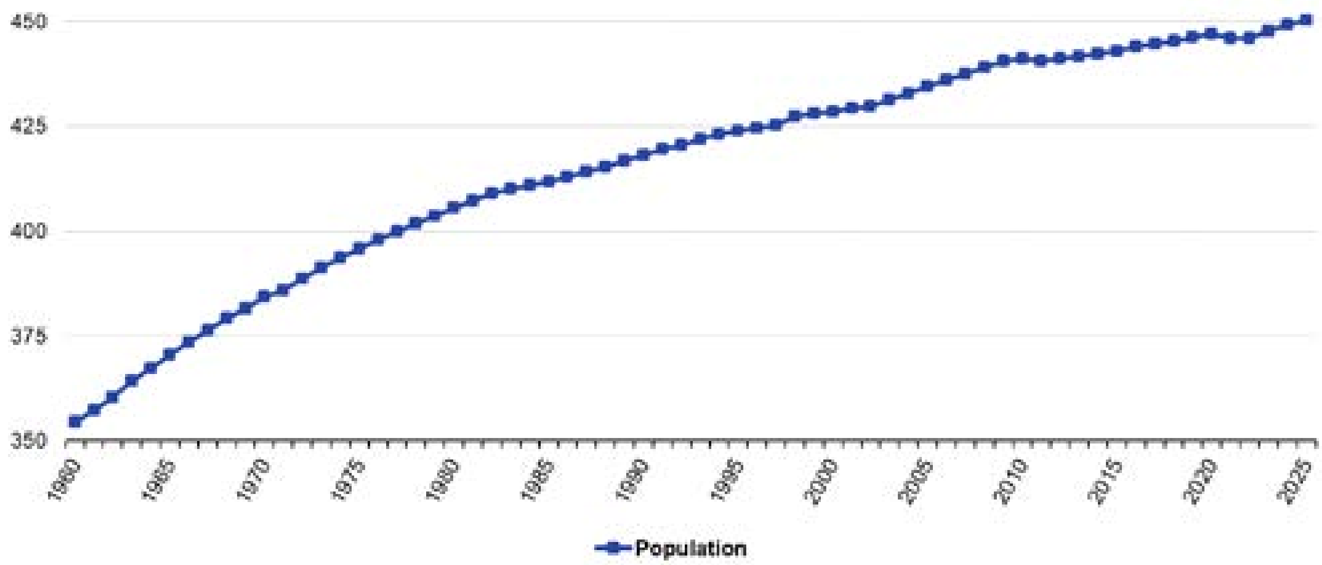


Note: Excluding French overseas departments up to and including 1997. Breaks in series: 1991, 1998, 2000-01, 2008, 2010-12, 2014, 2015, 2017, 2019, 2021-2023

2024: Eurostat estimate

Source: Eurostat (online data code: demo_gind)

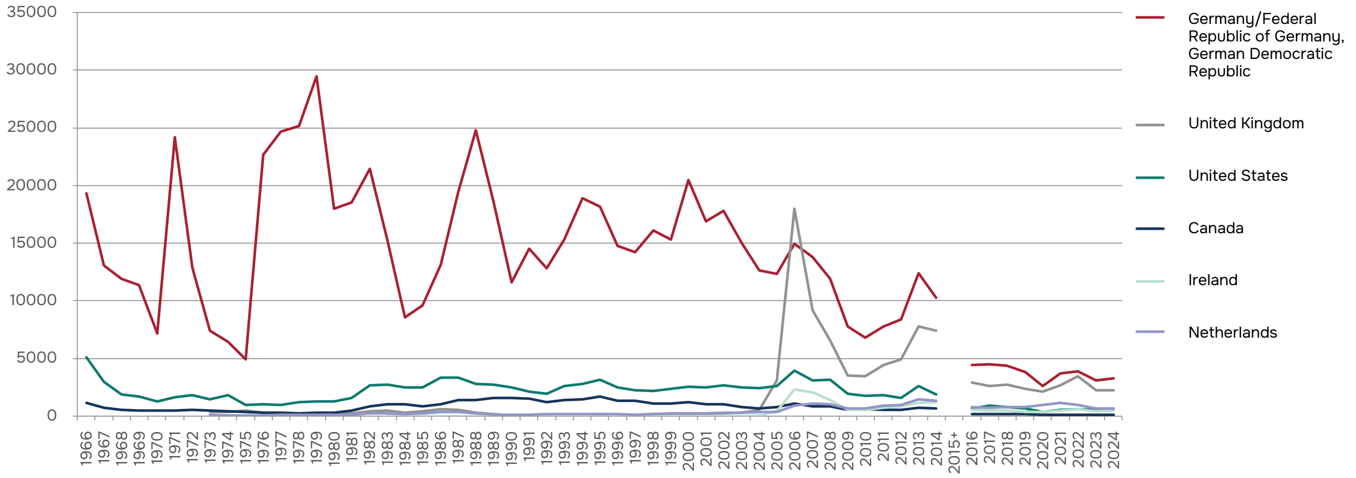
Population, EU, 1960-2025
(at 1 January, million)



Note: Excluding French overseas departments up to and including 1997. Breaks in series: 1991, 1998, 2000-01, 2008, 2010-12, 2014, 2015, 2017, 2019, 2021-2023

Source: Eurostat (online data code: demo_gind)

Main directions of emigration for permanent residence from Poland by countries in years 1966-2024 from Statistics Poland see reference above



3. Belarus in Comparative Perspective

3.1 Current Belarusian Diaspora in Neighbouring EU States

Poland, Lithuania, and Latvia all share borders with Belarus and have become key destinations for Belarusians, each hosting a long-standing diaspora that has grown substantially—first through pre-2020 labour migration and then through a large wave of political and economic migrants after the contested 2020 elections.

According to Statistics Lithuania, net migration of Belarusians has been consistently positive since the 1990s. Annual net inflows averaged a few hundred through the 2000s, but rose sharply: 934 in 2021, 1,305 in 2022, 1,938 in 2023, and a record 2,467 in 2024 (Statistics Lithuania, 2025). By early 2025, Lithuania hosted around 57,500 Belarusian residents.

Poland has seen the largest Belarusian inflows. Residence permits for Belarusians doubled after 2020, and by mid-2023, 122,000 Belarusians were registered with Poland's social insurance system. Humanitarian visas (47,000 in 2020) and Poland Business Harbour visas (approximately 90,000 issued by 2023) further illustrate the scale of post-2020 arrivals. Current estimates put the Belarusian diaspora in Poland at 100,000–150,000 people (Homel et al., 2023). Latvia hosts approximately 54,000–55,000 ethnic Belarusians, around 2.8 per cent of the population (Central Statistical Bureau of Latvia, 2024).

Together, these three countries form the core of Belarusian migration in the EU. The largest share of civic-minded Belarusians who left after 2020 reside in Poland (45%), Georgia (10%), Lithuania (8%), and Germany (6%) (Korshunau, 2023). By early 2025, approximately 360,000 residents of EU countries had been born in Belarus, equalling about four per cent of Belarus's total population, with an additional 240,000 Belarusian citizens residing in the EU (Eurostat, 2025).

3.2 What Would Be Different for Belarus—and What Would Be Similar

Belarus approaches the prospect of EU accession under conditions that differ markedly from those faced by earlier entrants in 2004. Three differences stand out.

First, remote work and transnational living are already embedded among high-skilled, non-manual workers, providing flexibility that did not exist two decades ago. These patterns are visible even in the pre-accession period and will likely expand once free movement is formally established, shaping how Belarusians connect to EU labour markets.

Second, existing migrant networks are far larger. By early 2025, Belarus's EU-based diaspora amounts to four to five per cent of the total population, with particularly dense nodes in Poland and Lithuania. By contrast, the post-Soviet Latvian diaspora in OECD countries before accession numbered only about 21,000, or one per cent of the population (Hazans, 2019). These denser structures are likely to accelerate subsequent mobility.

Third, non-economic push factors will remain strong. A large segment of the Belarusian population is employed in law enforcement and regime-linked institutions. Once the Lukashenka system collapses, many of these individuals will look for exit options. Some will move to non-EU destinations, but others will seek EU countries, adding a political and institutional dimension to post-accession migration that was less pronounced in 2004.

In terms of similarities, Belarus faces the same arithmetic of low fertility and net emigration that characterised the 2004 entrants. The pool of potential emigrants has already been partly depleted since 2020, when large numbers—particularly the highly skilled—left for destinations including Russia and Georgia; many of these may use accession as an opportunity for onward movement to EU states. Economic and educational opportunities will continue to interact with cultural and linguistic ties: wage differentials and access to higher education remain powerful drivers (Barslund, Busse & Schwarzwälder, 2015; Pszczółkowska, 2024), while cultural familiarity lowers settlement costs and shapes decisions. Varpina and Fredheim (2022) show how cultural and linguistic factors shaped Ukrainian asylum seekers' decisions to move to Latvia, even when wealthier destinations were available.

The broader lesson is that migration should not be understood only in numerical terms. Total human capital—including skills, languages, and practices—travels with migrants and circulates back through social remittances (Levitt, 1998; Grabowska & Garapich, 2016a). Without stronger institutions and policies at home, the balance of costs and gains from accession-driven migration is likely to be less favourable for Belarus than it was for the 2004 enlargement states.

4. Migration Dynamics under Accession: Scenarios and Policy Implications

4.1 Why This Accession Would Be Different

Geopolitics would dominate economics. Belarus's authoritarian legacy and proximity to Russia mean that mobility will be read as an ideological and security issue as much as a labour-market adjustment (Faist, 2016). Political narratives will track regional developments: escalation will harden opinion and policy, while de-escalation may soften them.

A Belarusian accession would likely politicise migration in a different register than 2004. Because of Belarus's long association with Russia and its authoritarian legacy, mobility would be interpreted not simply as a labour-market adjustment but as a geopolitical and ideological choice. Public debates in existing member states could frame Belarusian movers either as "Europeans seeking freedom" or, conversely, as potential carriers of instability or Russian influence. Which narrative dominates would depend heavily on concurrent events in Ukraine and Russia. If Belarus were perceived as firmly breaking from Moscow, migration might be welcomed as part of a security realignment. If uncertainty remained, populist actors could cast mobility as risky. In short, the politics of free movement would not be confined to questions of jobs or welfare, as in 2004; instead they would intertwine with security, ideology, and the EU's confrontation with Russia.

4.2 Expected Migration Dynamics

The likely pattern is a measurable but not unlimited outflow, front-loaded in the first two to four years after legal opening—driven by strong diaspora networks in Poland, Lithuania, and Latvia (Beine, Docquier, & Özden, 2011; Prieto-Curiel et al., 2023) and by labour demand in Germany (Barslund, Busse & Schwarzwälder, 2015)—and then moderating. The pool of potential movers is smaller than in 2004–07, given that many high-skilled Belarusians have already left since 2020 (Pszczółkowska, 2024).

Initial destinations will be Poland, Lithuania, and Latvia—where proximity, networks, and tailored pathways align (Okólski & Salt, 2014)—followed by Germany as a major second-stage hub. Employment rates among movers are expected to be high, with concentrations in shortage sectors such as logistics, manufacturing support, construction, care, and hospitality, alongside IT and professional services via remote or hybrid models (Kahanec, Zaiceva & Zimmermann, 2009). Short-run skills downgrading is likely where recognition and language support lag (Adserà, 2015).

Return flows will remain muted unless credible political openings emerge. Remittances will initially skew towards consumption (OECD, 2006; Barbone et al., 2012), and their developmental impact will remain limited without secure property rights and channels for productive investment (Gjini & Moisiu, 2013). Soft skills, norms, and organisational know-how will circulate through social remittances (Levitt, 1998; White et al., 2018), but weak absorptive capacity at home is the binding constraint (Williams & Baláž, 2005).

4.3 Risks to Anticipate

Political and security backlash in host states is a central risk. Belarusian migration may be framed as a Trojan horse for Russian influence, triggering stricter transitional regimes, tougher vetting, and heightened politicisation. At the origin, sectoral drain in health, construction, and IT could deepen shortages and accelerate ageing (Thaut, 2009; Hazans, 2013). Abroad, under-utilisation of skills will slow integration and reduce returns to education (Lanati & Venturini, 2021). At home, weak institutions will stall convergence, dampening investment from remittances and returnees (Goschin, 2014).

4.4 Policy Recommendations

Phased Access and Risk Management

Transitional labour-market regimes should open work rights first, while social rights and permanent residence are staged as rule-of-law milestones are verified (Aranson & Ordeshook, 1981). Security-tiered vetting must be applied proportionately to sensitive profiles, with clear appeal safeguards in place. Reversal clauses should be codified to allow snap-back options if democratic backsliding occurs.

Steering Migration Flows Productively

Skills corridors targeted at shortage occupations should include fast-track recognition pilots, bridging courses, and language vouchers to ensure efficient labour-market matching (Fihel, Kaczmarczyk, & Okólski, 2006). Remote-work compliance toolkits are needed to clarify contracts, taxation, and portability rules. Diaspora navigation hubs in Poland, Lithuania, Latvia, and Germany could serve as one-stop services to guide migrants into legal, recognised pathways and reduce skills downgrading.

Supporting Origin-Side Absorption

An EU technical assistance compact could prioritise reforms in property rights, SME finance, vocational standards, and qualification frameworks, so that Belarus can effectively use skills and capital when conditions permit. Portable EU-issued micro-credentials would accelerate hiring abroad while easing recognition on return, and civic or academic fellowships in exile would help retain human capital while de-risking politicised profiles.

Communication and Cohesion

Evidence-first messaging, supported by public dashboards on employment, tax contributions, and filled vacancies, would counter myths and misinformation (Grabowska, 2018a). Co-financing through EU/ESF+ support for municipalities with higher inflows should be earmarked for language classes, schools, and housing mediation, pre-empting pinch points that risk politicisation.

Actors and Instruments

For EU institutions, it may be valuable to link future mobility rights to verifiable rule-of-law benchmarks, ensuring that steps forward are gradual and anchored in broader reforms. EU support could also fund digital credentialing systems, pilot frameworks for governing remote work, and establish a Belarus Mobility Observatory to track migration flows, labour outcomes, and emerging narratives (Engbersen et al., 2017). For Member States—particularly Poland, Lithuania, Latvia, and Germany—there is scope to explore Belarus Talent Pass schemes in shortage fields, light-touch skills screening with bridging opportunities, and coordinated approaches to security vetting to avoid fragmentation (D'Auria, Mc Morrow & Pichelmann, 2008). For a future reform-minded Belarusian government, priorities could include safeguarding remittance-funded SMEs, recognising EU-issued micro-credentials on return, and experimenting with sectoral compacts in health and STEM that combine wage support with housing or reintegration assistance (Grabowska, 2018a).

5. Conclusion

If Belarus were to join the European Union, migration would become one of the most visible and contested aspects of accession. Early indicators will matter: how many applications convert into permits in Poland, Lithuania, Latvia, and Germany; whether shortages in construction, care, health, logistics, and IT begin to ease; and how many newcomers rely on remote contracts rather than local employment. The tone of media coverage and the fortunes of far-right parties will show how quickly mobility becomes politicised, while the registration of new businesses by Belarusians abroad may hint at longer-term circulation and reintegration prospects.

The lesson from earlier enlargements is that migration cannot be understood in numbers alone. It shifts human capital, redistributes skills and values, and reshapes political narratives. For Belarus, these dynamics will be amplified by geopolitics. Labour-market fundamentals suggest that host countries would benefit from complementary skills, high employment rates, and the easing of bottlenecks. Yet the framing of Belarusian migration will rarely be economic. Instead, mobility is likely to be interpreted through the lens of Russia and Ukraine, with security concerns, trust questions, and ideological divides looming larger than jobs or welfare.

Return is unlikely to feature strongly unless there is a credible political opening at home. Skilled Belarusians may be particularly reluctant to return to a repressive or unstable system, prolonging the outflow of talent. Remittances will continue, but their developmental effect will remain limited if property rights are weak and opportunities for productive reinvestment scarce.

Compared to earlier candidates, Belarus stands further from EU institutional norms. This makes safeguards and conditionalities essential. Any liberalisation of migration will need to be phased, with work rights preceding social and political rights, and accompanied by mechanisms for monitoring and reversal if democratic backsliding occurs.

Above all, Belarusian accession would not be a purely economic adjustment. It would be a foreign policy flashpoint at the intersection of migration, security, and geopolitics. Whether the balance tips towards opportunity or strain will depend not only on how many people move, but on the institutions, safeguards, and narratives that accompany them.

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Aligning Belarusian economy with the European Green Deal

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October 2025

Co-funded by
the European Union

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List of abbreviations

AFIR – Alternative Fuels Infrastructure Regulation

BAT – Best Available Techniques

BREF – BAT Reference Document

BSCE – Belarusian Currency and Stock Exchange

CAP – Common Agricultural Policy

CCUS – Carbon Capture, Utilisation and Storage

CEF – Connecting Europe Facility

COM – European Commission Communication

CO_2 – Carbon Dioxide

CSRD – Corporate Sustainability Reporting Directive

EAEU – Eurasian Economic Union

EBRD – European Bank for Reconstruction and Development

EC – European Commission

EED – Energy Efficiency Directive

EGD – European Green Deal

EIB – European Investment Bank

ENTSO-E – European Network of Transmission System Operators for Electricity

EPBD – Energy Performance of Buildings Directive

ESG – Environmental, Social and Governance

ESRS – European Sustainability Reporting Standards

ETS – EU Emissions Trading System

ETS 2 – EU Emissions Trading System for Buildings and Road Transport (from 2027)

EU – European Union

EV – Electric Vehicle

FAO – Food and Agriculture Organization of the United Nations

FQD – Fuel Quality Directive

GEF - Global Environmental Facility

GHG – Greenhouse Gas

GoOs – Guarantees of Origin

HDV – Heavy-Duty Vehicle

ICE – Internal Combustion Engine

IED 2.0 – Industrial and Livestock Rearing Emissions Directive

IEA – International Energy Agency

IFC – International Finance Corporation

IFOAM – International Federation of Organic Agriculture Movements

IPARD – Instrument for Pre-Accession Assistance in Rural Development

IRENA – International Renewable Energy Agency

LCP – Large Combustion Plant

LDV – Light-Duty Vehicle

LIFE – EU Programme for Environment & Climate Action

LULUCF – Land Use, Land-Use Change and Forestry

Mtoe – Million Tonnes of Oil Equivalent

MRV – Monitoring, Reporting and Verification

NDICI – Neighbourhood, Development and International Cooperation Instrument (EU)

N_2O – Nitrous Oxide

PV – Photovoltaics

RED – Renewable Energy Directive

TED – Tenders Electronic Daily (EU public procurement portal)

UNDP – United Nations Development Programme

VAT – Value-Added Tax

1. Introduction

The prospect of Belarus' integration into the European Union (EU) raises fundamental questions about the alignment of its economy with the EU's increasingly ambitious environmental and climate policy framework. Since 2019, the EU has advanced a comprehensive agenda under the European Green Deal[1] (EGD), supported by extensive legislative reforms aimed at delivering climate neutrality by 2050. These initiatives have tightened emissions caps, set ambitious renewable energy deployment targets, strengthened energy efficiency obligations, and expanded sustainability reporting requirements. For countries aspiring to join the Union, this acquis represents not only an environmental benchmark but also a demanding entry condition that directly shapes their economic models, investment priorities, and regulatory institutions.

Following the adoption of the revised enlargement methodology[2], the EU acquis is structured around six thematic clusters. For Belarus, the cluster on the Green Agenda and Sustainable Connectivity – which includes the acquis on transport policy, energy, trans-European networks, environment, and climate change – would represent one of the most challenging yet strategically important areas of alignment. Unlike countries already integrated through the Energy Community framework, Belarus remains outside EU-linked energy governance structures and has only limited experience with legislative approximation in this cluster. Progress to date has been uneven: while steps have been taken to diversify the energy mix and promote energy conservation, many core elements of the acquis – such as carbon pricing, renewable energy guarantees of origin, best available techniques in industry, and clean vehicle procurement – are absent or only partially developed.

The aim of this report is therefore twofold. First, it seeks to identify EU energy and climate regulations, particularly those stemming from the European Green Deal, most relevant for Belarus' key economic sectors. Second, it assesses the readiness of Belarus to comply with these regulations and the potential impacts that such harmonisation would entail. By combining regulatory mapping with sectoral impact analysis, the report offers a structured basis for understanding both the challenges and the opportunities of EU integration for the Belarusian economy.

The scope of the analysis is energy-relevant EU environmental legislation and its implications across the five largest sectors of the Belarusian economy: agriculture, manufacturing, electricity, gas, steam and air conditioning supply, construction, and transport. These sectors are both economically significant and highly exposed to EU rules on emissions, efficiency, and sustainability. While other important areas of the acquis – such as waste management and biodiversity – also warrant attention, they fall outside the scope of this report.

The report is organised into six sections. Section 2 introduces the European Green Deal and the key energy–environmental legislation most relevant for Belarus, ranging from the EU Emissions Trading System and the Renewable Energy Directive to the Energy Performance of Buildings Directive and CO2 standards for vehicles. Section 3 compares the EU legislation with Belarus' current energy–environmental legislation and identifies the main institutional, legal, technical, and capacity gaps that would need to be closed to achieve harmonisation. Section 4 assesses economic impacts of harmonisation at the sectoral level, focusing on cost structures, trade opportunities, technological transitions, and access to EU funding. Section 5 explores Belarus' broader potential for low-carbon development, including renewable energy expansion, energy efficiency, transport electrification, and nuclear safety alignment. Section 6 concludes with reflections on the broader developmental implications of accession, highlighting both the scale of the challenge and the potential long-term benefits in terms of competitiveness, sustainability, and economic modernisation.

2. Key legislation under the European Green Deal relevant for Belarus

2.1 European Green Deal: A brief overview

Adopted in 2019, the European Green Deal[1] (EGD) is the EU's overarching growth strategy to achieve climate neutrality by 2050. It sets out a comprehensive framework of legislative, financial, and governance measures to transform the EU's economy while ensuring fairness and competitiveness. Building on the "Fit for 55" package[3] and subsequent policies, the EGD strengthens targets for emissions reductions, renewable energy deployment, energy efficiency, and sustainable mobility. It also broadens the scope of environmental law by linking climate action with industrial policy, biodiversity protection, and social justice. For prospective members such as Belarus, the Green Deal defines the benchmark for accession, requiring harmonisation across a wide set of sectoral and cross-sectoral regulations that are central to the EU's low-carbon transition.

2.2 Key energy-environmental legislation under the EGD

Given Belarus' economic structure and the need to align with the EU acquis as part of prospective integration into the European Union, the core energy-environmental legislation introduced or reinforced under the EGD represents the most relevant benchmark for assessing the scope and depth of required harmonisation. Table 1 summarises these regulations and directives, which are discussed in greater detail below.

EU Emissions Trading System (ETS)

The EU Emissions Trading System (ETS) is the cornerstone of European climate policy as well as the world's first and one of the largest carbon market. Launched in 2005[4], it operates on a "cap-and-trade" principle: a cap is set on total greenhouse gas (GHG) emissions from covered sectors, which account for roughly 40% of total EU emissions. Companies must monitor and report their emissions annually and surrender a corresponding number of allowances, each representing the right to emit one tonne of CO_2-equivalent. Allowances are largely auctioned, but some are allocated for free under strict conditions. They are tradable on the EU carbon market, where prices provide an incentive for cost-effective emission reductions. Member States use the revenues from this trade for climate action, innovation, and just transition measures.

Under the EGD, the ETS Directive was revised in 2023[5], substantially strengthening the system to align it with the EU climate targets of reducing its net GHG emissions by at least 55% by 2030, compared to 1990 levels, and achieving climate neutrality by 2050. The emissions cap will now decline faster, delivering a 62% cut in covered sector emissions by 2030 compared to 2005. Maritime shipping was added in 2024, free allocation of allowances is being phased out, and a new ETS 2[6] will cover emissions from buildings and road transport starting from 2027. The reforms also expanded the Market Stability Reserve to manage allowance supply and created the Social Climate Fund[7] to mitigate social impacts of carbon pricing on vulnerable households and small businesses.

Renewable Energy Directive (RED III)

The Renewable Energy Directive (RED) is the central instrument for scaling up renewable energy across the European Union, which sets binding EU-wide renewable energy targets and supports cooperation between Member States. Renewable energy is a central pillar of the EGD, seen as a reliable and affordable energy source that also reduces dependence on external suppliers and therefore increases the EU's energy security. To accelerate the clean energy transition, reflecting the urgency of the climate and energy security crises, the 2018 RED II[8] was revised in 2023, with the amending RED III[9] entering into force on 20 November 2023. Building on the 2009 (RED I[10]) and 2018 (RED II) directives, RED III introduces stronger measures to accelerate the deployment of renewables in line with the EU's goal of climate neutrality by 2050. It sets a new headline target for renewables to account for at least 42.5% of the EU's final energy consumption by 2030, with an aspirational goal of 45%. To address existing bottlenecks, RED III streamlines permitting procedures, including the designation of "renewables acceleration areas" where approval times for renewable projects and related infrastructure are significantly shortened.

Energy Efficiency Directive (EED)

The 2023 Energy Efficiency Directive[11] significantly raises the EU's ambition by establishing the principle of "energy efficiency first" as a legal principle guiding investment and policymaking, both in the energy system and across other sectors. The 2023 revision, part of the EGD and strengthened further through the REPowerEU plan[12], sets a binding target of reducing EU energy consumption by 11.7% by 2030 compared to projected use in the 2020 reference scenario, with overall primary energy use capped at 992.5 Mtoe and final energy at 763 Mtoe. The EED also updates efficiency standards for district heating and cooling with the aim of achieving full decarbonisation of these systems by 2050 and introduces mandatory monitoring of data centres to track energy and water use.

Energy Performance of Buildings Directive (EPBD)

The Energy Performance of Buildings Directive (EPBD), first adopted in 2002[13] and most recently revised as Directive (EU) 2024/1275[14], followed by reforms under the 'Fit for 55' package and the REPowerEU plan, which made building renovation central to the EU's climate, social, and energy security goals, is the EU's key legislative instrument for improving the efficiency and decarbonisation of the building stock. The revised EPBD aims to deliver a zero-emission and fully decarbonised building stock by 2050. It strengthens minimum energy performance standards, prioritises the renovation of worst-performing buildings, and introduces new tools such as digital building logbooks and renovation passports. The directive also supports integration of renewable energy in buildings, modernisation of heating and cooling systems, and improved financing and technical assistance, thereby reducing energy bills, creating jobs in the construction sector, and improving living conditions across the EU.

Industrial and Livestock Rearing Emissions Directive (IED 2.0)

Originally adopted in 2010[15], the amended Industrial and Livestock Rearing Emissions Directive (IED) is the EU's main instrument for reducing industrial and intensive livestock pollution to air, water, and land. It regulates pollution from large industrial installations through permits based on Best Available Techniques (BAT)[16]. The 2024 updated IED 2.0[17] aligns with the EU's zero-pollution ambition by tightening emission limit values, expanding coverage to new sectors (such as battery manufacturing, metal mining, and more intensive pig and poultry farms), and strengthening enforcement through higher penalties and expanded public rights, including the ability to claim compensation for health damages. Special provisions also continue to apply to Large Combustion Plants (LCPs), reflecting their role in pollutant emissions. Overall, IED 2.0 not only tightens compliance for traditional heavy industries but also broadens EU oversight to intensive farming and new industrial activities, ensuring a more comprehensive approach to reducing pollution and stimulating industrial decarbonisation.

Alternative Fuels Infrastructure Regulation (AFIR)

The Alternative Fuels Infrastructure Regulation[18] (AFIR) is a central element of the EGD's strategy for transport decarbonisation and electrification. Its objective is to ensure the EU-wide roll-out of charging and refuelling infrastructure, while guaranteeing interoperability, consumer transparency, and ease of use. AFIR establishes binding national targets for both fleet-based and distance-based installation of publicly accessible charging stations for light- and heavy-duty electric vehicles, alongside mandatory development of hydrogen refuelling stations and shore-side electricity supply in major maritime ports and airports. To enhance user-friendliness, it also requires transparent pricing, smart charging, and simple payment systems. By harmonising infrastructure standards, AFIR seeks to accelerate the widespread adoption of alternative fuel vehicles across all transport modes in the EU, thereby supporting the achievement of the Union's climate objectives.

Clean Vehicles Directive

The Clean Vehicles Directive (2019/1161/EU)[19] predates the EGD but remains highly relevant to its objectives. It promotes the uptake of low- and zero-emission vehicles by setting binding public procurement targets across Member States, requiring that cars, vans, trucks, and buses acquired through public contracts meet minimum thresholds for “clean vehicles,” defined by strict CO_2 and pollutant limits. The directive applies to a wide range of public service contracts, including road transport, refuse collection, postal delivery, and other municipal services, with compliance monitored via the EU’s Tender Electronic Database (TED) to ensure transparency and consistency. By mandating demand through public procurement, the directive creates market certainty for manufacturers and accelerates the deployment of clean mobility solutions across Europe. For Belarus, alignment would necessitate restructuring procurement policies and financing mechanisms to support fleet renewal, creating both new challenges and opportunities to participate in the EU’s clean mobility supply chains.

Fuel Quality Directive (FQD)

The Fuel Quality Directive (FQD, 2009/30/EC)20 sets common fuel quality standards across the EU for petrol, diesel, and biofuels used in road transport, as well as gasoil for non-road mobile machinery. Its purpose is twofold: to reduce air pollution and greenhouse gas emissions from fuels, and to ensure compatibility of fuels across all EU Member States, creating a single market for road fuels. The directive imposes strict limits on harmful fuel components such as sulphur, lead, manganese, aromatics, and polycyclic aromatic hydrocarbons, while regulating the blending of biofuels. Originally, the FQD also required a 6% reduction in the greenhouse gas intensity of transport fuels by 2020, but this target has since been absorbed into the RED III9, which now sets the EU’s 2030 transport decarbonisation goals. Member States must still monitor and report on fuel quality and composition to ensure compliance.

CO_2 Emission Standards for Vehicles

The EU vehicle CO_2 standards (Regulations 2019/631[21] and 2019/1242[22]) were strengthened under the Green Deal through Regulation 2023/851[23], tightening the 2030 reduction targets and introducing a 100% CO_2 reduction requirement for all new cars and vans from 2035, effectively phasing out internal combustion engine (ICE) vehicles. Manufacturers that fail to comply face significant penalties. The Regulation is designed not only to cut emissions in line with the European Climate Law[24], but also to spur innovation in zero-emission technologies, strengthen EU competitiveness in the automotive sector, and deliver cleaner, more affordable mobility for citizens.

Corporate Sustainability Reporting Directive (CSRD)

Adopted in 2022, the Corporate Sustainability Reporting Directive[25] introduces mandatory sustainability reporting for large and listed companies, using detailed EU Sustainability Reporting Standards (ESRS). Companies must disclose their climate risks, transition plans, and environmental, social, and governance (ESG) impacts. By introducing uniform and detailed reporting rules, the CSRD strengthens transparency, comparability, and accountability across EU markets and complements the EGD’s objectives. Importantly, its scope also extends to non-EU companies with significant activity in the EU market.

Table 1. Summary of the key legislation under the European Green Deal relevant for Belarus' integration

Legislation	Summary
EU Emissions Trading System (ETS, Directive (EU) 2023/959)	Market-based mechanism that caps CO_2 emissions from energy-intensive sectors and allows trading of emission allowances. Central to EU climate policy.
Renewable Energy Directive (RED III, Directive (EU) 2023/2413)	Sets binding renewable energy targets across sectors (electricity, heating, transport); introduces hydrogen and industrial renewable benchmarks.
Energy Efficiency Directive (EED, Directive (EU) 2023/1791)	Introduces binding national contributions to energy savings and mandates "energy efficiency first" across policy and investment decisions.
Energy Performance of Buildings Directive (EPBD, Directive (EU) 2024/1275)	Mandates higher energy performance standards for buildings, including zero-emission buildings and renovation targets.
Industrial and Livestock Rearing Emissions Directive (IED 2.0, Directive (EU) 2024/1785)	Requires permits and emission limits based on Best Available Techniques (BAT) for large industrial installations. The 2024 update tightens standards and expands scope.
Alternative Fuels Infrastructure Regulation (AFIR, Regulation (EU) 2023/1804)	Sets binding targets for the deployment of EV charging and alternative fuel infrastructure along key transport corridors.
Clean Vehicles Directive (Directive (EU) 2019/1161)	Requires public authorities to purchase a minimum share of clean, low-emission vehicles for public transport fleets.
Fuel Quality Directive (FQD, 2009/30/EC)	Sets fuel quality standards and mandates reduction in lifecycle GHG intensity of transport fuels.
CO_2 Emission Standards for Vehicles (Regulation (EU) 2023/851)	Sets fleet-wide CO_2 reduction targets for cars, vans, and heavy-duty vehicles to reduce road transport emissions.
Corporate Sustainability Reporting Directive (CSRD, Directive (EU) 2022/2464)	Requires large and listed companies to disclose detailed sustainability (ESG) data using the EU's reporting standards (ESRS).

3. Gaps between European Green Deal requirements and Belarus legislation and practices

While most policy areas covered by the ten core EU energy and environmental regulations are to some extent addressed in Belarusian law and state strategies, substantial institutional, legal, technical, and capacity gaps remain. These gaps reflect both differences in policy ambition and the absence of enforcement mechanisms comparable to those established in the EU. In particular, Belarus lacks comprehensive regulatory frameworks for carbon pricing, large-scale renewable energy integration, and energy performance in buildings; its environmental permitting and transport decarbonisation systems also remain at early stages of development.

Addressing these gaps would require not only new legislation but also the establishment of independent regulatory bodies, reliable monitoring and reporting systems, and enhanced administrative and technical capacity. The following sub-sections outline the main discrepancies between Belarusian practices and the EU acquis in each policy area. Table 2 summarises the key types of gaps – institutional, legal, technical, and capacity-related – identified across the key European Green Deal legislation.

3.1 Carbon market

Belarus currently does not have a fully operational carbon pricing framework, although the issue of carbon trading has received growing attention in recent years[26]. In 2025, the Belarusian Currency and Stock Exchange (BSCE) and the Ministry of Natural Resources signed a cooperation agreement aimed at developing mechanisms for green finance and carbon trading, including the creation of a trading platform to account for and exchange greenhouse gas emission quotas under a prospective national system[27]. While this initiative represents an initial step toward establishing a domestic carbon market, the framework remains at an early stage of development. Full alignment with the EU ETS would require the establishment of a dedicated carbon market authority, the adoption of comprehensive carbon pricing legislation, and the introduction of robust monitoring, reporting, and verification (MRV) systems across power generation, cement, chemicals, refining, and transport. Institutional capacity constraints and underdeveloped infrastructure present major challenges.

3.2 Renewable energy

Belarus has ratified key international climate agreements, adopted a national Green Economy Action Plan (2021–2025)[28], and increased solar and wind power installed capacity from 13 MW in 2014 to almost 400 MW in 2024[29]. However, the share of modern renewables in Belarus' final energy consumption still accounts for less than 10% and in electricity generation – about 3%[30]. Alignment with RED III[9] would therefore require a major scale-up of renewable energy deployment well beyond current levels, reform of grid infrastructure and permitting systems, and upgrading the existing certificate-of-origin scheme under the Law on Renewable Energy Sources[31] to align with the EU's Guarantees of Origin (GoOs). At the same time, compliance with RED III would offer opportunities for Belarus to reduce reliance on imported fossil fuels, strengthen its energy security, and access EU financial and technical support for the clean energy transition.

3.3 Energy efficiency

Belarusian energy efficiency policy is guided by a solid regulatory foundation, including the Law on Energy Saving, numerous government decrees, and the State Energy Saving Program (2021–2025)[32], which targets an 8% share of renewables in gross energy consumption by 2025 and a 7% reduction in GDP energy intensity compared to 2020 levels. The state concept for the Energy Saving Program for 2026–2030[33] emphasises reducing dependence on imported fuels and expanding the use of domestic energy resources, including electricity from the Belarusian nuclear power plant. In the building sector, Presidential Decree No. 327 (2019)[34] and related regulations promote energy-efficient construction and provide incentives for citizens to improve insulation and heating efficiency. The energy efficiency classes of buildings are regulated by several national technical standards[35]. New housing stock is considerably more efficient than that built before 1996, and national programs envisage further use of biomass, heat pumps, and solar technologies in the residential and communal sectors.

At the same time, Belarus' energy performance framework for buildings appears to rely primarily on technical design standards and efficiency indicators, rather than binding renovation targets or decarbonisation goals. In contrast, the EU's EED[11] and EPBD[14] require legally binding national energy savings targets, annual renovation rates, and the gradual transformation of the national building stock into a zero-emission stock by 2050. Therefore, alignment with these directives would likely involve strengthening monitoring and verification systems, introducing long-term renovation planning, and developing mechanisms to track and certify energy performance more systematically. For Belarus, alignment would imply large-scale renovation programs, stricter codes, and new certification systems.

3.4 Industry and agriculture

Belarus' industrial and agricultural sectors together account for a large share of national greenhouse gas (GHG) emissions, with agriculture alone contributing around 23.6% of total emissions in 2022 (excluding LULUCF)[36]. The country's agricultural policy focuses primarily on increasing production volumes, which can lead to rising emissions, though several measures have been introduced to mitigate this trend. These include improving energy efficiency in farming, using renewable energy sources such as biogas from agricultural waste, and developing the legal and institutional basis for organic farming, which is regulated under the 2018 Law on the Production and Circulation of Organic Products[37]. Organic farming in Belarus is still at an early stage but offers notable potential for reducing GHG emissions through soil carbon retention, reduced use of synthetic fertilisers, and integrated crop–livestock systems. The State Programme "Agrarian Business" (2021–2025)[38] also promotes resource-efficient technologies and the sustainable use of agricultural land, while future initiatives aim to align organic certification systems with international standards such as IFOAM[39].

At the same time, industrial and livestock emissions remain insufficiently regulated. Environmental authorities are under-resourced, and there is no permitting regime based on Best Available Techniques (BAT) comparable to that required under the EU Industrial and Livestock Rearing Emissions Directive (IED 2.0)[17]. Belarus lacks technical systems for applying BAT reference documents (BREFs), automated emissions reporting, and systematic monitoring of large livestock farms, where emissions controls are minimal. Aligning with the IED 2.0 would therefore require modernising the country's industrial permitting framework, developing sector-specific emission benchmarks, strengthening environmental inspection capacity, and expanding oversight to intensive livestock farms. While Belarus has taken initial steps toward improving efficiency and environmental management in both agriculture and industry, achieving full compliance with EU environmental standards would demand substantial institutional, legal, and technical reform.

3.5 Transport

Belarus has taken notable steps toward promoting electromobility and cleaner transport, supported by a series of presidential decrees and government programmes. The first incentives were introduced in 2018 through Presidential Decree No. 273 "On Stimulating the Use of Electric Vehicles"[40], later replaced and expanded by Decree No. 92 of 12 March 2020[41] and amended by Decree No. 447 of 22 November 2021[42]. These acts provide a wide range of fiscal and administrative incentives, including exemption from customs duties, value-added tax (VAT), and transport tax on electric vehicles; reimbursement of VAT for individual buyers; preferential credit terms; investment deductions for legal entities; and government procurement preferences for electric vehicles. Complementary measures were adopted to stimulate domestic production and infrastructure. The Programme for the Development of Electric Transport (2021–2025)[43] aims to support the design and manufacture of electric vehicles and components, alongside the rollout of a national charging network[44]. These initiatives have facilitated steady growth in the sector: the number of electric vehicles increased from around 1,000 in 2020 to approximately 24,000 by the end of 2024, with projections of up to 100,000 EVs by 2027[45]. The number of charging stations expanded from roughly 250 in 2020 to 1,200 by 2024 and is expected to exceed 2,800 by 2028.

Despite this progress, Belarus still lacks an overarching legal framework or coordinating authority for transport electrification, as well as binding national targets for alternative fuels infrastructure. Technical standards, a unified EV charging database, and grid-readiness planning remain under development. Alignment with the AFIR[18] would require establishing a comprehensive institutional and legal basis, introducing standardisation protocols, developing hydrogen refuelling capacity along major transport corridors, and modernising airport and port facilities to provide shore-side and ground power supply.

Similarly, there is no binding requirement for public procurement of low- or zero-emission vehicles and no centralised monitoring of municipal fleets. Local governments face financial and technical constraints in renewing vehicle stock. Bringing Belarusian policy closer to the Clean Vehicles Directive[19] would thus require establishing procurement thresholds and introducing transparent reporting systems.

Fuel standards are regulated domestically, but national norms do not yet fully align with the Fuel Quality Directive[20], which sets limits on sulphur, aromatics, and lifecycle greenhouse gas emissions. Systems for verifying and reporting fuel GHG intensity remain limited, and refineries would need to modernise operations to meet EU blending and sustainability requirements.

Finally, there is no emissions testing regime in Belarus comparable to the EU's, and vehicle import and taxation policies are not yet linked to CO_2 performance. Full alignment with CO_2 emission performance standards for vehicles[23] would therefore require creating certification and testing capacities, reforming import and excise frameworks, and continuing investment in charging infrastructure to support the gradual electrification of transport.

3.6 Corporate sustainability reporting

Belarus has begun developing frameworks for non-financial and sustainability reporting within the broader concept of sustainable development, as outlined in the National Sustainable Development Strategy until 2035[46] and the State Programme for Public Finance Management[47]. These initiatives aim to improve corporate disclosure on environmental, social, and governance (ESG) aspects, reflecting a growing recognition of corporate responsibility. However, the adoption of ESG practices remains uneven and largely voluntary. They are mainly applied by enterprises engaged with international partners or financial institutions, while many domestic companies – especially small and medium-sized enterprises – lack the awareness, capacity, and incentives to implement structured ESG reporting. The absence of a legal requirement for sustainability reporting, a national supervisory authority, and a digital reporting infrastructure further limits progress. In this context, alignment with the Corporate Sustainability Reporting Directive[25] (CSRD, Directive 2022/2464/EU) would require Belarus to introduce binding disclosure rules, develop standardised reporting formats based on EU Sustainability Reporting Standards (ESRS), and build institutional and professional capacity for ESG data collection, verification, and external assurance.

3.7 Summary

Overall, Belarus has made measurable progress in improving its environmental and energy policy frameworks – particularly in renewable energy deployment, energy efficiency, and the promotion of electromobility. However, the gap between current practices and the European Green Deal acquis remains wide, especially in terms of enforcement, institutional independence, and technical capacity.

Bridging this gap would require a comprehensive regulatory overhaul, including the establishment of independent authorities for carbon pricing and energy efficiency, harmonisation of building and industrial standards with EU norms, and stronger data systems for emissions, energy use, and corporate sustainability. The process of alignment could, however, generate significant co-benefits: enhanced energy security, improved competitiveness, access to EU financing mechanisms, and the gradual integration of Belarusian industries into European clean technology and sustainability value chains.

Table 2. Summary of gaps between Belarusian and EU Green Deal legislation

Legislation	Institutional gap	Legal gap	Technical gap	Capacity gap
ETS (EU Emissions Trading System)	No dedicated carbon market authority or registry	No carbon pricing law or emissions trading legislation	No MRV (Monitoring, Reporting, Verification) protocols or emissions registry	Limited expertise in emissions trading; underdeveloped compliance infrastructure
RED III (Renewable Energy Directive)	No central authority coordinating renewable energy targets or cross-sector integration	Certificate-of-origin scheme not aligned with EU Guarantees of Origin (GoOs) system	Grid integration challenges for modern RES; insufficient tracking of RES share in heating and transport	Limited administrative capacity for RES auctions, permitting, and support schemes

Legislation	Institutional gap	Legal gap	Technical gap	Capacity gap
EED (Energy Efficiency Directive)	Minimal gap. Dedicated state agency for energy efficiency	Energy saving goals are established and enforced but should be harmonised with the EU targets and methodologies	Industrial and municipal practices remain energy-intensive and inefficient, necessitating technology transfer to achieve EU-level performance	Minimal gap. Relatively high capacity and experience among government and industry experts
EPBD (Energy Performance of Buildings Directive)	Municipal authorities lack technical support in renovation planning and implementation	Building codes do not reflect zero-emission standards	Limited availability of data on building energy performance	Minimal gap. Relatively high capacity and experience among government and industry experts
IED 2.0 (Industrial and Livestock Emissions Directive)	Environmental control agencies under-resourced; fragmented institutional oversight	Absence of BAT-based permitting regime; limited access to justice and compensation for health damages from environmental violations	Low automation of emissions data	Minimal control of intensive livestock farms
AFIR (Alternative Fuels Infrastructure Regulation)	No coordinating authority or strategic plan for nationwide EV & alternative fuels infrastructure	No binding legal mandates or national targets for EV charging, hydrogen refuelling, or shoreside supply	Weak grid readiness; no unified EV charging database	Weak private-public partnerships
Clean Vehicles Directive	No institutional body responsible for enforcing clean procurement in public fleets	No legal obligation for public authorities to procure low- or zero-emission vehicles	No central tracking of fleet greening	Limited municipal capacity and funding for vehicle fleet renewal

Legislation	Institutional gap	Legal gap	Technical gap	Capacity gap
FQD (Fuel Quality Directive)	No single national authority dedicated to lifecycle GHG tracking	No legal requirement for lifecycle GHG intensity reduction in fuels	Limited capacity for verification and reporting of fuel GHG intensity; absence of harmonised biofuel blending rules	Limited experience with EU-level sustainability certification and reporting procedures
CO2 Emission Standards for Vehicles	Type-approval and emissions testing integrated within the EAEU framework, not fully aligned with EU CO2 performance regulation	No adoption of EU-based CO2 reduction targets for light- and heavy-duty vehicles	No adoption of EU-based CO2 reduction targets for light- and heavy-duty vehicles	Limited experience with CO2-based compliance and lifecycle emissions analysis
CSRD (Corporate Sustainability Reporting Directive)	No designated supervisory or assurance body for sustainability reporting	ESG disclosure not mandatory; no reporting standards or metrics	No digital infrastructure for data collection or audit verification	Low ESG awareness among firms; shortage of trained auditors and consultants

4. Potential impacts on Belarus economy of harmonisation with the European Green Deal

Adopting the EU Green Deal (EGD) acquis would have uneven implications for Belarus' main economic sectors, reflecting differences in their energy intensity, trade orientation, and regulatory exposure. The country's economy remains dominated by manufacturing (≈25% of GDP), followed by agriculture (≈7.8%)[1], transport (≈8%), construction (≈7%), and electricity, gas, steam, and air-conditioning supply (≈4%). Given their high energy consumption and strong export orientation, these sectors would face the most immediate pressures to align with EU energy, climate, and environmental legislation.

This section assesses the economic impacts of harmonisation at the sectoral level, focusing on cost structures, trade opportunities, technological transitions, and access to EU financial and technical support. A systematic mapping of the EGD legislation shows that several core EU regulations and directives, including the EU Emissions Trading System (ETS), Renewable Energy Directive (RED III), Industrial and Livestock Rearing Emissions Directive (IED 2.0), Energy Efficiency and Energy Performance of Buildings Directives (EED and EPBD), Alternative Fuels Infrastructure Regulation (AFIR), and Corporate Sustainability Reporting Directive (CSRD), would directly or indirectly affect these sectors. Table 3 summarises the key EU Green Deal regulations and directives[2] most relevant to Belarus' five largest economic sectors. The following subsections analyse the sectoral implications in greater detail.

Table 3. Key EU Green Deal legislation relevant to Belarus' main economic sectors

Sector	Key EGD legislation
Crop and Animal Production, Hunting and Related Service Activities (7.8%)	- Industrial and Livestock Rearing Emissions Directive (IED 2.0 2024/1785/EU) - Renewable Energy Directive (RED III 2023/2413/EU) - EU Emissions Trading System (ETS) - Corporate Sustainability Reporting Directive (CSRD 2022/2464/EU)

[1] 6.1% according to the President's Administration

[2] Only legislation directly related to energy, climate, and environmental performance has been retained, while broader EU sectoral directives (e.g., on waste, water, or biodiversity) fall outside the scope of this analysis.

Sector	Key EGD legislation
Manufacturing (24.9%)	- EU Emissions Trading System (ETS) - Industrial and Livestock Rearing Emissions Directive (IED 2.0 2024/1785/EU) - Energy Efficiency Directive (EED 2023/1791/EU) - Fuel Quality Directive (2009/30/EC) - Corporate Sustainability Reporting Directive (CSRD 2022/2464/EU)
Electricity, Gas, Steam & Air Conditioning Supply (4.1%)	- EU Emissions Trading System (ETS) - Renewable Energy Directive (RED III 2023/2413/EU) - Energy Efficiency Directive (EED 2023/1791/EU) - Energy Performance of Buildings Directive (EPBD 2024/1275/EU) - Industrial Emissions and Livestock Rearing Directive (IED 2.0 2024/1785/EU) - Corporate Sustainability Reporting Directive (CSRD 2022/2464/EU)
Construction of Residential and Non-Residential Buildings (6.7%)	- Energy Performance of Buildings Directive (EPBD 2024/1275/EU) - Energy Efficiency Directive (EED 2023/1791/EU) - EU Emissions Trading System (ETS, indirect via materials) - Renewable Energy Directive (RED III 2023/2413/EU) - Corporate Sustainability Reporting Directive (CSRD 2022/2464/EU)
Land Transport and Transport via Pipelines (7.6%)	- EU Emissions Trading System (ETS 2, from 2027) - CO_2 Vehicle Emission Standards (Regulations 2019/631 & 2019/1242) - Alternative Fuels Infrastructure Regulation (AFIR 2023/1804/EU) - Clean Vehicles Directive (2019/1161/EU) - Fuel Quality Directive (2009/30/EC) - Renewable Energy Directive (RED III 2023/2413/EU) - Corporate Sustainability Reporting Directive (CSRD 2022/2464/EU)

4.1 Crop and animal production, hunting and related service activities

Agriculture remains one of Belarus' key economic sectors, contributing roughly 8% of GDP and playing a central role in rural employment and export revenues. Alignment with the EU Green Deal acquis and specifically with the Industrial and Livestock Rearing Emissions Directive (*IED 2.0*), Renewable Energy Directive (*RED III*), Energy Efficiency Directive (*EED*), and the Corporate Sustainability Reporting Directive (*CSRD*) would significantly reshape the sector's cost structure, production practices, and market access conditions.

From a **cost perspective**, compliance with EU environmental and animal welfare standards would require substantial investment. Compliance with the *IED 2.0* would extend environmental permitting requirements to large livestock installations and introduce Best Available Techniques (BAT) for manure management, waste-gas treatment, and nutrient recovery. These obligations would require substantial investments in abatement technology, monitoring equipment, and administrative capacity. The *RED III* would increase near-term costs through integration of biogas and biomass facilities, installation of metering and certification systems, and participation in Guarantees of Origin (GoO) schemes. Similarly, compliance with the *EED* would necessitate efficiency upgrades in irrigation, ventilation, and storage systems, while the *ETS* would indirectly raise energy and fertiliser prices. Finally, the *CSRD* would impose new reporting obligations on large agri-food enterprises exporting to or partnering with the EU, adding administrative and verification costs.

At the same time, harmonisation would open **new trade and investment opportunities**. Meeting EU sustainability and traceability criteria could provide Belarusian producers with access to high-value organic and sustainable agri-food markets, particularly within the EU. The sector could also diversify into bioenergy production, especially biogas derived from agricultural residues and livestock waste, which aligns with both *RED III* and circular economy objectives. Furthermore, verified sustainability performance under *CSRD*-aligned reporting could enhance the export reputation of Belarusian producers and attract environmentally conscious investors.

Technological adaptation would be crucial to maintain competitiveness. Transitioning toward precision farming, low-emission fertilisation methods, and integrated pest management could help reduce costs over time and enhance yields while meeting environmental benchmarks, though they require capacity building and credit access.

In terms of **international cooperation and financing**, Belarus could benefit from experience-sharing and funding through pre-accession rural development programmes (IPARD), Horizon Europe partnerships on agri-tech and bioeconomy innovation, and European Green Deal diplomacy mechanisms supporting sustainable agriculture in the EU neighbourhood. Participation in international climate-finance or technical-assistance initiatives (e.g. EBRD, FAO, UNDP) could further ease the investment burden of harmonisation.

Overall, while short-term adjustment costs could be substantial, aligning Belarusian agricultural practices with the EU's environmental and sustainability standards could strengthen long-term resilience, productivity, and market integration. The sector's compliance trajectory would also be affected by other EU legislation, including the Nitrates Directive (91/676/EEC)[48], Water Framework Directive (2000/60/EC)[49], the Sustainable Use of Pesticides Directive (2009/128/EU)[50], and the Organic Farming Regulation (2018/848/EU)[51], all of which shape environmental and land-use practices in the EU context.

4.2 Manufacturing

The manufacturing sector, accounting for about 25% of Belarus' GDP, represents the core of the national economy and would face some of the most complex adjustments in aligning with the EU Green Deal acquis. Owing to its diversity – from food processing and textiles to chemicals, metals, and machinery – harmonisation would result in uneven impacts across subsectors. The most relevant EU instruments include the EU Emissions Trading System (ETS), the Industrial Emissions Directive (IED 2.0), the Energy Efficiency Directive (EED), the Fuel Quality Directive (FQD) (for petroleum refining), and the Corporate Sustainability Reporting Directive (CSRD). While harmonisation with the EGD acquis would entail substantial upfront costs and administrative burdens for Belarusian manufacturers, especially in energy-intensive subsectors, it also offers significant opportunities for industrial modernisation, cleaner technologies, and deeper integration into European sustainable value chains. To illustrate these dynamics, this section focuses on several key subsectors that are both economically significant and directly exposed to EU energy and environmental legislation, namely the manufacture of food products, coke and refined petroleum, chemicals, non-metallic mineral products, and machinery and equipment.

Manufacture of food products (5.8%)

Producers in the food industry would face increased **costs** associated with energy and refrigeration efficiency standards, wastewater management, and compliance with packaging and waste regulations under the Energy Efficiency Directive (EED) and Corporate Sustainability Reporting Directive (CSRD). However, alignment would also open **access to premium EU markets** that demand traceability and sustainability certification, strengthening the competitiveness of Belarusian food exporters. The transition would encourage the **adoption of electrified process** heat systems, clean refrigerants, and anaerobic digestion of organic waste for energy recovery. These efforts could be supported by participation in EU Horizon and LIFE programmes promoting circular economy models and food waste reduction.

Manufacture of coke and refined petroleum (1.1%)

The petroleum refining industry would be among the most affected by EU alignment, primarily due to compliance with the EU Emissions Trading System (ETS) and Fuel Quality Directive (FQD). These instruments would require purchasing emission allowances, installing air pollution controls, and meeting stricter lifecycle greenhouse gas intensity standards for fuels. While long-term competitiveness in EU markets may decline due to decarbonisation pressures, the transition could stimulate technological upgrading through hydrogen integration, carbon capture, utilisation and storage (CCUS), and process electrification. Although access to EU funds would be limited, EBRD and IFC climate finance mechanisms could support pilot decarbonisation projects in this subsector.

Manufacture of chemicals (4.2%)

Chemical production, another energy-intensive subsector, would face high ETS compliance costs and obligations to control nitrous oxide (N_2O) emissions. Compliance with the IED 2.0 and CSRD would further increase monitoring and reporting obligations but could also improve environmental performance and brand reputation. In the longer term, the development of green hydrogen feedstocks, electrification of processes, and solvent substitution would enhance efficiency and lower emissions. The EU ETS Innovation Fund and Horizon Europe programmes on clean industrial technologies could provide avenues for technological cooperation and funding.

Manufacture of other non-metallic mineral products (1.4%)

Producers of cement, glass, and ceramics would be highly exposed to carbon pricing and emissions control requirements under the ETS and IED 2.0, necessitating investments in flue gas treatment, alternative binders, and waste heat recovery. However, growing demand in the EU for low-carbon construction materials presents an opportunity for export diversification. Technological solutions such as CCUS, clinker substitution, and electrified kilns would be critical for maintaining competitiveness. Participation in the ETS Innovation Fund and Clean Energy Transition partnerships could help offset transition costs and foster cooperation with EU industrial clusters.

Manufacture of machinery and equipment (1.5%)

Although less energy-intensive, this subsector would face indirect compliance costs associated with ESG reporting and material footprint tracking under the CSRD. However, harmonisation could enhance the international competitiveness of Belarusian manufacturers by positioning them as suppliers of clean-tech equipment for the green transition. Technological innovation would centre on design for repair, durability, and recyclability, enabling integration into the EU's circular manufacturing ecosystem. Access to Horizon Europe industrial calls and green manufacturing clusters would offer valuable opportunities for cooperation, innovation, and investment.

4.3 Electricity, gas, steam and air-conditioning supply

The electricity, gas, steam, and air-conditioning supply sector, contributing around 4.1% of Belarus' GDP, lies at the heart of the country's low-carbon transition challenge. Aligning this sector with the EGD acquis would entail profound structural and regulatory changes, given its dependence on fossil-based generation and the emerging role of the Belarusian nuclear power plant in national energy supply. The most relevant EU instruments include the EU Emissions Trading System (ETS), the Renewable Energy Directive (RED III), the Energy Efficiency Directive (EED), the Energy Performance of Buildings Directive (EPBD), and the Industrial Emissions Directive (IED 2.0).

From a **cost** perspective, the introduction of an ETS-equivalent mechanism would significantly increase operational expenses for fossil-fuel power plants through the purchase of emission allowances. Compliance with IED 2.0 would further require investment in pollution-control equipment, modernisation of large combustion plants, and the gradual reduction of pollutant emissions. The EED would also impose stricter efficiency obligations on district heating and cooling networks, requiring large-scale upgrades in transmission systems and heat supply infrastructure to reduce losses and enhance system performance. Together, these measures would raise short-term costs but drive long-term efficiency gains and environmental benefits.

In terms of **trade and economic activity**, integration with EU energy markets could generate new opportunities. Belarus' potential synchronisation and interconnection with the European electricity grid (ENTSO-E) would facilitate cross-border electricity trade, particularly if low-carbon or renewable generation expands. Alignment with RED III would open possibilities for developing renewable-based district heating, biomass co-firing, and small-scale solar and wind installations, contributing to both energy diversification and energy security. These measures would also help reduce the country's reliance on imported fossil fuels, aligning with broader EU objectives of decarbonisation and strategic autonomy.

The **technological transformation** required for compliance would involve a progressive shift from fossil-based generation to renewable and low-carbon energy sources, increased deployment of energy storage, and enhanced grid flexibility through digitalisation and demand-side management. Decarbonising district heating would likely depend on waste heat recovery, heat pumps, and the integration of biomass and solar thermal technologies, bringing Belarusian practices closer to the standards envisaged in the revised EED and EPBD.

Finally, several **EU and international funding mechanisms** could support this transition. The EU ETS Innovation Fund, the European Investment Bank (EIB), and instruments under the Neighbourhood, Development and International Cooperation Instrument (NDICI) could provide financial and technical assistance for renewable deployment, grid modernisation, and heating system upgrades. Cooperation under Horizon Europe and regional partnerships on energy efficiency could further facilitate knowledge transfer and the diffusion of best practices.

In sum, while the transition of Belarus' electricity and heating sector toward EU standards would entail substantial capital investment and regulatory reform, it would also offer opportunities for diversification, export integration, and technological modernisation consistent with the European Green Deal's long-term objectives. The sector's compliance trajectory would additionally be shaped by other EU legislation, including the Water Framework Directive (2000/60/EC)[49], Air Quality Directive (2008/50/EC)[52], Environmental Liability Directive (2004/35/EC)[53], and the Security of Gas Supply Directive (2017/1938/EU)[54], which together govern

4.4 Construction of residential and non-residential buildings

The construction sector, which accounts for about 6.7% of Belarus' GDP, would experience significant transformation under alignment with the EU Green Deal acquis, particularly through the Energy Performance of Buildings Directive (EPBD), the Energy Efficiency Directive (EED), the Renewable Energy Directive (RED III), and, indirectly, the EU Emissions Trading System (ETS) via the carbon footprint of construction materials. The sector is central to achieving energy savings, emissions reductions, and the broader decarbonisation of the built environment.

In terms of **cost structure**, compliance with EU standards would initially lead to higher upfront construction costs, reflecting the need for better insulation materials, high-efficiency heating and cooling systems, and the use of low-carbon building materials such as green cement and recycled steel. However, these investments would generate long-term savings in energy bills and operational costs, while improving the durability and energy performance of the building stock. Meeting the requirements of the revised EPBD, which sets the goal of transforming the building stock into zero-emission buildings by 2050, would necessitate introducing stricter design codes and lifecycle performance standards.

The process of harmonisation would also stimulate **new trade** and **economic activities**. Growing demand for energy-efficient building components, windows, insulation, heat pumps, and smart control systems, would open opportunities for Belarusian manufacturers and construction firms to supply both domestic and EU markets. The renovation segment in particular could expand rapidly, as compliance with EU standards encourages the creation of a dedicated building-renovation industry capable of delivering large-scale energy retrofits and district-level efficiency projects.

Technological transition in the sector would involve the diffusion of Building Information Modelling (BIM) for project planning and energy optimisation, as well as wider adoption of passive-house technologies, heat pumps, and renewable-integrated building systems such as rooftop solar PV. Implementation of digital tools for energy monitoring and predictive maintenance would further enhance efficiency and reduce lifecycle emissions.

In terms of **financial and cooperative opportunities**, alignment with the EU framework could unlock access to EU Green Deal renovation initiatives, the European Investment Bank's energy efficiency financing, and municipal support schemes promoting sustainable urban development. Partnerships under Horizon Europe and regional energy-efficiency programmes could assist in capacity building, technology transfer, and workforce training in modern construction methods.

Overall, alignment of Belarus' construction sector with the EU Green Deal acquis would require significant investment and institutional adaptation but would ultimately lead to a more efficient, resilient, and competitive building industry. The sector's compliance trajectory would also be shaped by other EU legislation, including the Waste Framework Directive (2008/98/EC)[55], Landfill Directive (1999/31/EC)[56], and Environmental Impact Assessment Directive (2011/92/EU)[57], which together establish broader standards for waste reduction, recycling, and environmental protection in the construction lifecycle.

4.5 Land transport and transport via pipelines

The transport sector, accounting for around 7.6% of Belarus' GDP, plays a crucial role in domestic connectivity and cross-border trade but would face one of the most complex and costly transitions under alignment with the EU Green Deal acquis. The key pieces of legislation affecting this sector include the EU Emissions Trading System (ETS 2), the Alternative Fuels Infrastructure Regulation (AFIR), the Clean Vehicles Directive, the Fuel Quality Directive (FQD), the CO_2 Emission Performance Standards for Vehicles, and, indirectly, the Renewable Energy Directive (RED III) through biofuel blending requirements.

In terms of **cost structure**, alignment with these instruments would increase fuel and operational costs due to the gradual inclusion of road transport in the ETS 2, which introduces a carbon price for fuel distributors from 2027. This would affect both freight and passenger transport, incentivising the transition to lower-emission vehicles but also raising costs for consumers and businesses in the short term. In addition, compliance with the CO_2 emission performance standardsand the Clean Vehicles Directive would necessitate large-scale fleet replacement, particularly in public transport and logistics, as older ICE vehicles are phased out in favour of electric and alternative-fuel options.

Despite higher upfront costs, alignment could create **substantial trade and business opportunities**. By meeting EU fuel quality and emissions standards, Belarusian logistics and freight companies could integrate more easily into EU-certified supply chains, gaining access to green corridors and international transport markets. The development of electric vehicle (EV) servicing and maintenance industries and the expansion of alternative fuel distribution networks could also generate new domestic value chains, stimulating employment and technological innovation.

Technological transition would center on the electrification of vehicle fleets, deployment of compressed and liquefied natural gas (CNG/LNG) trucks as interim solutions, and the introduction of route optimisation and digital fleet management systems to reduce emissions and improve efficiency. The AFIR requires the installation of sufficient EV charging and hydrogen refuelling infrastructure along major transport corridors, which would entail extensive investment in both grid capacity and network planning.

In terms of **cooperation and financial support**, Belarus could potentially benefit from access to EU transport and energy transition funds, such as the Connecting Europe Facility (CEF Transport), which supports cross-border infrastructure projects, and financing mechanisms linked to the AFIR and the European Green

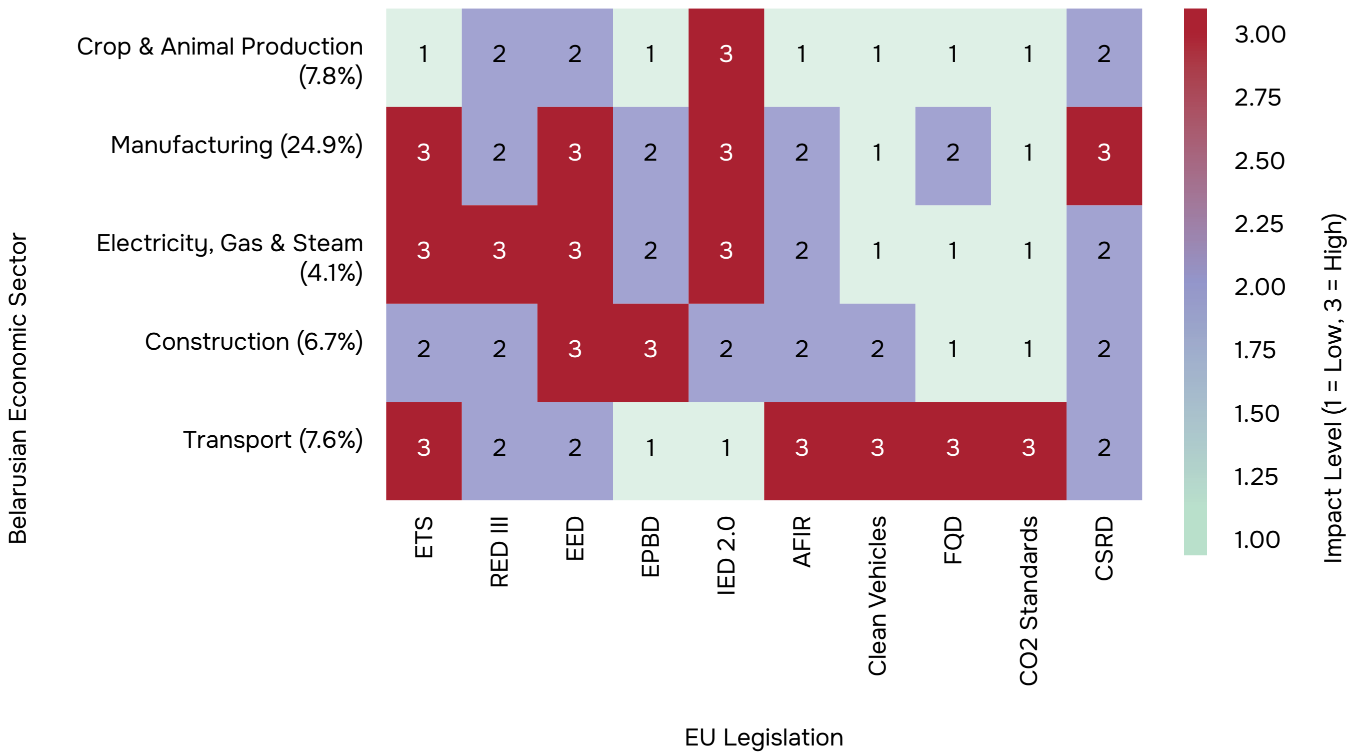
Deal diplomacy on clean mobility. These programmes could facilitate technology transfer, pilot projects on electric and hydrogen mobility, and public–private partnerships to expand charging infrastructure.

Overall, the transport sector's adaptation to the EU Green Deal acquis would involve considerable upfront costs and systemic modernisation, but it also offers a path toward greater integration with EU logistics networks, reduced fossil-fuel dependence, and improved environmental performance of Belarus' mobility system. The sector's compliance trajectory would further be influenced by other EU legislation, including the Air Quality Directive (2008/50/EC)[52], Noise Directive (2002/49/EC)[58], and Environmental Liability Directive (2004/35/EC)[53], which establish complementary standards for emissions, noise pollution, and environmental accountability in the EU transport context.

4.6 Summary

Harmonisation with the European Green Deal (EGD) acquis would require a far-reaching transformation across Belarus' productive sectors, with impacts varying according to each sector's energy intensity, carbon footprint, and trade exposure. Table 4 summarises how the main EGD regulations intersect with Belarus' key economic sectors, identifying the principal channels of impact, including carbon pricing, energy efficiency, renewable energy deployment, and transport decarbonisation. Figure 1 complements this analysis by visualising the relative level of impact of each EU regulation across sectors, highlighting the uneven effects that alignment with the EGD acquis would have on the Belarusian economy.

Figure 1. Sectoral impact matrix: Level of impact of EU Green Deal Legislation on Belarusian economic sectors



This heatmap illustrates the relative level of impact (1 = low, 3 = high) of ten key EGD legislative instruments across the main sectors of the Belarusian economy. Energy-intensive and export-oriented sectors – particularly manufacturing and electricity, gas, and steam supply – are most affected due to exposure to the EU ETS, EED, and IED 2.0. The transport sector is influenced by the widest range of instruments, including AFIR, Clean Vehicles, and CO_2 Emission Standards, reflecting the scale of infrastructure and fleet transformation required. Agriculture and construction experience moderate but diverse effects linked to renewable energy integration and building efficiency.

The **energy-producing and energy-intensive sectors**, including electricity generation, petroleum refining, chemicals, cement, and metals, would face the highest immediate compliance costs. These sectors fall under several core instruments of the Green Deal, most notably the EU Emissions Trading System (ETS), the Industrial Emissions Directive (IED 2.0), and the Energy Efficiency Directive (EED). Compliance would require extensive investment in emissions monitoring, efficiency upgrades, and clean-technology deployment. While costly, these measures would stimulate process optimisation and could position Belarusian industries for participation in low-carbon regional value chains.

The **transport sector**, which represents nearly 8 % of GDP, would be affected by at least five key EU regulations, including ETS 2, AFIR, the Clean Vehicles Directive, the Fuel Quality Directive, and CO_2 Emission Standards for Vehicles. Harmonisation would involve large-scale investment in electric vehicle charging networks, hydrogen refuelling corridors, and fleet modernisation. Though expensive, these reforms could strengthen Belarus' integration into EU logistics networks and stimulate domestic innovation in electric mobility and alternative-fuel technologies.

The **construction sector** (≈ 6.7 %) would experience high capital needs in the short term, primarily due to the implementation of the Energy Performance of Buildings Directive (EPBD) and EED requirements for nearly zero- or zero-emission buildings. However, these costs would be offset over time by lower operational energy demand, new business opportunities in energy-efficient renovation, and access to EU financial mechanisms under the Green Deal Renovation Wave and the European Investment Bank's efficiency programmes.

In **agriculture** (≈ 7.8 %), alignment with the RED III and IED 2.0 would tighten environmental standards related to fertiliser use, manure management, and emissions from large livestock farms. Yet, these same reforms could open opportunities for expansion into organic agriculture, biogas production, and sustainable agri-food exports, supported by EU rural-development and innovation funds.

Finally, the Corporate Sustainability Reporting Directive (CSRD) would extend across all major industries, requiring large and listed companies to disclose environmental, social, and governance (ESG) data according to EU standards. This would impose new administrative obligations but also improve corporate transparency, investor confidence, and access to green finance.

While the transition to the EU acquis would inevitably be costly and administratively demanding, it could ultimately deliver substantial economic and environmental dividends. By modernising its industrial base, improving energy efficiency, and building institutional capacity, Belarus could strengthen its competitiveness, reduce import dependence, and attract sustainable investment. The key challenge will lie in sequencing reforms, mobilising financial support, and building regulatory expertise to ensure that harmonisation becomes not only a compliance exercise but also a driver of long-term development and green growth.

Table 4. Mapping EGD legislation to the most-affected Belarusian economic sectors

Legislation	Most-affected Belarusian sectors	Primary channel of impact
ETS & ETS 2 (Emissions Trading System)	Electricity, gas, steam & air-conditioning (4.1%) Petroleum refining (1.1%) Chemicals (4.2%) Non-metallic minerals (1.4%) Fabricated metals (1.1%)	Carbon pricing and emission-allowance costs; incentives for fuel switching and efficiency
RED III (Renewable Energy Directive)	Electricity, gas, steam (4.1%) Crop & animal production (7.8%) Transport (7.6%) Construction (6.7%)	Renewable-energy targets in power, heating, transport biofuels, and on-site generation
EED (Energy Efficiency Directive)	Manufacturing (24.9%) Construction (6.7%) Transport (7.6%) Electricity & gas (4.1%)	Binding energy-savings targets, audits, and retrofit obligations for buildings and industrial processes
EPBD (Energy Performance of Buildings Directive)	Construction (6.7%) Electricity & gas (4.1%) Manufacturing (24.9%)	Zero-emission building standards, energy-performance certification, and long-term renovation strategies
IED 2.0 (Industrial Emissions Directive)	Manufacturing (24.9%) – esp. petroleum (1.1%), chemicals (4.2%), cement (1.4%); Crop & animal production (7.8%)	Stricter industrial and intensive livestock farms permitting and pollution control based on BAT
AFIR (Alternative Fuels Infrastructure Regulation)	Transport (7.6%) Electricity & gas (4.1%) Construction (6.7%)	EV charging and hydrogen refuelling infrastructure; interoperability and grid-integration standards

Clean Vehicles Directive	Transport (7.6%)	Binding procurement targets for low- and zero-emission public-sector vehicles
FQD (Fuel Quality Directive)	Petroleum refining (1.1%) Transport (7.6%)	Reduction of GHG intensity in fuels; stricter blending and reporting requirements for refiners and importers
CO_2 Standards for Vehicles	Transport (7.6%)	Phase-out of internal-combustion vehicles; fleet modernisation and infrastructure investment
CSRD (Corporate Sustainability Reporting Directive)	Manufacturing (24.9%) Petroleum (1.1%) Electricity & gas (4.1%) Construction (6.7%) Transport (7.6%)	Mandatory ESG disclosures for large and listed companies; new auditing and reporting infrastructure

5. Belarus' potential for low-carbon transition

This section assesses Belarus' broader potential for low-carbon development, focusing on electricity, heating, energy efficiency, and transport electrification. It draws on current progress, policy targets, and long-term opportunities for harmonisation with the European Green Deal (EGD) acquis.

5.1 Low-carbon electricity expansion[3]

The Ministry of Energy has set renewable energy targets of 7% by 2025. However, the 7 % share was already reached in 2018, and renewable deployment has since stagnated. Electricity accounts for about 15 % of final energy consumption, and while the commissioning of the Astravets Nuclear Power Plant has encouraged some electrification, the country's power mix remains highly carbon-intensive, with the share of low-carbon generation being still lower than in the majority of EU Member States[59].

Despite the addition of nuclear capacity, Belarus' electricity generation emits around 280 gCO_2eq/kWh[60], compared with the EU average of 207 gCO_2eq/kWh[61]. In 2023, natural gas supplied 61 % of generation, nuclear 36 %, and renewables only 3%[30]. Renewable generation is dominated by bioenergy (0.52 TWh), hydropower (0.37 TWh), solar (0.21 TWh), and wind (0.18 TWh). Since 2022, growth has stalled owing to excess supply from Astravets, low feed-in tariffs, restrictive quotas, and weak investment incentives[62]. These barriers, combined with outdated policy targets, leave limited scope for near-term renewable expansion[63].

Reliable assessments of long-term renewable potential are lacking. The Strategy for the Development of the Energy Potential of the Republic of Belarus[64,65] estimated technical wind resources at 2.4 TWh per year – around 12 times current output but still small compared with total generation of 40 TWh. IRENA identified modest wind and solar resources by global standards, with solar-thermal applications offering localised potential for space and water heating[63,66]. Hydropower potential is estimated at 2.3 TWh[64,65]. Taken together, it is unlikely that renewables alone can cover the electricity demand in the country, but these figures require revision using modern datasets.

The prospect of a second nuclear power plant has been recently discussed[67] suggesting that nuclear expansion may remain the dominant strategy over large-scale renewables. In the medium term, this pathway has

[3] The main source of energy statistics in Belarus has been the annual "Energy Balance" report published by the National Statistical Committee. However, the committee stopped publishing the digest in 2021, and the information presented below is a summary of various sources.

two implications for prospective EU integration: (1) the export potential of surplus electricity and (2) the need for nuclear-safety alignment. Electricity exports to the EU were halted in 2020 after Baltic transmission operators suspended parallel operation with Belarus and Russia, citing unaddressed safety concerns at Astravets. Any future resumption would require renewed cooperation with the IAEA and ENSREG and compliance with EURATOM safety standards and the Nuclear Safety Directive (2009/71/EURATOM, amended by 2014/87/EURATOM[68]. Support for such alignment could come from the EU Instrument for Nuclear Safety Co-operation[69], which finances safety upgrades, waste management, and regulatory strengthening in partner countries.

5.2 Low-carbon heating and energy efficiency

Given Belarus's high energy intensity and dependence on imported fossil fuels, improving energy efficiency is central to both decarbonisation and long-term energy security. Industry (33%) and households (27%) account for the largest shares of final energy consumption, and roughly half of this energy is used for heat – making the efficiency of heat supply and demand critical to reducing emissions.

In terms of **supply**, most heat in Belarus is produced by combined heat-and-power plants (58%) and boilers (34%), with the remainder provided by waste heat and a small share of solar and geothermal energy (0.02%). The majority of installations rely on imported natural gas, while around 10 % of generation comes from bioenergy – mainly solid biomass and, to a lesser extent, biogas. With extensive forest cover (around 40%) and significant agricultural residues, bioenergy remains the only renewable source that has shown consistent growth. The Strategy for the Development of the Energy Potential of the Republic of Belarus[64,65] estimated solid-biomass potential at 82 000 Tcal per year, exceeding total national heat consumption of 63 000 Tcal. However, IRENA stresses the need for updated assessments of feedstock quality, seasonal availability, and sustainability to support a viable biomass market[63]. Given Belarus' extensive district-heating infrastructure, a low-carbon heat supply could develop relatively quickly once biomass markets mature.

On the **demand** side, space heating accounts for around half of residential energy use, largely due to the ageing and inefficient building stock. Although energy-efficiency classifications, thermal passports, and related regulations have been introduced since the late 1990s, most buildings pre-date these standards. As a result, older buildings typically consume twice as much energy per square metre as new ones. Accelerated retrofitting with improved insulation, glazing, and heat-metering could therefore deliver significant near- and long-term energy savings.

Energy use in **industry** is also substantial. Large energy-intensive enterprises (consuming over 1 500 TCE) are required to undergo mandatory audits every five years under the Law on Energy Saving[70], with further plans to introduce the requirement of energy-management systems aligned with ISO 50001[71]. However, the domestic market for energy-performance contracting remains limited: energy service companies (ESCOs) operate mainly in the public sector, while residential and industrial markets are undeveloped. This points to the need for clearer regulation and the transfer of European experience in energy-performance services.

Long-term energy sector planning acknowledges the need for increasing the efficiency of energy consumption. The draft National Sustainable Development Strategy until 2040[71] identifies energy efficiency as a central goal. Current plans include the electrification of household energy use, modernisation of multi-apartment buildings, and the development of "smart, energy-efficient cities". For 2031–2040, the Strategy foresees widespread installation of individual heat-metering devices and integrated monitoring systems for heat, electricity, and gas. A small-scale pilot of smart heating – implemented with UNDP/GEF support[72] in 2018 – demonstrated the feasibility of such systems. Broader access to EU funding and closer alignment with EU energy-efficiency standards could significantly accelerate their roll-out.

Overall, there remains considerable potential for additional energy-efficiency measures that could accelerate Belarus's decarbonisation. The 2020 project Support for the Development of a National Energy Efficiency Action Plan for Belarus[73] identified and quantified the impact of such measures, showing that their implementation would significantly enhance alignment with the EU Energy Efficiency Directive. In the **residential sector**, the proposed actions include phasing out household cross-subsidies, improving metering and billing systems, modernising street lighting, establishing a central database of energy performance in public buildings, and adopting a comprehensive Building Renovation Strategy. In the **industrial sector**, they involve introducing energy-management systems and creating investment incentives such as "white certificates" and green-procurement schemes. Taken together, these interventions could raise cumulative energy savings between 2020 and 2030 from the 85 000 Tcal envisaged in the State Energy Saving Programme[74] to 131 000 Tcal – equivalent to roughly two years of national heat consumption.

5.3 Electrification of transport

The transport sector is the third-largest energy consumer in Belarus, accounting for roughly 23% of final energy use. In 2020, the sector remained dominated by fossil fuels, petrol and diesel made up about 83% of total consumption, while electricity contributed less than 3 %, almost entirely from rail transport and trolleybuses. Following the commissioning of the Astravets Nuclear Power Plant in 2021, however, the government placed stronger emphasis on promoting electric mobility and expanding charging infrastructure.

The Presidential Decree "On Stimulating the Use of Electric Vehicles"[42] introduced a package of consumer incentives, including waivers of registration fees, import tax exemptions, and free parking. These measures triggered rapid market growth: the number of registered electric vehicles (EVs) increased to 2 000 in 2021, and by early 2025 had reached 26 000[75]. Similar efforts are visible in public transport – Belarus was the first country in the Eurasian Economic Union to introduce electric buses, with 147 units now operating in several cities. By 2025, Belarus had around 1 400 charging stations, equivalent to 19 vehicles per charger (compared with 13 in the EU[76]). To expand this network, the government updated the Programme for the Creation of a State Charging Network for Electric Vehicles (2024)[44], which envisages 838 new chargers nationwide. The plan distinguishes between urban and highway models, placing new stations primarily in Minsk and regional centres, and along major motorways at 50-70 kilometre intervals. For public transport, 33 new charging stations are to be installed by 2030, implying a slower pace of electrification in this segment.

Belarus also possesses domestic manufacturing capacity for electric vehicles. Since 2016, companies – BKM Holding and MAZ – produce electric buses and trolleybuses, exporting limited numbers across the Eurasian Economic Union. In addition, the Chinese manufacturer Geely assembles its EX5 electric model locally, while BKM Holding has recently launched an electric truck prototype.

These policy and industrial developments have made Belarus the most dynamic EV market in the region: by mid-2025, national EV registrations exceeded those in Russia, despite Belarus's smaller vehicle fleet. Nevertheless, EVs still represent only 0.8% of private cars and 0.4% of buses[75] (Table 5). In comparison, neighbouring Lithuania and Latvia record significantly higher shares (1.9% and 8%, and 1.3% and 4.4% respectively[77]), supported by direct purchase subsidies of EUR 2 500-5 000 per vehicle. Introducing similar incentives in Belarus would help achieve the government's target of 300 000 EVs by 2030 – a ten-fold increase from current levels – raising the share of electric vehicles in the national fleet to 10%. According to Ministry of Energy estimates, meeting this goal would raise electricity demand by approximately 1.5 TWh per year, or 4% of today's supply.

Table 5. Electric vehicle penetration in Belarus compared with selected EU Member States

Country	Size of the fleet	Size of the electric fleet	Share of the electric fleet
Belarus	Private: 3,222,436 Public: 40,751	Private: 26,356 Public: 147	Private: 0.8% Public: 0.4%
Lithuania	Private: 1,845,070 Public: 7,523	Private: 34,927 Public: 605	Private: 1.9% Public: 8%
Latvia	Private: 881,423 Public: 2,235	Private: 11,753 Public: 99	Private: 1.3% Public: 4.4%
Poland*	Private: 31,400,307 Public: 88,610	Private: 186,590 Public: 803	Private: 0.6% Public: 0.9%
Slovenia	Private: 1,338,880 Public: 33,000	Private: 24,204 Public: 30	Private: 1.8% Public: 0.1%
Slovakia*	Private: 2,954,609 Public: 8,685	Private: 29,526 Public: 46	Private: 1% Public: 0.5%

Romania*	Private: 9,507,132 Public: 54,713	Private: 69,599 Public: 323	Private: 0.7% Public: 0.6%
Bulgaria*	Private: 2,922,531 Public: 54,713	Private: 26,413 Public: 72	Private: 0.9% Public: 0.1%

*For the size of the public transport fleet, 2022 is the latest data found.

To realise the full decarbonisation and energy-security benefits of transport electrification, Belarus must also modernise its ageing vehicle fleet. Complementary measures could include EU-style scrappage schemes that provide financial incentives for replacing old internal-combustion vehicles with electric ones, alongside the adoption of stricter fuel-economy and emissions standards. Such policies are already applied in several EU Member States, for example, Lithuania offers an additional subsidy of EUR 1 000 when an old car is scrapped in exchange for an electric vehicle.

Overall, Belarus' transport sector is clearly moving towards electrification. Alignment with EU regulations – such as the Alternative Fuels Infrastructure Regulation, the Clean Vehicles Directive, and the CO_2 Emission Standards for Vehicles – could accelerate this transition further by enabling access to EU funding mechanisms, technology partnerships, and cross-border logistics networks.

6. Conclusion

The European Green Deal (EGD) establishes an integrated framework of climate, energy, transport, and environmental legislation aimed at achieving climate neutrality in the European Union by 2050. Aligning Belarus' economy with the EGD acquis would entail significant economic and institutional changes across multiple sectors and would extend far beyond environmental policy, reshaping industrial competitiveness, investment patterns, and institutional governance.

The analysis presented in this report demonstrates that while certain foundations for alignment already exist, particularly in energy efficiency, renewable deployment, and electromobility, substantial legal, institutional, and technical gaps remain across all core legislative domains. The absence of a carbon pricing framework, limited renewable integration, and underdeveloped monitoring and verification systems are among the most pressing challenges. Moreover, regulatory approximation would demand the creation of independent authorities, enhanced data collection and transparency systems, and significant administrative capacity building.

Sectoral analysis shows that the impacts of harmonisation would be uneven. Energy-producing and energy-intensive sectors, such as electricity generation, refining, chemicals, and cement, would face the highest compliance costs under the EU Emissions Trading System (ETS), the Industrial and Livestock Rearing Emissions Directive (IED 2.0), and the Energy Efficiency Directive (EED). The transport sector would undergo deep structural transformation, requiring large-scale investment in electric-vehicle infrastructure, clean fleets, and low-carbon fuels under the Alternative Fuels Infrastructure Regulation (AFIR), Clean Vehicles Directive, and CO_2 Emission Standards. Construction would experience short-term cost increases due to stricter building codes under the Energy Performance of Buildings Directive (EPBD) but would benefit from long-term energy savings and job creation in the renovation sector. Agriculture would face higher environmental compliance costs under the IED 2.0 and RED III but could gain access to new markets for organic produce and bioenergy. Finally, all major enterprises would need to strengthen governance, transparency, and reporting systems to comply with the Corporate Sustainability Reporting Directive (CSRD).

Despite these challenges, the long-term benefits of harmonisation could be substantial. By integrating into the EU's regulatory and market systems, Belarus would gain access to European value chains, attract green finance, and accelerate industrial modernisation. Alignment would enhance energy security, reduce import dependence, and stimulate domestic innovation in renewable energy, clean technologies, and sustainable agriculture. The process could also help strengthen public institutions and governance through the adoption of EU standards in transparency, accountability, and environmental protection.

To realise these opportunities, Belarus would need a carefully sequenced reform strategy combining legislative approximation, institutional strengthening, and investment mobilisation. Effective coordination across government agencies, private industry, and international partners will be essential. Access to EU financial instruments, such as the European Investment Bank (EIB), the Neighbourhood, Development and International Cooperation

Instrument (NDICI), and Horizon Europe, could play a critical role in reducing transition costs and supporting technology transfer.

In sum, while the path toward alignment with the EGD acquis presents formidable economic and institutional challenges, it also offers a roadmap for sustainable modernisation and long-term competitiveness. If effectively managed, harmonisation could help Belarus meet EU environmental standards while strengthening its economic resilience and supporting the shift toward a low-carbon economy.

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Bridging Different Modelling Tools For Studying The Case Of Belarusian European Integration

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Co-funded by
the European Union

Abstract

This paper examines the potential macroeconomic consequences of Belarusian European integration, a complex transformation that would unfold through several stages. The process is likely to begin with a significant external shock associated with the removal of implicit energy subsidies and the restructuring of external economic relations, followed by a transition period of macroeconomic adjustment and sectoral reallocation. Only after these adjustments can the economy reach a new post-integration steady state and enter a phase of long-term convergence-driven growth. To analyze these phenomena, the study adopts a multi-model analytical framework combining several modelling tools, including CGE, QPM, DSGE, debt sustainability analysis, and LTGM. The outputs of some models serve as inputs for others, allowing the construction of a consistent macroeconomic narrative of Belarus's potential integration path. The simulations suggest that the post-integration steady state of the Belarusian economy would likely be moderately weaker than the current one, with potential GDP declining by approximately 2.7–3.9 percent depending on the availability of external support. However, none of the simulated scenarios produces an uncontrolled collapse of output despite the magnitude of the energy price shock. The transition period appears significant but manageable, although its trajectory will depend strongly on policy responses and institutional conditions. Long-term simulations indicate that, while an inertial development path would lead to relative economic impoverishment, European integration fundamentally alters the trajectory toward gradual convergence with more advanced economies. The ultimate outcomes depend critically on the activation of productivity growth mechanisms and the effectiveness of economic and institutional policies during the transition period.

JEL codes: C63, C69, E17, E37, E65, O47, O52, P27

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1. Introduction

From today's policy status quo and perspective, Belarusian accession to the European Union (EU) can be treated as a structural counterfactual scenario. However, this does not imply that it will necessarily remain so in the future. Regardless of how one assesses the probability of such a scenario, studying it has substantial analytical value. It represents a coherent and economically meaningful regime shift. From a research perspective, EU integration is not merely a geopolitical reorientation, but a deep transformation of trade patterns, institutional arrangements, policy frameworks, macroeconomic mechanisms, and long-run growth determinants. As such, it provides a unique case for studying the interaction between structural change, macroeconomic adjustment, and income convergence.

Belarus differs markedly from most Central and Eastern European economies that have already joined the EU or are currently candidates. First, its trade and integration structure has been strongly oriented toward Russia for an extended period. The country has been embedded in a number of Russia-led integration arrangements, including the Eurasian Economic Union, which shaped tariff structures, technical regulations, and energy pricing mechanisms. Second, the domestic production structure has been characterized by a comparatively large state-owned enterprise (SOE) sector. Soft budget constraints, cross-subsidization, directed lending, and capital-investment dirigisme have played a significant role in sustaining economic activity. Third, the broader policy regime has involved a higher degree of administrative intervention, including price controls and limited institutional autonomy of macroeconomic policymaking.

Taken together, these features imply that the starting point for Belarus differs fundamentally from that of countries such as Ukraine, Moldova, or the Western Balkan economies. In the Belarusian case, EU integration would not simply require regulatory harmonization and incremental institutional upgrades. It would entail a more profound restructuring of the institutional underpinnings, trade linkages, energy supply conditions, fiscal relations, enterprise governance, and economic policy mix. For this reason, the transition path is likely to be more complex and potentially longer than in comparator cases.

At the same time, the core economic motivation for EU integration remains analogous to that observed in other accession episodes: the possibility of accelerated income convergence and more sustainable long-run growth. Integration into the EU single market opens access to a larger demand base, facilitates capital inflows, and strengthens technological diffusion channels. Institutional upgrading, including improvements in governance quality, competition policy, and legal enforcement, enhances total factor productivity and investment efficiency. Furthermore, macroeconomic anchoring and increased policy credibility tend to reduce risk premia, stabilize expectations, and lower volatility. In this sense, the ultimate prize of integration is not only a higher level of income, but also a more resilient and less crisis-prone growth regime.

However, the logic of EU accession implies that the convergence dividend is conditional. In order to approach the long-run convergence benchmark associated with EU-type institutions and market structures, a candidate country must first transform its domestic economy in line with European standards. For Belarus, this would also imply withdrawal from existing Russia-centered integration frameworks and an adjustment to market-based energy pricing. From the perspective of economic theory, such a process can be interpreted as a transition from the current steady state to a new post-integration steady state.

Crucially, the post-integration steady state may initially be inferior to the current one in certain dimensions. The removal of preferential energy prices, the termination of fiscal transfers, and potential deterioration in the terms of trade could lower real incomes in the short term. Fiscal consolidation pressures and enterprise restructuring may also dampen output and employment. Thus, the first equilibrium after regime switching – the post-integration steady state – is not necessarily associated with an immediate welfare gain. In the Belarusian case, it may even be worse than the current one.

The major challenge is that the transition between the current steady state and the post-integration one is neither automatic nor guaranteed to be smooth. The parameters of the post-integration steady state are themselves uncertain and depend on policy choices, the speed of reforms, and external support. The duration and depth of the transitional recession are unknown ex ante. Moreover, institutional capacity constraints may limit the ability of economic policy to manage adjustment costs effectively. Sectoral reallocations, labor market frictions, inflationary pressures, and external imbalances can amplify short-run instability.

Only having reached a post-integration steady state does the economy potentially begin to converge toward higher income levels observed in the EU. In this sense, EU integration creates the conditions for gradual convergence toward the average income level of EU economies. The distinction between the starting point of the post-integration structural regime (post-integration steady state) and this long-run convergence benchmark is important. The former captures the baseline configuration of the economy after the break with the previous integration model, while the latter reflects the income level that may be gradually approached through convergence dynamics under improved institutions, deeper market integration, and stronger productivity growth.

This combination of structural uncertainty, transitional risks, and long-run convergence potential raises a fundamental research question. What is a realistic medium- and long-term path of the Belarusian economy under EU integration, and what are the key challenges along that path? Addressing this question requires an integrated analytical framework capable of linking structural steady state changes, short-run macroeconomic adjustment, external sustainability constraints, and long-run convergence dynamics.

From a chronological perspective, the economic logic of EU integration therefore follows a relatively intuitive sequence. First, the economy experiences a transitional period accompanied by macroeconomic adjustment and sectoral reallocation. In the conceptual framework outlined above, the transition can be represented as a movement from the current steady state associated with the existing integration model toward a new post-integration structural regime. Presumably, this period might be characterized by macroeconomic turbulence and structural adjustments. Output, real incomes, inflation, and the external balance may temporarily deviate from their previous trajectories as the economy adapts to new relative prices, trade patterns, and policy constraints.

Second, in addition to macroeconomic adjustment (likely simultaneously), the shift toward the new post-integration steady state is likely to generate substantial sectoral effects. Certain industries may experience rapid expansion, while others may face contraction or restructuring. A particularly illustrative example concerns the energy sector. Membership in the Eurasian Economic Union and the Union State has historically been associated with access to energy resources at prices below prevailing market levels. The loss of this implicit price advantage would likely constitute a significant shock to the energy sector. Given the strong intersectoral linkages of energy with other branches of the economy (Kruk & Panasevich, 2023), disturbances in this sector may propagate across the production structure, affecting costs, competitiveness, and profitability in multiple industries. Similar adjustment pressures may arise in other sectors as a result of changing trade regimes, competitive conditions, and institutional constraints. Although sectoral effects may constitute an important part of the Belarusian EU integration story, within the scope of this paper we consider them only partially, to the extent allowed by the modelling framework used. Nevertheless, a deeper focus on specific sectors and industries—along with their linkages to the macroeconomic level, beyond the exercises presented in this paper—could further enrich the overall analysis.

Third, after these stages have taken place, the economy is expected to approach a new post-integration steady state, which is characterized by a new structural regime, meaning new institutional underpinnings, environment, and intrinsic regularities. This new regime reflects the economic environment that emerges after the reconfiguration of trade relations, energy pricing mechanisms, fiscal arrangements, and institutional rules. Importantly, this structural shift does not automatically imply an immediate improvement in economic outcomes. On the contrary, the post-integration regime may initially be associated with lower income levels and significant adjustment pressures.

Fourth, as new institutions stabilize and the economy adapts to the new environment, the process of income convergence may begin to unfold. In this latter stage, growth dynamics are driven by the gradual narrowing of the productivity and income gap relative to more advanced EU economies. In analytical terms, this corresponds to convergence toward a long-run benchmark income level, which reflects the conditional steady state level compatible with EU-type institutional and market structures.

This chronological sequence is intuitive and important for policy communication and expectation management. At the same time, it is not a convenient starting point for economic analysis. For research purposes, the central analytical object is the post-integration steady state itself. The characteristics of this steady state, such as the initial level of output, the structure of demand and production, fiscal balances, and the external position, largely determine both the magnitude of the adjustment required to reach it and the dynamics of the transition process. In other words, the post-integration steady state acts as a reference point for evaluating the trajectory of the economy. Without a clear understanding of the economic configuration associated with this regime, it is difficult to assess how large the transition costs might be, which sectors may face the strongest adjustments, or how long the transitional period may last. For this reason, the analytical sequence adopted in this study differs from the chronological order described above.

The analysis therefore begins with the identification of the post-integration steady state and its key macroeconomic characteristics. In the second step, the study examines the transitional dynamics of the economy as it moves from the current steady state toward the new one. Sectoral effects represent an additional important dimension of the adjustment process, although they are not the primary focus of the present paper. Finally, the analysis turns to long-run convergence dynamics and the prospects for sustained economic growth associated with gradual convergence toward the benchmark income level.

Addressing these steps requires the use of several different classes of economic models. Economic theory does not provide a single unified modelling framework capable of simultaneously capturing structural regime shifts, short-run macroeconomic dynamics, and long-run growth processes. Instead, different analytical tools are typically used to address different segments of the problem. In particular, computable general equilibrium (CGE) models provide a natural framework for analyzing the structural properties of the post-integration steady state. By capturing economy-wide resource allocation and intersectoral linkages, CGE models allow researchers to evaluate how changes in trade policies, energy prices, or fiscal arrangements affect the overall equilibrium configuration of the economy. To study the macroeconomic dynamics of the transition period, structural and semi-structural macroeconomic models are more appropriate. Dynamic stochastic general equilibrium (DSGE) models and semi-structural policy models such as the Quarterly Projection Model (QPM) are designed to analyze macroeconomic fluctuations as responses to shocks and policy changes. These models provide a framework for evaluating the depth and duration of transitional recessions, inflationary pressures, and external imbalances that may arise during the adjustment process. Finally, the analysis of long-run growth prospects requires a different conceptual perspective, focusing on supply-side determinants of economic expansion such as capital accumulation, productivity dynamics, and technological diffusion. Models rooted in the theory of economic growth allow the evaluation of convergence dynamics and the potential speed at which the economy may approach the long-run benchmark income level.

Because these modelling frameworks operate with different assumptions, scales, and analytical languages, they are not naturally integrated into a single unified system. The central methodological idea of this paper is therefore to construct analytical bridges between them. In practical terms, this means using the outputs of one class of models as inputs or calibration targets for another. At the same time, this strategy inevitably involves a degree of approximation. Differences in model structures, parameterizations, and variable definitions mean that shocks or outcomes generated in one framework cannot always be transferred directly into another. In some cases, translating results across models requires additional assumptions or expert judgment. This limitation represents an inherent drawback of the approach. Nevertheless, the ability to analyze the economic consequences of Belarusian EU integration within a single coherent analytical narrative outweighs these limitations. Even if the bridges between models are imperfect, their joint use makes it possible to evaluate the transition process in a comprehensive manner that would be difficult to achieve within any single modelling framework.

The remainder of the paper is structured as follows. Section 2 outlines the methodological framework and describes the algorithm of inter-model interactions, as well as the methodological aspects of the modelling tools employed. Section 3 reports the simulation results. Section 4 provides their interpretation and further discussion. Section 5 concludes.

2. Methodology

2.1. Algorithm of Inter-Model Interactions and Simulations

The analytical framework developed in this paper relies on a multi-model architecture designed to capture different stages of the economic transformation associated with Belarusian EU integration. This type of multi-model analytical framework is used in policy-oriented economic analysis, where different modelling tools are combined in order to capture structural change, macroeconomic adjustment, and long-run growth dynamics. For instance, a similar logic underlies the studies by Roeger et al. (2019) and Varga & Veld (2014). Because the economic processes examined in this study operate across different time horizons and involve distinct economic mechanisms, no single modelling framework is capable of capturing the full range of relevant dynamics. Instead, the analysis is organized across three interconnected analytical levels that correspond to different temporal horizons and modelling traditions. These levels are linked through a structured algorithm of inter-model interactions in which the outputs of one model serve as inputs or calibration parameters for another.

The first analytical level corresponds to the medium- and long-term horizon of economic development. At this level the analysis focuses on two closely related objectives. The first objective is the identification and characterization of the post-integration steady state of the Belarusian economy. This steady state represents the structural configuration of the economy after the transition away from the existing integration framework and the adjustment to the economic conditions associated with EU integration. The second objective concerns the long-term dynamics of economic convergence that may unfold once this post-integration steady state has been reached. In particular, the analysis investigates the long-run growth trajectory that may emerge as the Belarusian economy begins to converge toward the income levels observed in more advanced EU economies.

The second analytical level focuses on the short-term macroeconomic horizon. At this level the central objective is the analysis of the transitional dynamics associated with the movement of the economy from its current steady state toward the post-integration steady state. In other words, this level captures the macroeconomic adjustment process that occurs during the transition period. The analytical tools used at this stage are traditional macroeconomic models designed to simulate short-run fluctuations and macroeconomic responses to structural shocks. In the present study, two such modelling frameworks are employed: QPM and DSGE models. These models allow the analysis of macroeconomic volatility, inflation dynamics, external imbalances, and the evolution of key macroeconomic aggregates during the transition period.

The third analytical level addresses issues of macrofinancial sustainability. Within the inter-model framework this level performs a dual role. First, it acts as a robustness check for the results obtained at the previous stages of the analysis. In particular, it allows the assessment of whether the macroeconomic trajectories implied by the transition scenario are compatible with sustainable macrofinancial conditions. Second, it serves as an analytical environment for identifying potential macrofinancial risks associated with the transition process. In this context, the analysis focuses primarily on the evolution of public debt dynamics and the potential fiscal pressures that may arise during the transition period.

The algorithm of inter-model interactions (see Figure 1) begins at the first analytical level with the identification of the post-integration steady state. This task is performed using a CGE model. Within the conceptual framework of the paper, the post-integration steady state represents a hypothetical point B toward which the Belarusian economy may move once the transition process associated with EU integration has been completed. This point reflects the structural equilibrium of the economy after the institutional and economic adjustments implied by the integration scenario have taken place.

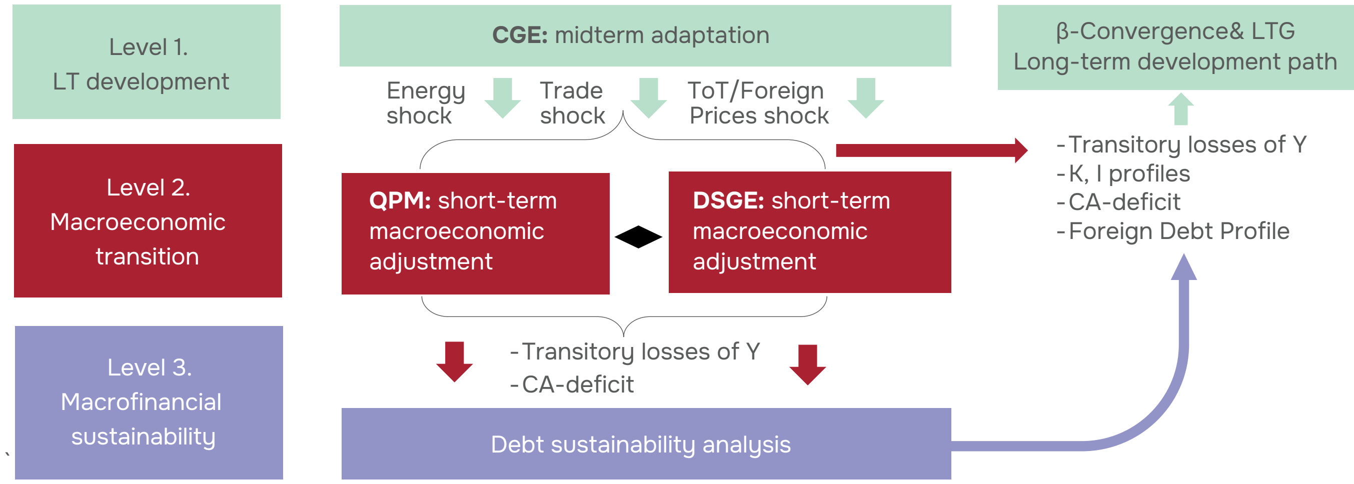

Figure 1. Summary of the Algorithm of Inter-Model Interactions

Source: Own elaboration.

In practical terms, the CGE model is used to simulate the structural changes associated with the transition toward the EU integration framework. These simulations are implemented by introducing a set of shocks that reflect the economic implications of integration. In the context of the Belarusian economy, one of the most important shocks is associated with the adjustment of energy prices. Under the current integration model Belarus benefits from preferential access to energy resources at prices that are significantly below market levels. The transition toward EU-compatible energy pricing implies a substantial increase in the effective price of energy inputs. In the CGE simulations this adjustment is represented by an energy price shock corresponding to an increase of approximately 60 percent in the weighted average price of energy resources. In addition to the energy price shock, the transition scenario also incorporates shocks related to changes in trade patterns and the terms of trade. These shocks reflect the reorientation of external economic relations and the adjustment of relative prices that accompany the shift from the existing integration framework to deeper integration with the European Union.

The role of the CGE model is therefore to describe the macroeconomic and structural characteristics of the post-integration steady state. These characteristics are important for several reasons. First, they provide insight into the structural transformation of the economy that may occur as a result of EU integration. In particular, the model allows the identification of sectoral changes in production and value added. Some industries may experience contraction due to changes in energy costs or competitive pressures, while others may expand as new opportunities emerge in the integrated European market. Second, the CGE framework allows the assessment of the export potential of different sectors of the national economy under the new trade configuration. This information is important for understanding the future structure of Belarusian exports and the potential for integration into European value chains. Third, the CGE model provides an estimate of the overall level of output associated with the post-integration steady state. This estimate serves as a first approximation of the potential welfare implications of the structural transformation implied by EU integration.

Beyond their intrinsic analytical value, the results obtained from the CGE model also play a critical role in the inter-model interaction algorithm. In particular, the estimated magnitudes of the energy shock, trade shock, and changes in output serve as input parameters for the second analytical level of the framework. These parameters are used to calibrate the shocks introduced in the short-term macroeconomic models.

At the second level of the framework the transition dynamics of the economy are analyzed using the QPM and DSGE models. The shocks identified at the CGE stage are introduced into these models in order to simulate the macroeconomic response of the economy to the structural transformation implied by EU integration. The energy and trade shocks are implemented directly in the short-term models. The estimated output losses associated with the post-integration steady state, however, are treated as indicative benchmarks rather than fixed constraints. Instead of imposing a new steady state exogenously, the short-term models generate endogenous adjustment paths in response to the introduced shocks.

Within this framework the primary object of interest is the dynamic trajectory of macroeconomic variables during the transition period. In particular, the analysis focuses on the magnitude of output decline, inflation dynamics, the evolution of the current account balance, and other key macroeconomic indicators. The maximum magnitude of the shock is defined as the local minimum or maximum value reached by the relevant variable during the transition period. An additional important aspect of the analysis concerns the duration of the transition process. In the context of this study the duration of the transition is defined as the number of periods required for the economy to recover from the initial shock and move toward the post-integration steady state. Because the QPM and DSGE models differ in their theoretical foundations and simulation methodologies, the study does not impose a strict formal definition of transition completion. Instead, the analysis relies on qualitative criteria indicating that the economy has largely adjusted to the new structural environment.

The analysis of transition dynamics employs two distinct modelling approaches corresponding to the two macroeconomic models used in the study. Within the QPM framework the shocks derived from the CGE simulations are introduced relative to the initial steady state of the economy. In this sense the model evaluates how the economy reacts when shocks associated with the characteristics of the post-integration steady state are imposed on the current economic configuration. The DSGE model adopts a different approach based on the perfect foresight solution (PF) approach. In this framework economic agents are assumed to have full knowledge of the future path of the economy and of the terminal equilibrium toward which the system converges. The model therefore evaluates the transition dynamics that arise when the economy moves from the current steady state toward a new steady state whose characteristics are known in advance. In practical terms, the post-integration steady state is imposed as the terminal condition of the model, and the transition path is computed as the deterministic trajectory connecting the initial and terminal equilibria. In the context of the present study, the PF framework is used to analyze the macroeconomic transition under the assumed process of economic integration with the European Union.

These differences in modelling methodology imply that the transition paths generated by the QPM and DSGE models may differ substantially. In the QPM framework the economy tends to revert toward the initial steady state after the shock, which generally produces more moderate responses in key macroeconomic variables. As a result, the QPM simulations tend to provide a more informative representation of the immediate macroeconomic effects observed during the early stages of the transition. By contrast, the perfect foresight solution in the DSGE framework explicitly incorporates the expectation that the economy will eventually reach the new post-integration steady state. This assumption typically produces stronger adjustment dynamics, particularly in variables related to investment and capital accumulation. Large structural shocks that reduce output relative to the initial steady state may lead to declines in the optimal capital stock and discourage investment, thereby amplifying the depth and persistence of the transition recession.

Furthermore, the perfect foresight environment affects the behaviour of forward-looking variables such as the stochastic discount factor, which reflects the intertemporal valuation of consumption and investment decisions. When agents fully anticipate the structural changes associated with the new equilibrium, they may adjust their expectations about future income and returns, leading to significant revaluations of present and future economic conditions. On the one hand, this feature represents an advantage of the DSGE framework because it captures an important behavioural channel related to expectations. On the other hand, it may exaggerate the degree of rationality and information available to economic agents, potentially leading to an overestimation of the initial magnitude of the shock. From this perspective, the QPM simulations can be interpreted as representing a baseline transition scenario that is particularly informative for the early stages of the adjustment process. The DSGE results, in turn, can be interpreted as a stress scenario reflecting stronger and more persistent adjustment dynamics. Together, these two modelling approaches provide complementary insights into the potential range of macroeconomic responses during the transition period.

The macroeconomic trajectories generated at the second analytical level also provide essential inputs for the third level of the framework, which focuses on macrofinancial sustainability. In particular, the transition scenarios derived from the QPM and DSGE simulations generate projections for key macroeconomic variables including economic growth, inflation, interest rates, exchange rate depreciation, and the primary fiscal balance. These variables are used as inputs in the debt sustainability analysis, which evaluates the evolution of the public debt-to-GDP ratio during the transition period. The purpose of this exercise is to determine whether the macroeconomic trajectories implied by the transition scenario are compatible with sustainable public debt dynamics. If the simulated transition path leads to excessive levels of public debt, the corresponding scenario may be interpreted as internally inconsistent or economically unsustainable. In this sense, the debt sustainability analysis acts as an additional robustness check for the transition scenarios generated at the previous stages of the framework.

Finally, once the characteristics and duration of the transition period have been identified, the analysis returns to the first analytical level in order to evaluate the long-run growth prospects of the Belarusian economy. At this stage the analysis draws on the empirical literature on income convergence following the framework developed by Barro and Sala-i-Martin (1992) and further elaborated in Sala-i-Martin (1996). At this stage the analysis focuses on the potential convergence of Belarus toward higher income levels observed in the European Union. The primary analytical tool used for this purpose is the World Bank Long-Term Growth Model (LTGM) developed by Loayza and Pennings (2022). This Solow-style growth model allows the simulation of long-term economic growth based on assumptions about key supply-side determinants such as capital accumulation, labour force dynamics, human capital formation, and technological progress. The model also incorporates a number of macroeconomic constraints that may influence long-term growth prospects, including the current account balance and the evolution of public debt.

In the inertial scenario (no EU integration), the LTGM simulations rely on default assumptions embedded in the model. These assumptions typically involve extrapolating recent historical trends for the relevant variables. For example, total factor productivity growth is often approximated by the average growth rate observed in the previous two decades. Investment dynamics are linked to medium-term projections from sources such as the IMF World Economic Outlook, while demographic variables are based on long-term population forecasts produced by the United Nations. Labour force participation is generally assumed to remain close to its current levels. Within this modelling framework the EU integration scenario for Belarus is represented by the introduction of a convergence premium to long-term economic growth. In practice this convergence premium is implemented primarily through an increase in the growth rate of total factor productivity, reflecting the expected effects of institutional improvements, technological diffusion, and deeper integration with European markets.

For the purposes of international comparison, the inertial LTGM projection for Belarus is evaluated alongside the corresponding projection for Poland, which serves as a benchmark economy in the analysis. Poland provides a useful reference point because it represents a successful example of economic convergence within the European Union. The EU integration scenarios therefore compare the projected growth trajectory of Belarus under the convergence assumptions with the inertial long-term trajectory observed in the Polish economy.

2.2. Computable General Equilibrium Model

A CGE model is a system of equations that describes an economy as a whole and the interactions between its parts. The standard CGE model explains all the payments recorded in the social accounting matrix (SAM) – a form of data input in the model. SAM is the square matrix that describes the circular flow of income and spending in a national economy during a specific time period, usually a year. It reports the values of all commodities that are produced and the income generated from their sales (Burfisher, 2021).

CGE models offer a consistent framework that links sectoral interactions, resource allocation, and household welfare in a general equilibrium setting. These models are particularly suited for simulating scenarios that involve large, economy-wide adjustments – such as trade liberalization, integration into new production chains, or energy price shocks. By considering both direct and indirect effects across industries and households, they allow the assessment of the full range of potential impacts, rather than focusing on isolated sectors.

The Belarusian case is a clear example where such modeling is crucial. Structural shocks, such as a sharp increase in energy prices or a reorientation of trade toward the EU, affect not only the directly exposed sectors but also the wider economy through changes in costs, relative prices, and resource allocation. A CGE framework is therefore indispensable for capturing these linkages and providing a comprehensive view of possible outcomes. Simulations based on the CGE model allow us to assess changes in the steady state of the Belarusian economy in the long term in the event of its integration with the EU.

The model for the Belarusian economy is based on the basic postulates of the CGE modeling. The baseline specification includes 17 production sectors, with the external sector represented by four counterparties – Russia, the EU, China, and the rest of the world. The introduced model uses 2019 Input–Output table data published by the Belarusian National Statistical Committee (Belstat) as input. The choice of this year is explained by the fact that it was the most recent with a complete set of available data and did not reflect significant external shocks.

The developed CGE model has been used to simulate several scenarios relevant to Belarus (BEROC, 2025). In this paper, we use the results of a CGE-based simulation of the scenario of Belarus's integration with the EU under conditions of an energy shock. This scenario assumes a threefold increase in the import price of natural gas, a 10% increase in the import price of oil and the elimination of interbudgetary transfers between Belarus and Russia. Also, it is assumed that import tariffs on goods from the EU to Belarus are reduced to zero, while for other countries they are set equal to the EU's 2021 weighted average tariffs. At the same time, the scenario reflects the likely imposition of import tariffs by Russia on Belarus should Belarus reorient itself toward the EU. The simulation also accounts for possible EU financial support to Belarus, which could partially offset the negative consequences of an energy shock for Belarus. Overall, EU assistance of €870 million is incorporated into the simulation scenario.

2.3. Quarterly Projection Model

The Quarterly Projection Model (QPM) is a semi-structural macroeconomic gap model (Mæhle et al., 2021). QPM has a flexible structure that allows incorporating expert judgments, is relatively simple to maintain, and enables users to explain the story of what is happening in the economy in a clear and internally consistent way, to form forecast scenarios, and to develop recommendations for the application of certain measures of economic policy.

The key equations in QPM are presented in deviations (gaps) of macroeconomic variables from their equilibrium levels, where equilibrium is defined as a level of an economic indicator that does not exert upward or downward pressure on inflation (inflation level corresponds to inflation expectations).

In contrast to econometric models, semi-structural gap models have a more robust theoretical foundation, primarily based on microeconomic principles. Unlike full structural models (DSGE), semi-structural model parameters do not impose strict structural constraints, and microeconomic variables are approximated by macroeconomic indicators.

Some components of QPM are ad-hoc elements, which distinguish it from DSGE. QPM has a rudimentary supply block, where most trends (equilibrium components) of economic variables are represented as stochastic processes that guarantee convergence of indicators to an exogenously defined steady state in the medium term (Berg et al., 2006). Since QPMs are generally used by central banks to support monetary-policy decision-making, simplifying the supply block is justified: monetary policy does not have a direct effect on the long-term trends of real economic variables, but it is a crucial stabilization tool for the business cycle in the short and medium term.

The gap model for Belarus comprises eight blocks:

1. The aggregate demand block describes the dynamics of the output gap $(\hat{y}_t)$, which is the deviation of the real GDP (y_t) from its potential (equilibrium) level $(\bar{y}_t)$.

2. The fiscal policy and wage block determines the dynamics of consolidated budget expenditures in Belarus and wages.

3. The inflation block, which is represented by modified New Keynesian Phillips curves.

4. The external trade block determines the dynamics of Belarus's trade in goods and services.

5. The exchange rate block determines the dynamics of the effective exchange rate of the Belarusian ruble.

6. The reaction function of monetary policy, which is represented by a modified Taylor rule for flexible inflation targeting with incomplete control of the National bank for the interbank interest rate.

7. The block of interest rates on the credit and deposit market determines the behavior of interest rates on new time deposits and new market loans for organizations and the population in Belarusian rubles.

8. The external sector block describes the dynamics of output gap, inflation, money market interest rates, and exchange rates in Belarus's trading partner countries, as well as oil prices.

The model parameters were calibrated to account for stylized facts of the Belarusian economy, considering changes in its functioning after 2022, such as increased financial sector isolation, shifts in trade flows towards Russia, and changes in monetary and exchange rate policies (BEROC, 2023).

Since changes in the trend values of macroeconomic variables in the developed QPM have an extremely limited effect on the equilibrium state of the economy described by the model, within this framework it is reasonable to simulate only those shocks that can lead to economic imbalances in the short and medium term. Simulating such shocks will show the trajectory of deviations of GDP from its potential level (regardless of changes in the potential output itself), deviations of inflation from the National Bank's target, and will make it possible to determine the optimal monetary policy response of the National Bank to these shocks. Thus, using the QPM to study the economic consequences of Belarus–EU integration is appropriate for designing monetary policy measures aimed at restoring macroeconomic stability after the inevitable short-term disruptions associated with the severing of economic ties with Russia.

In line with the simulations conducted in the CGE model, the following shocks were incorporated into the QPM-based simulations:

1. A 200% increase in the import price of natural gas. This assumption was introduced through shocks to core and non-core inflation. The magnitudes of the shocks were calibrated at 6 p.p. for each inflation component, based on the facts that fuel expenses account for about 5% of the cost structure of Belarusian firms, and natural gas represents around 60% of domestic energy consumption.

2. A 10% increase in the import price of oil. This assumption was introduced through a shock to non-core inflation, which includes changes in fuel prices. The shock size was calibrated at a 1 p.p. increase in non-core inflation, given that fuel accounts for about 10% of the non-core consumer price index.

3. A reduction in general government budget expenditure of 1.4 p.p. of GDP. It is assumed that the loss of transfers from the Russian budget will lead to a 2 p.p. decline in government revenues and, accordingly, expenditures. At the same time, activation of the "frozen" EU assistance package could compensate for about 0.6 p.p. of GDP in lost revenues and expenditures.

The effect of tariff changes on inflation was not included in the QPM simulations, since the expected change in the average import tariff is small (a decline of approximately 0.4 p.p.) and can be offset by firms' profits.

2.4. Dynamic Stochastic General Equilibrium Model

2.4.1. Overview

The DSGE framework employed in this paper is built on the dynamic stochastic general equilibrium model developed for the Belarusian economy in BEROC (2020), but introduces a number of substantial revisions and extensions designed specifically for the analysis of structural regime change. That model was originally designed as a structural macroeconomic tool for analyzing macroeconomic fluctuations, policy transmission mechanisms, and external shocks in a small open economy with features characteristic of Belarus. For the purposes of the present study, however, the model has been substantially revised, recalibrated, and extended. The revisions were motivated both by structural changes in the Belarusian economy since the original model was developed and by the specific analytical objective of the present paper, which focuses on the macroeconomic dynamics associated with a potential regime shift linked to EU integration.

In its core structure, the model belongs to the class of New Keynesian DSGE models for a small open economy and incorporates the key mechanisms typically used to analyze macroeconomic adjustment in open economies with nominal rigidities. Production is organized through a standard two-tier structure in which wholesale firms produce intermediate goods using capital and labor, while retail firms operate under monopolistic competition and face nominal rigidities in price adjustment of the Calvo type. Wage formation is also subject to nominal rigidity, reflecting institutional characteristics of the Belarusian labor market. These features allow the model to generate realistic inflation dynamics and transmission of cost shocks into prices.

Households make intertemporal consumption and labour supply decisions, hold financial assets, and allocate their deposits between domestic-currency and foreign-currency instruments. Although financial dollarization is incorporated in the model through the structure of household deposits and interest rate premia, this mechanism plays a relatively limited role in the simulations performed in this paper. Capital accumulation follows the standard law of motion with investment adjustment costs, which generate gradual responses of investment and capital to macroeconomic shocks. The external sector is represented through export demand, import demand, terms-of-trade dynamics, and an uncovered interest parity condition augmented by a country risk premium related to external debt exposure. Monetary policy is described by a rule-based reaction function in which the policy interest rate responds primarily to deviations of inflation from its target.

An important feature of the model is its ability to capture structural characteristics that are specific to the Belarusian economy. The baseline specification therefore incorporates several institutional and macroeconomic mechanisms that distinguish Belarus from a typical small open market economy. In particular, the model reflects the relatively high degree of wage rigidity and administrative influence in the labor market, which is partly associated with the large role of state-owned enterprises and coordinated wage setting practices. These features are captured through parameters governing wage adjustment and the degree of nominal rigidity in the labor market. The model also accounts for specific characteristics of the Belarusian financial system, including the coexistence of domestic- and foreign-currency financial instruments and the presence of a risk premium associated with external borrowing conditions. In addition, the specification incorporates the sensitivity of the economy to external shocks transmitted through trade flows, foreign demand, and changes in international financial conditions, which historically have played a significant role in Belarusian macroeconomic fluctuations. Furthermore, an important structural feature incorporated in the model relates to the historically important role of preferential access to energy resources provided within the framework of economic relations with Russia.

For the purposes of the present paper the model has been substantially recalibrated and extended. First, the parameterization has been updated so that the steady state of the model reproduces the current macroeconomic proportions of the Belarusian economy. In particular, key ratios such as the shares of consumption, investment, government spending, and trade in GDP are aligned with contemporary macroeconomic data. The recalibration ensures that the initial steady state used in the simulations corresponds to the current structural configuration of the Belarusian economy.

Second, the mechanism linking energy prices and productivity has been refined. While the baseline model already allowed energy price advantages to affect total factor productivity, the revised specification introduces a more explicit representation of the transmission channel through which energy prices influence economic performance. This mechanism is represented as a productivity wedge affecting total factor productivity, allowing preferential energy pricing to operate as a structural determinant of the equilibrium level of output. Lower effective prices of energy inputs increase the efficiency of production and therefore raise the level of output that can be sustained in equilibrium (see Equation 1).

$$lnA_t = ln\left(\overline{A}_t\right) + (\vartheta_e + \vartheta_{adapt})*\left(ln\left(P_{e,t}\right) - ln\left(\overline{P}_{e,t}\right)\right) \tag{1}$$

where A_t – is actual TFP, $\overline{A}_t$ – TFP frontier mainly associated with technology level and modelled as AR(1) stochastic process, $P_{e,t}$ - actual energy price, $\overline{P}_{e,t}$ - expected market price without special conditions, ϑ_e - parameter responsible for transmitting preferences in energy price into productivity gains, for initial steady state ϑ_e =-0.05, ϑ_{adapt} – the parameter responsible for weakening the specific productivity gains accumulation once the EU integration started, ϑ_{adapt} =0 for initial steady state, gradually tends to ϑ_{adapt} =-0.01 since the start of the EU integration.

This specification allows the model to reproduce one of the key structural advantages that has historically influenced the Belarusian economic equilibrium. Lower energy prices can be interpreted not only as a direct cost advantage but also as a structural productivity bonus that increases the efficiency of production across sectors. ϑ_e =-0.05, implies that a 1% lower energy price increases effective productivity by about 0.05%. Consequently, the approximately 60% energy price preference embedded in the initial steady state corresponds to a productivity bonus of about 2.3%. In the EU integration scenario considered in this paper, this energy subsidy is removed, implying that the associated productivity advantage disappears following the energy price shock.

Third, the updated model introduces a direct link between energy prices and firms' marginal costs. Energy price increases therefore affect the production cost structure of the economy and propagate through the price-setting mechanism of firms. This channel allows energy price shocks to generate cost-push inflation dynamics that are consistent with the macroeconomic structure of an energy-intensive economy. Fourth, the inflation block of the model has been extended in order to incorporate an explicit energy component in consumer price dynamics. Energy prices influence consumer price inflation both directly, through the energy component of the consumption basket, and indirectly through their impact on marginal costs and production prices. This modification allows the model to capture the transmission of energy price shocks into broader inflation dynamics more realistically. Finally, the model now includes a separate component of energy imports. This extension makes it possible to track the effects of energy price changes on the real volume of energy imports as well as on the broader structure of external trade. In the context of the transition scenarios analyzed in this paper, this feature is particularly important because changes in energy pricing represent one of the key structural shocks associated with the transition toward EU-compatible economic relations.

Taken together, these revisions transform the original DSGE framework into an analytical tool specifically designed to study the macroeconomic consequences of structural regime change and the adjustment dynamics associated with the transition toward a new steady state configuration. While preserving the core logic of the original model, the updated specification provides a more detailed representation of the energy channel and aligns the steady-state structure of the model with the current characteristics of the Belarusian economy. As a result, the model provides a suitable analytical environment for studying the macroeconomic adjustment dynamics associated with the transition from the current economic regime toward a potential post-integration steady state.

2.4.2. Perfect Foresight Solution

DSGE models are typically used to analyze the dynamic responses of macroeconomic systems to structural shocks and policy changes. While stochastic simulations are appropriate for studying fluctuations around a stationary equilibrium, many policy questions, like ours in this paper, involve structural changes that permanently alter the economic environment. In such cases, the relevant analytical framework is a PF transition experiment, in which economic agents are assumed to fully anticipate the new economic regime and adjust their decisions accordingly.

Perfect foresight simulation is different in nature from studying the shocks given the initial steady state. Alternatively, it computes the entire transition path between two steady states of the model. Instead of focusing on local impulse responses around a fixed equilibrium, the PF approach explicitly characterizes the dynamic adjustment of the economy when a structural change permanently shifts the equilibrium configuration. This methodology is particularly suitable for the analysis of large structural transformations, such as institutional reforms, trade regime changes, or energy market liberalization.

A PF experiment computes the sequence of endogenous variables for periods (0, T) (where T – is the PF horizon) subject to three boundary conditions:

1. **Initial condition.** The economy starts from the initial steady state (SS0) that represents the pre-reform economic environment with subsidized energy prices.

2. **Structural change.** The reform is introduced in the 1st period by modifying the parameter governing the effective price of energy. This permanently alters the equilibrium conditions of the model and defines a new steady state (SS1), which is the post-integration steady state in the terminology of our study.

3. **Terminal condition.** The transition path must converge to SS1 in the final period (T) of the PF horizon.

The PF solver therefore computes the sequence for periods (0, T) such that the equilibrium conditions of the model hold in every period, while the terminal state coincides with the new steady state. Numerically, the PF problem is solved as a large nonlinear system of equations using Newton-type algorithms implemented in Dynare's perfect foresight routines. Because agents anticipate the full transition path, forward-looking variables such as consumption, investment and asset prices adjust immediately once the reform is announced.

In our case, the main structural change and simultaneously terminal condition for the new steady state is associated with the energy shock stemming from the elimination of the Russia-related energy price subsidy. Historically, Belarus has benefited from preferential energy pricing arrangements, particularly with respect to imported hydrocarbons. This forms part of the initial steady state of the model through the introduction of a permanent wedge into the dynamics of energy prices in the model, which are specified according to Equation 2.

$$ln\left(P_{e,t}\right) = (1-\rho_e)*ln\left(\overline{P}_{e,t}\right) + \rho_e*ln\left(P_{e,t-1}\right) + \omega_{e,t} + \sigma*\varepsilon_{e,t} \tag{2}$$

where $P_{e,t}$ – actual energy price, $\overline{P}_{e,t}$ – expected market price without special conditions, $\omega_{e,t}$ – permanent energy price wedge associated with the special conditions in relations with Russia, $\varepsilon_{e,t}$ – stochastic shock, ρ_e – parameter, σ – scaling parameter.

In the initial steady state permanent wedge is calibrated negatively:

$$\omega_{e,t} = (1-\rho_e)*ln(0.625) = -0.0893 \tag{3}$$

This implies that the nullification of the preferential conditions results in a 60% increase in the energy price. The elimination of these subsidies represents a permanent change in the relative price of energy faced by domestic producers.

As shown above, this energy shock is going to spread through the economy through different channels, the main of which are: (i) productivity, (ii) marginal cost, (iii) direct impact on prices. The PF approach is therefore well suited to answering the central research question of the paper: how the economy reallocates resources and capital when the energy pricing regime changes permanently.

The PF experiment proceeds in several steps. First, the model is calibrated and solved for the initial steady state representing the pre-reform economic environment. This equilibrium corresponds to an economy operating under subsidized energy prices. Second, the structural reform is introduced (mainly through modifying the parameter governing the effective price of energy). Third, the perfect foresight solver is used to compute the deterministic transition path from the initial steady state to the new equilibrium implied by the reform. Agents in the model are assumed to perfectly anticipate the future path of the economy and therefore adjust consumption, investment, and production decisions immediately after the policy change. Formally, the PF solution computes the sequence of endogenous variables that simultaneously satisfies the model's equilibrium conditions in every period while converging to the new steady state in the terminal period of the simulation horizon.

A key technical issue in PF simulations concerns the choice of the transition horizon. Because the terminal condition requires the economy to reach the new steady state in the final period of the simulation, a horizon that is too short may artificially accelerate the adjustment process. Conversely, an excessively long horizon increases computational costs without materially affecting economically relevant dynamics. In the present study the horizon length is determined using a combination of numerical and graphical diagnostics. Multiple PF simulations are performed using horizons ranging from 60 to 200 quarters. The trajectories of core macroeconomic variables then are compared across simulations. The comparison shows that for horizons shorter than approximately 100 quarters the adjustment of capital is artificially accelerated in order to satisfy the terminal condition. However, for horizons of 120 quarters and above the trajectories of the main macroeconomic variables become nearly identical during the economically relevant portion of the transition. This behavior reflects a standard property of DSGE models with physical capital: because capital depreciates slowly, the final approach to the new steady state can take a very long time. Increasing the PF horizon therefore mainly affects the far tail of the transition rather than the economically meaningful short- and medium-run dynamics. On the basis of these diagnostics, a horizon of 200 quarters was adopted in the baseline simulations. This value ensures numerical convergence of the PF solution while leaving the economically relevant transition dynamics unaffected.

To ensure the numerical validity of the PF results, several diagnostic checks are conducted. First, the convergence of the simulation is verified by examining whether endogenous variables become approximately constant in the final periods of the horizon. This check confirms that the simulated trajectory approaches the terminal steady state. Second, the residuals of the model's equilibrium equations were evaluated using the final simulated values of the endogenous variables. Residuals close to zero confirm that the terminal point of the simulation satisfies the model's equilibrium conditions. Third, robustness tests were performed by comparing PF trajectories across alternative horizons. Particular attention is paid to the behavior of capital, which typically exhibits the slowest convergence in DSGE models. If the capital trajectories coincide during the early periods of the simulation, the PF horizon can be considered sufficiently long.

Finally, several graphical diagnostics are used to analyze the mechanisms driving capital adjustment, including decompositions of investment and depreciation flows, and channels that drive investments. Together, these checks confirm that the PF simulations used in this study provide a numerically stable and economically meaningful representation of the transition dynamics following the removal of energy subsidies.

2.5. Debt Sustainability Analysis

Public debt can be regarded as sustainable when the primary balance needed to at least stabilize debt under both the baseline and realistic shock scenarios is economically and politically feasible, such that the level of debt is consistent with an acceptably low rollover risk and with preserving potential growth at a satisfactory level (IMF, 2013).

To project the public debt dynamics during the transition period the "automatic" debt dynamics equation was used (Acosta-Ormaechea & Martinez, 2021):

$$d_t = \varphi_t d_{t-1} - pb_t \quad (4)$$

where d_t – is public debt (relative to GDP); pb_t – is the primary fiscal balance (relative to GDP).

The coefficient for automatic debt dynamics, $\varphi_t = \frac{1 + r_t}{1 + g_t}$ measures how the previous-period debt ratio affects the current-period ratio, where g_t is the real GDP growth rate, $r_t$is the (gross) real cost of debt that includes exchange rate valuation effects. Information on the currency composition of Belarus's public debt has not been published since 2022. Prior to this period, public debt was almost entirely denominated in foreign currencies, with the US dollar dominating. Due to the impact of sanctions on Belarus and Russia, the debt structure could have shifted in 2022-2025, with a significant increase in the share of the Russian ruble, but the public debt itself would likely remain overwhelmingly denominated in foreign currencies. For this reason, further calculations assume that Belarus's public debt is in foreign currency.

The baseline transition scenario should be consistent with the macroeconomic framework used to construct the Belarus-EU integration scenario. The results of CGE and QPM were used to construct the baseline transition path. In the stress transition scenario the results of CGE and DSGE simulations were incorporated. We do this not fully straightforwardly, but with the inclusion of expert assessments of the results of the corresponding model simulations. The assumption is also made for a significant increase in the cost of debt for Belarus amid a deeper economic downturn. The primary budget balance has been recalculated in line with the change in GDP growth compared to the baseline transition scenario.

2.6. Long-run Convergence and Long-Term Growth Model

2.6.1. The concept of long-run convergence and its application for the study

The concept of beta-convergence originates from the neoclassical growth framework and was formalized empirically by Barro and Sala-i-Martin (1992). The central idea is that economies with lower initial levels of income tend to grow faster than richer ones, conditional on structural characteristics. This mechanism reflects diminishing returns to capital and technological diffusion, which together generate a tendency for poorer economies to catch up with richer ones over time. In empirical work, beta-convergence is typically tested by regressing the average growth rate of income on the initial level of income (see Equation 5).

$$\frac{1}{T} ln\left(\frac{y_{t+T}}{y_t}\right) = \alpha - \beta * ln\left(y_t\right) + \gamma' * X_{i,t} + \varepsilon_t \tag{5}$$

where y_t - is the level of income (typically GDP per capita) at time t, T – is the time horizon over which growth is measured, $X_{i,t}$ – the vector of conditioning variables, α – is a constant, β – the speed of convergence, ε_t – error term.

The vector X_i includes structural and institutional characteristics that influence the long-run equilibrium level of income. Typical examples include investment rates, education, institutional quality, macroeconomic stability indicators, and openness to trade. Including these variables allows the regression to capture conditional convergence rather than absolute convergence. Hence, β is interpreted as the speed of conditional convergence, of just β-convergence. A useful interpretation is that beta represents the proportion of the income gap closed each period due to convergence forces, i.e. in addition to those associated with structural variables X_t. For example, if beta equals 0.02, approximately 2 percent of the gap between current income and the steady state level is eliminated each year.

In the context of policy-oriented macroeconomic analysis, β-convergence can also be interpreted as a mechanism describing how quickly an economy approaches its long-run steady state. This interpretation makes the framework particularly useful when analyzing structural transformations such as economic integration, institutional reforms, or large shifts in external economic conditions.

The standard beta-convergence regression can be reinterpreted in terms of the distance between the current level of income and the steady state level y^*, for which the expected growth rate is zero. Solving the Equation (5) for the level $ln\left(y^*\right)$ gives:

$$ln\left(y^*\right) = \frac{\alpha + \gamma' * X_{i,t}}{\beta} \tag{6}$$

Substituting the steady state expression into the original regression yields an alternative representation of the growth process.

$$g_t = \beta * \left(ln\left(y^*\right) - ln\left(y_t\right) \right) \tag{7}$$

where g_t - is the average GDP growth rate.

For long-run macroeconomic projections, it is often useful to respecify the logic of 'only convergence' to the logic 'frontier/baseline growth plus convergence markup'. So, 'only convergence' in this case is decomposed to two drivers. The first, baseline growth reflects frontier technological progress and structural trends that affect all economies. These may include frontier productivity improvements, demographic developments, and long-term technological diffusion. The second, still denotes convergence, but in a sense of 'pure convergence', i.e. in addition to growth due to structural factors. In this case, Equation (7) is re-specified to:

$$g_t = g_{baselne} + \beta * \left(ln\left(y^*\right) - ln\left(y_t\right) \right) \tag{8}$$

where $g_{baselne}$ - is the growth rate due to structural factors.

As shown in the Sections 2.1 and 2.4, the start of the EU integration for Belarus might lead to a transitional recession. Taking it into account, we adjust the Equation (8) with a term denoting the contribution of the transitional recession. This term is expected to be negative during the period of the transitional recession, and zero afterwards. Finally, Equation (9), which allows combining exogenous assumptions about frontier productivity trends with endogenous catch-up dynamics, and contribution of the transitional recession is used for long-run projections:

$$g_t = g_{baselne} + g_{tr\_r} + \beta * \left(ln\left(y^*\right) - ln\left(y_t\right) \right) \tag{9}$$

where g_{tr_r} - is the drop rate due to the transitional recession.

Empirical literature on economic convergence typically finds a β-convergence speed of about 2% per year. The classical works of Barro and Sala-i-Martin show a robust negative relationship between initial income levels and subsequent growth and estimate convergence speeds of roughly 1.5–2% annually in cross-country and regional data (Barro & Sala-i-Martin, 1992; Sala-i-Martin, 1996). This result has become the standard benchmark used to calibrate the β parameter in long-run growth models. For applied studies, the β parameter can also be estimated using cross-country or panel data. Because the available time series for a single country are often too short to produce reliable estimates, panel estimates across many countries provide a more robust empirical benchmark. For transition economies and countries undergoing structural transformation, it is common to calibrate β using empirical estimates obtained from comparable countries that previously experienced similar convergence processes.

The studies focusing on the EU suggest that institutional and economic integration with the EU may accelerate the catch-up process. Empirical estimates of EU membership effects show significant positive deviations of observed income trajectories from counterfactual scenarios. For example, Campos, Coricelli and Moretti (2019) find that on average GDP per capita was about 10% higher ten years after accession compared with a synthetic counterfactual without EU membership. Similar conclusions regarding the positive impact of institutional integration on growth and productivity are reported in subsequent work (Campos, Coricelli & Franceschi, 2022) and in reviews of the economic consequences of EU enlargement and integration into the Single Market (Pasimeni, 2024). In addition, research on convergence within the EU emphasizes that the speed of convergence can vary substantially depending on macroeconomic conditions, institutional quality, and the depth of economic integration (Coutinho & Turrini, 2019).

Taken together, this gives us the background to consider β for the Belarusian case within the 0.02 to 0.03 interval. The value of 0.02 might be considered as the lower bound peculiar to more conservative assumptions, the value of 0.03 might be associated with no-headwinds convergence process.

2.6.2. LTGM

To analyze long-run growth dynamics and convergence prospects, we employ the World Bank Long-Term Growth Model (Loayza & Pennings, 2022). This is a transparent spreadsheet-based framework relying on the standard Solow–Swan growth model. The LTGM is designed for long-horizon scenario analysis and has been widely used in country growth diagnostics and policy studies. The model links long-run output dynamics to investment behavior, productivity growth, human capital accumulation, and demographic trends.

The analytical structure of the LTGM is built around three fundamental blocks: the production side, capital accumulation, and demographic-labor dynamics. The production side of the model is represented by a Cobb–Douglas production function in which output depends on total factor productivity (TFP), physical capital, effective labor, and human capital. Effective labor is defined as the product of the number of workers and the level of human capital per worker. This specification implies that long-run growth may arise from improvements in productivity, increases in the capital stock, demographic expansion, or human capital accumulation. The second block of the model describes capital accumulation. The evolution of the capital stock follows the standard law of motion. Consequently, the investment-to-GDP ratio plays a central role in determining the long-run growth trajectory of the economy. The third block of the LTGM captures demographic and labor market dynamics. GDP per capita growth is decomposed into several components reflecting population growth, the working-age population share, and labor force participation rates. In this framework, the number of workers depends on the size of the working-age population and the labor force participation rate. As a result, demographic transitions, such as population aging or changes in labor participation, can significantly affect long-run economic growth. In addition to these core blocks, the LTGM also incorporates an external financing constraint linking investment to savings and the current account balance. Investment may be financed through domestic savings or external sources such as foreign direct investment and external borrowing. This feature allows the model to examine whether projected investment paths are compatible with sustainable external balances.

The model requires a relatively small number of structural parameters, including the labor share of income, the depreciation rate of capital, and the initial capital-to-output ratio. These parameters are typically calibrated using international datasets, first of the Penn World Tables (for majority of countries). Furthermore, several key variables must be specified through forward-looking assumptions. These include the growth rate of total factor productivity, the rate of human capital accumulation, demographic trends, and labor force participation rates. The default projections embedded into the baseline version of the LTGM typically base main demographic variables on the UN population projections to 2100, while other core variables are extrapolated based on either current values (e.g. labor participation ratios), or on actual averages from past 10 to 20 years. For instance, the baseline growth rate of human capital is the extrapolation of the actual 10-year average growth in a country, while TFP growth rate is the one of the actual 20-year average growth rate (with Penn World Tables as the data source).

2.6.3. Long-run projections combined with transitional dynamics

The long-run simulations implemented within the LTGM framework are designed to visualize the potential long-term economic implications of Belarusian EU integration. While the macroeconomic models discussed in previous sections focus on the transitional adjustment period, the LTGM provides a complementary perspective by tracing the long-run trajectory of the economy once transitional shocks have been absorbed. In particular, the LTGM simulations allow the evaluation of long-run income dynamics, the potential scale of convergence toward more advanced European economies, and the comparison of alternative long-term development paths under different integration scenarios.

The natural benchmark for evaluating these trajectories is the inertial scenario. In the context of this study, the inertial scenario corresponds to the default baseline configuration of the LTGM model. This configuration combines the extrapolation of historical trends for several key variables with externally provided demographic projections. In particular, long-term assumptions for total factor productivity growth, human capital accumulation, and the investment share of GDP are constructed through extrapolation of historical trends observed in recent decades. Demographic dynamics are based on the long-term baseline projections of the United Nations population forecasts. This configuration therefore represents a continuation of the existing structural and institutional trajectory of the Belarusian economy in the absence of major structural shifts. The resulting LTGM baseline can thus be interpreted as a policy-neutral or inertial development path.

While the inertial trajectory provides an internal benchmark for the Belarusian economy, the analysis also requires an external reference point. The purpose of this external benchmark is to illustrate the distance between Belarus and a plausible regional convergence frontier. For reasons of transparency and empirical relevance, Poland is chosen as this benchmark economy. In the LTGM simulations the Polish economy is represented by its own inertial baseline scenario extending to the end of the simulation horizon. The assumptions underlying Belarusian and Polish LTGM inertial scenario are summarized in Table 1.

Table 1. Inertial Scenario: the assumptions for LTGM simulations and its results

Indicator	Belarus	Poland
Labor share, %	57	54.8
Depreciation rate, %	4.4	5.3
Investment to GDP ratio, %	28	18
Population growth rate, %	-1.0	-0.9
Labor participation rate, %	79.2	74.6
Human capital growth rate, %	0.8	0.5
TFP growth rate, %	0.1	0.7
Outcome: average annual GDP growth rate, 2026-2100	0.2	0.9
Outcome: average annual per capita GDP growth rate, 2026-2100	1.2	1.9

Source: LTGM, version 5-72, November, 2025 (World Bank, 2025).

The choice of Poland as a reference economy is motivated by several considerations. First, Poland represents one of the most relevant comparators for Belarus in terms of geographical proximity and historical development patterns. Second, the two economies share several structural characteristics, including relatively similar human capital profiles and comparable levels of labor force participation. Third, in a scenario of Belarusian EU integration Poland is likely to function as an important regional economic anchor. Through mechanisms such as trade integration, foreign direct investment, technological diffusion, and the development of cross-border value chains, the Polish economy may serve as a practical convergence frontier for Belarus in the medium and long run. Within this framework the central indicator of convergence used in the analysis is the relative income level (GDP per capita, PPP approach, constant 2021 int.$) of Belarus compared with Poland. In the inertial scenario this ratio reflects the evolution of relative income under the default LTGM assumptions for both economies. It therefore provides a transparent benchmark against which alternative EU integration scenarios can be evaluated.

The EU integration pathway is analyzed using a scenario-based approach. Because the economic consequences of integration depend on a variety of uncertain factors, including the magnitude of transitional adjustment costs and the strength of long-run convergence mechanisms, it is not appropriate to rely on a single deterministic projection. Instead, the analysis considers a set of alternative scenarios representing different combinations of transitional dynamics and long-run growth mechanisms. Each scenario is evaluated relative to the inertial trajectory of Belarus and compared with the corresponding Polish inertial projection. The design of these scenarios reflects three key dimensions of economic adjustment. The first is the depth and duration of the transitional recession. Estimates of the transitional shock are summarized from the macroeconomic simulations in QPM and DSGE modelling frameworks. The second dimension is the speed of convergence (β), which varies in terms of how quickly it begins to affect the economy and its long-term level. The third dimension reflects the possibility that EU integration may directly influence the long-run rate of productivity growth (e.g. through improvements in institutional quality, increased competition, technological diffusion, and stronger integration into European value chains).

Based on these three dimensions, three EU integration scenarios are considered. The first scenario, 'EU integration: Stress' represents a stress case and is characterized by the most challenging transition environment. In this scenario the Belarusian economy experiences a relatively deep and prolonged transitional recession, the convergence mechanism activates only gradually, and the speed of convergence is assumed to be slow (β=0.02). Moreover, no direct positive effect of EU integration on the long-run growth rate of total factor productivity is assumed. Under these conditions convergence toward the frontier occurs solely through the gradual closing of the income gap. The second scenario, labelled the 'EU integration: Convergence only' scenario, represents a moderately conservative integration path. In this case the transitional recession is less severe and shorter than in the stress scenario. Convergence dynamics begin earlier and its speed is somewhat higher than in the stress-scenario, but still pretty modest (β=0.025). Furthermore, similarly to the stress scenario, no additional direct productivity acceleration is assumed. Long-run growth improvements therefore arise exclusively through the convergence mechanism. The third scenario, 'EU integration: Baseline' represents an EU integration scenario, without facing extra-obstacles. In this case the transitional recession remains moderate (the same as in the 'Convergence only' scenario), while convergence dynamics activate relatively quickly after the transition phase and the speed of convergence lies at the upper boundary of the empirically plausible range (β=0.03)[1]. However, the latter – given that we use Poland as the regional frontier for Belarus rather than the global technological frontier – should still be interpreted as remaining within conservative limits. In addition, the scenario assumes that EU integration generates a direct improvement in productivity growth. Specifically, the long-run growth rate of total factor productivity is assumed to converge toward the level currently observed in Poland, which is approximately 0.7% per year. Given the significant structural distortions historically present in the Belarusian economy, such an increase in productivity growth can be interpreted as a moderate assumption. The Belarusian economy has got huge accumulated distortions, which restrict the growth of productivity in Belarus (Kruk, 2020) from today's perspective. But for the future, it means that potential productivity gains associated with institutional reform and deeper market integration are quite high. The narrative characteristics of the scenarios are reported in Table 2.

Table 2. The characteristics of the scenarios for long-term projections

Scenario\Indicator	Transition Drop	Convergence Speed	TFP Growth Markup
EU integration: Stress	Deep	Slow	None
EU integration: Convergence only	Moderate	Modest	None
EU Integration: Baseline	Moderate	Moderate	Positive

Source: Own elaboration.

[1] We report a full list of the numerical values of the assumptions in Section 3.

Importantly, the scenario design intentionally avoids overly optimistic assumptions. The scenario set consists of one baseline integration scenario and two downside scenarios rather than including any explicit upside case. This conservative approach ensures that the analysis does not exaggerate the potential benefits of EU integration and instead focuses on trajectories that remain plausible even in the presence of substantial adjustment challenges.

Together, these scenarios provide a structured framework for evaluating the long-run implications of Belarusian EU integration. By combining long-run LTGM projections with transitional dynamics derived from macroeconomic models, the analysis makes it possible to assess how different adjustment paths may translate into long-term convergence outcomes relative to the regional frontier represented by the Polish economy.

3. Results

3.1. Computable General Equilibrium Model

The liberalization of trade in goods with the EU, combined with a significant increase in oil and gas import prices for Belarus will lead to significant sectoral changes (see Figure 2).

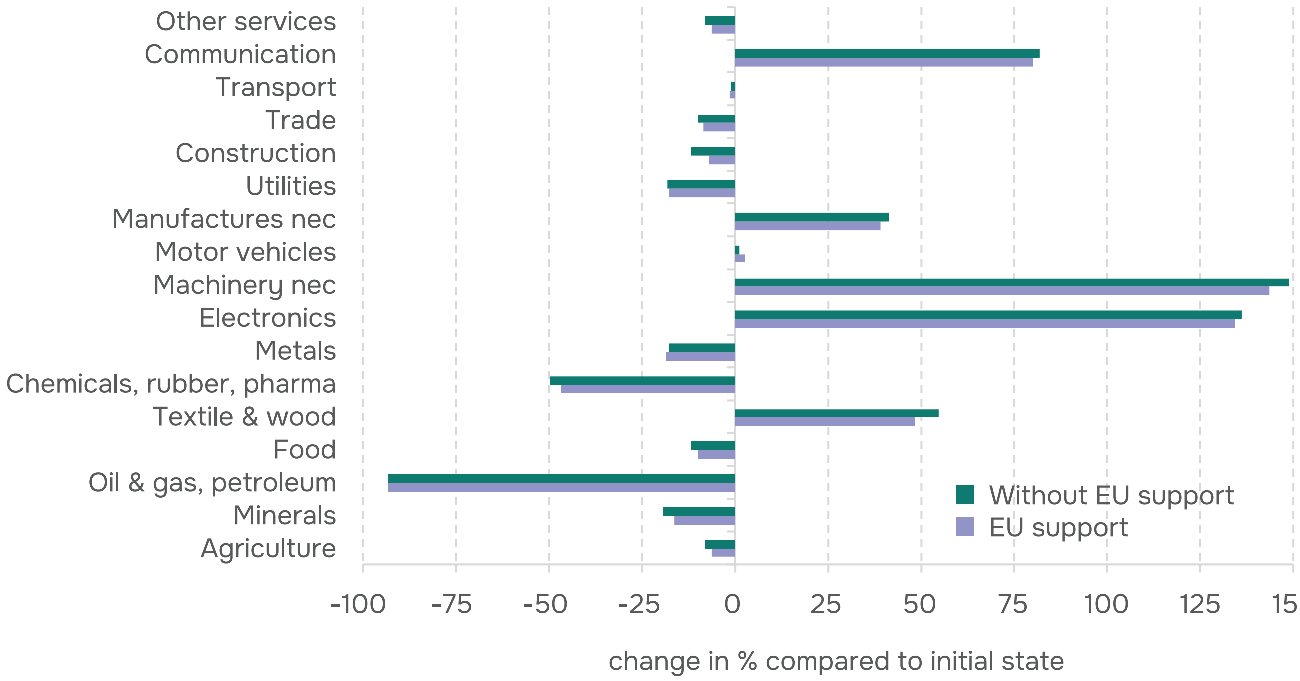

Figure 2. Sectoral value added: results of CGE-based simulation

Source: Own elaboration.

Domestic production and exports of petroleum products practically cease, while the country's demand for energy resources is met entirely through imports. The outsiders are the industries engaged in primary processing of raw materials, for which fuel resources are highly significant: the chemical industry, the production of plastic and rubber products, metallurgy, the extraction of non-oil-and-gas minerals, and the production of other non-metallic products. Output also declines in the electricity and water supply sectors, as well as in construction and trade. Agriculture and the food industry are also suffering losses in output, value added and exports due to their dependence on the Russian market. These sectors would probably face difficulties adjusting to EU competition and new trade barriers with Russia.

Labor and capital resources from the predominantly low- or medium-technology industries mentioned above flow into sectors with higher value added and export potential. Output, exports, and value added increase in the sectors of mechanical engineering, other manufacturing, light industry, woodworking, and information and communications. These findings reflect higher capacity of more sophisticated sectors to integrate into European markets and adapt to new competitive conditions.

The macroeconomic effects of Belarus's trade liberalization with the EU and its complication with Russia under energy shock conditions will be reflected in declining government and household incomes, which will lead to reduced public and private consumption as well as investment. As a result, GDP will contract by 3.9% in the long run. EU financial support of €870 million makes it possible to reduce GDP losses by about 1.2 p.p. by mitigating the decline in consumption and investment (see Figure 3).

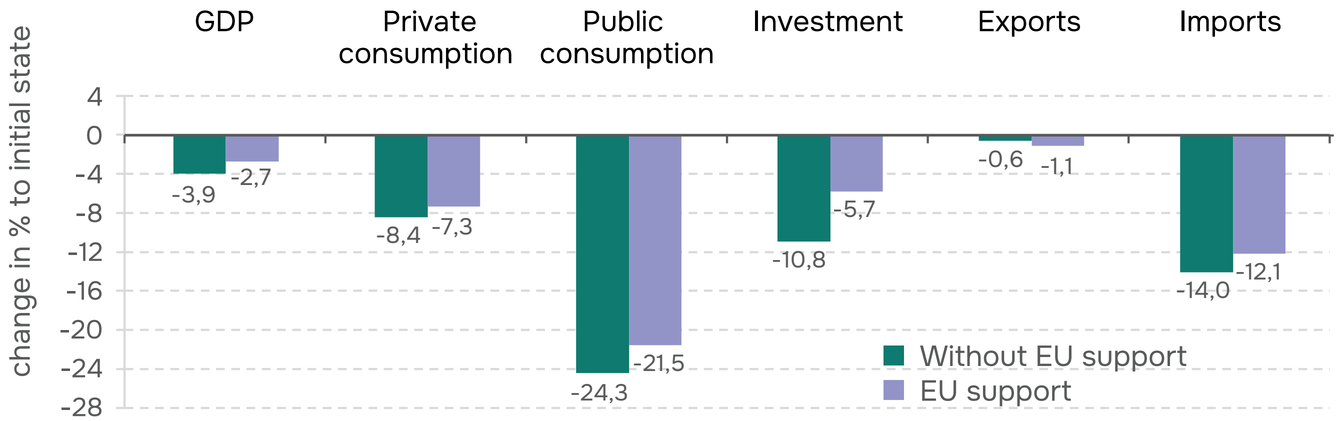

Figure 3. Macroeconomic effects: CGE-based simulation results

Source: Own elaboration.

3.2. Quarterly Projection Model

Figure 4 presents the results of the QPM-based simulation. The variables in Figure 4 are shown as deviations from their steady state levels. The sharp increase in import prices for energy resources generates a large inflationary shock. Due to the inertia of inflationary processes and rising inflation expectations, annual consumer price inflation may exceed the National Bank's target by about 14 p.p. one year after the shock.

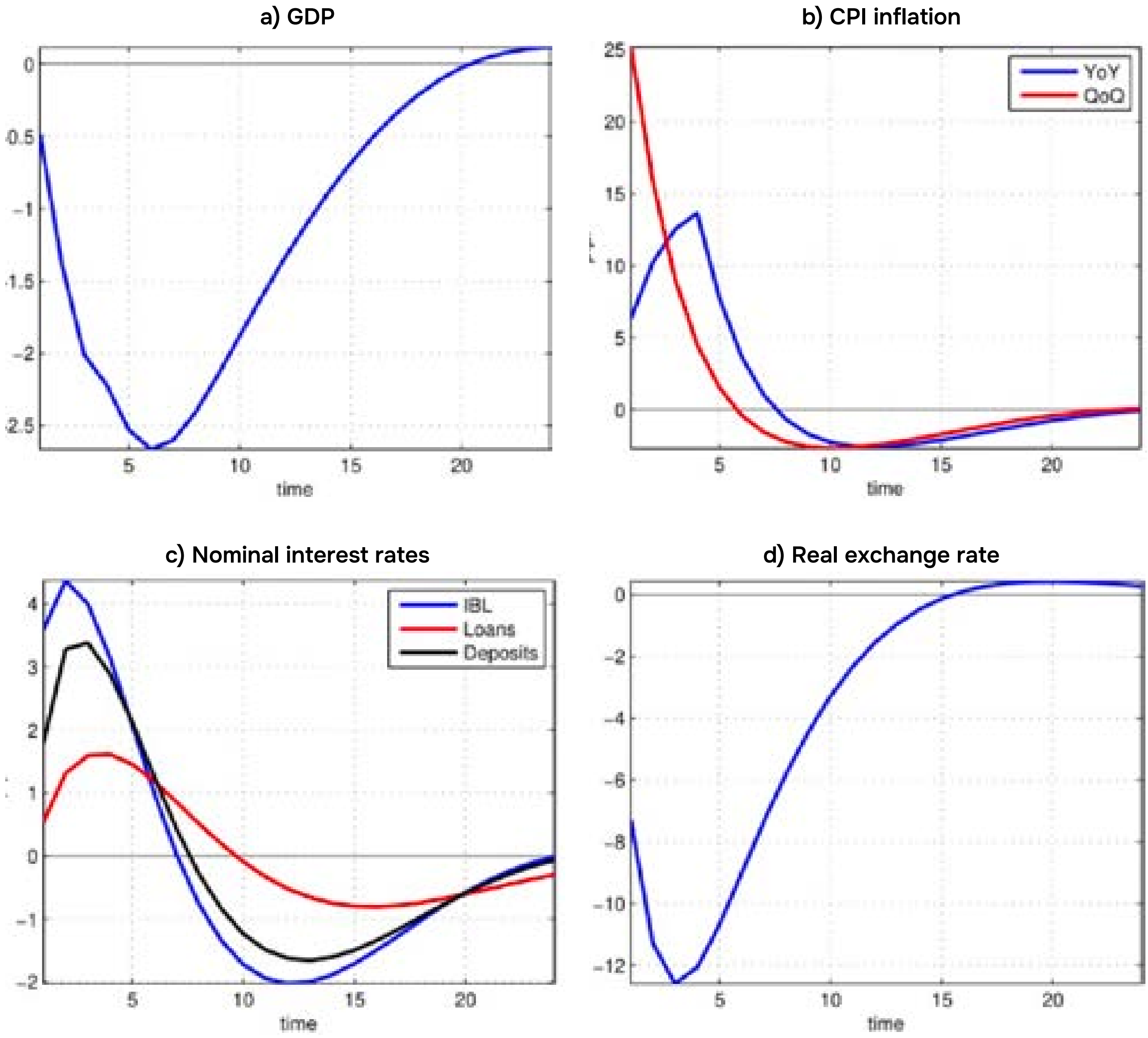

Figure 4. Macroeconomic effects: QPM-based simulation results

Source: Own elaboration.

Note: the figures show deviations of variables from their long-term sustainable levels (steady states). Time is measured in quarters.

The substantial increase in domestic prices leads to a significant appreciation of the Belarusian ruble in real terms – the real exchange rate falls well below its equilibrium level. Combined with the reduction in budget expenditure, the overvaluation of the national currency exerts a restraining effect on aggregate demand. As a result, GDP falls more than 2.5 p.p. below its potential level within two years of the shock. Such a magnitude of the negative output gap corresponds to a severe recession. Taking into account the likely losses of potential GDP – which the CGE model estimates at around 2.7–3.9% – the total decline in output may exceed 5–6% within two years after the shock.

In an environment combining a steep downturn in output and a powerful inflationary shock, the National Bank faces a dilemma: either tighten monetary policy substantially to counter inflation (but risk a collapse in the real sector and a financial crisis), or allow inflation to deviate significantly from the target in order to support economic agents' adjustment to the shock by maintaining a neutral or moderately accommodative monetary policy stance. The second option can be pursued only if supported by comprehensive communication by the National Bank, aimed at explaining such actions in order to prevent a sharp rise in long-term inflation expectations. In the QPM, it is assumed that the National Bank will respond not only to the inflation shock but also to the significant deviation of GDP from its potential level. As a result, the interbank market interest rate is expected to rise by more than 4 p.p. within two quarters of the shock. This will be reflected quickly in higher interest rates on ruble deposits, but more slowly and with greater inertia in lending rates. Since interest rates rise by less than inflation, their real levels decline and fall below neutral. This means that monetary policy provides support to economic agents during the adjustment process, though at the cost of higher inflation.

Roughly one year after the shock, inflationary pressures begin to ease due to weak aggregate demand and the overvaluation of the national currency. As a result, inflation returns to the target within two years of the shock and may subsequently fall slightly below target due to the prolonged process of restoring economic equilibrium. As price pressures weaken, the National Bank has an opportunity to lower nominal interest rates to prevent monetary policy from drifting into a restrictive stance. Consequently, a monetary policy stance close to neutral creates conditions for the gradual recovery of GDP toward its equilibrium level. However, given the scale of the simulated shock and the absence of any additional fiscal loosening in the simulations, the recovery process is expected to be prolonged and may take around five years.

3.3. Dynamic Stochastic General Equilibrium Model

3.3.1. Transition dynamics

Figure 5 reports the results of a DSGE-based PF simulation of the EU-integration scenario for Belarus.

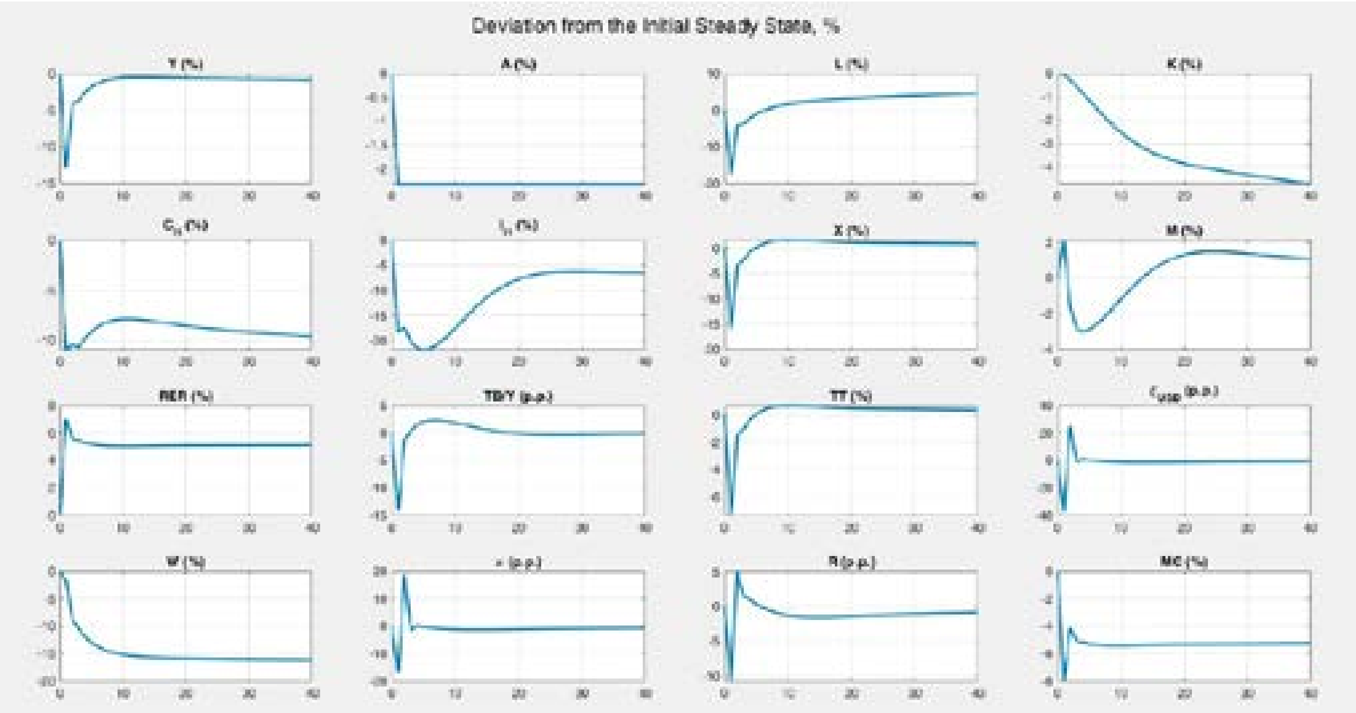

Figure 5. Macroeconomic effects: DSGE-based simulation results

Source: Own elaboration.

Note: Y – real GDP, A - TFP, L – labor employment, K – capital stock, C_H – household consumption, I_H – capital investments, X – exports, M – imports, RER – real exchange rate, TB/Y – trade balance, % of GDP, TT – trade conditions, ξ_{usd} – depreciation rate, % per annum, W – real wages, π – inflation rate, % per annum, R – nominal interest rate, % per annum, MC – marginal cost.

Note: the figures show deviations of variables from the initial steady state. Time is measured in quarters.

The perfect foresight simulation reveals a sharp but short-lived contraction in economic activity following the removal of the implicit energy subsidy. Output falls rapidly in the first quarters of the transition, reaching a trough of approximately 12.8% below the initial steady state at the onset of the shock. Despite the magnitude of this initial decline, the recovery is relatively fast. By around the 10th quarter, output returns close to its original steady-state level, remaining only about 0.5% below it. This pattern reflects a strong front-loaded adjustment of demand and prices combined with a gradual structural transition of the production side.

Among the demand components, investment exhibits the most pronounced cyclical response. The energy price shock leads to a reassessment of the expected profitability of capital, generating a sharp contraction in investment in the first periods of the transition. Over the medium term investment partially recovers, but does not return to its initial steady-state level. This reflects the fact that the reform implies a lower long-run equilibrium capital stock, causing the economy to gradually drift toward a new steady state characterized by reduced capital intensity.

Household consumption also declines substantially following the shock, falling by roughly 10% relative to the initial steady state before stabilizing at a level close to 9.5% below it. This adjustment is driven by a combination of intertemporal substitution in household consumption decisions and a decline in real wages. In order to preserve external competitiveness after the increase in production costs, firms reduce real wages, lowering marginal costs and contributing to the restoration of export competitiveness. The resulting decline in wages increases labor demand, leading to a gradual increase in employment over the transition.

External trade dynamics play an important stabilizing role during the adjustment process. Exports initially contract sharply – by roughly 15% – but recover rapidly and already exceed their initial steady-state level by about 1% after several quarters. This recovery is largely driven by the decline in marginal costs and the associated improvement in price competitiveness. Imports fall less strongly at the beginning of the transition due to the adverse price shock and deteriorating terms of trade, but subsequently recover and also rise to levels slightly above the initial steady state. As a result, the trade balance temporarily deteriorates, reaching a deficit of roughly 14% of GDP for about two quarters, but stabilizes quickly and eventually improves relative to the initial steady state.

The dynamics of nominal variables exhibit a somewhat counterintuitive pattern. Inflation initially declines sharply, temporarily even turns negative, before experiencing a significant rebound and gradually converging back to its steady-state level of around 5% annually. Similar dynamics are observed in the depreciation rate. These patterns are largely driven by the behavior of the stochastic discount factor, which increases sharply at the moment the shock becomes known. Under perfect foresight, households immediately internalize the future deterioration of economic conditions and increase the relative value of future consumption. This leads to a temporary contraction in current demand and downward pressure on inflation. Although such dynamics may appear unusual, they reflect a standard implication of perfect-foresight DSGE frameworks and illustrate how expectations and forward-looking behavior can become a major driver of macroeconomic adjustment.

3.3.2. Capital stock and mid-term adjustments

An important structural mechanism underlying the transition period and beyond is the gradual decline of the capital stock toward a lower steady-state level. The removal of implicit energy subsidies generates a substantial structural adjustment in the model economy. Because energy enters production as an intermediate input, the reform permanently changes the relative profitability of production technologies. This shift in the cost structure alters firms' investment incentives and ultimately leads to a lower equilibrium level of capital in the new steady state.

Investment decisions in the model are governed by firms' intertemporal optimality conditions. Firms choose investment taking into account expected returns on capital, financial conditions, and adjustment costs. Diagnostic calculations (see Figure 6) show that the Euler condition for capital accumulation is satisfied along the simulated transition path after the initial adjustment periods (because of the sharp swing in the stochastic discount factor). The difference between the marginal return on capital and the required return implied by financial conditions remains close to zero, indicating that the simulated transition path is consistent with optimal intertemporal investment behavior. A key indicator summarizing investment incentives in the model is Tobin's Q, which measures the value of installed capital relative to its replacement cost. Immediately after the energy price reform, Tobin's Q declines below unity, reflecting the deterioration in the expected profitability of new capital formation following the increase in production costs.

The decline in Tobin's Q provides a direct explanation for the sharp reduction in investment observed in the early stages of the transition. As firms perceive lower returns to additional capital, they optimally scale back investment expenditures. Over time, however, the gradual reduction in the capital stock partially restores investment incentives. As capital becomes relatively scarcer within the production structure, Tobin's Q stabilizes and investment slowly converges toward the level consistent with the new steady state.

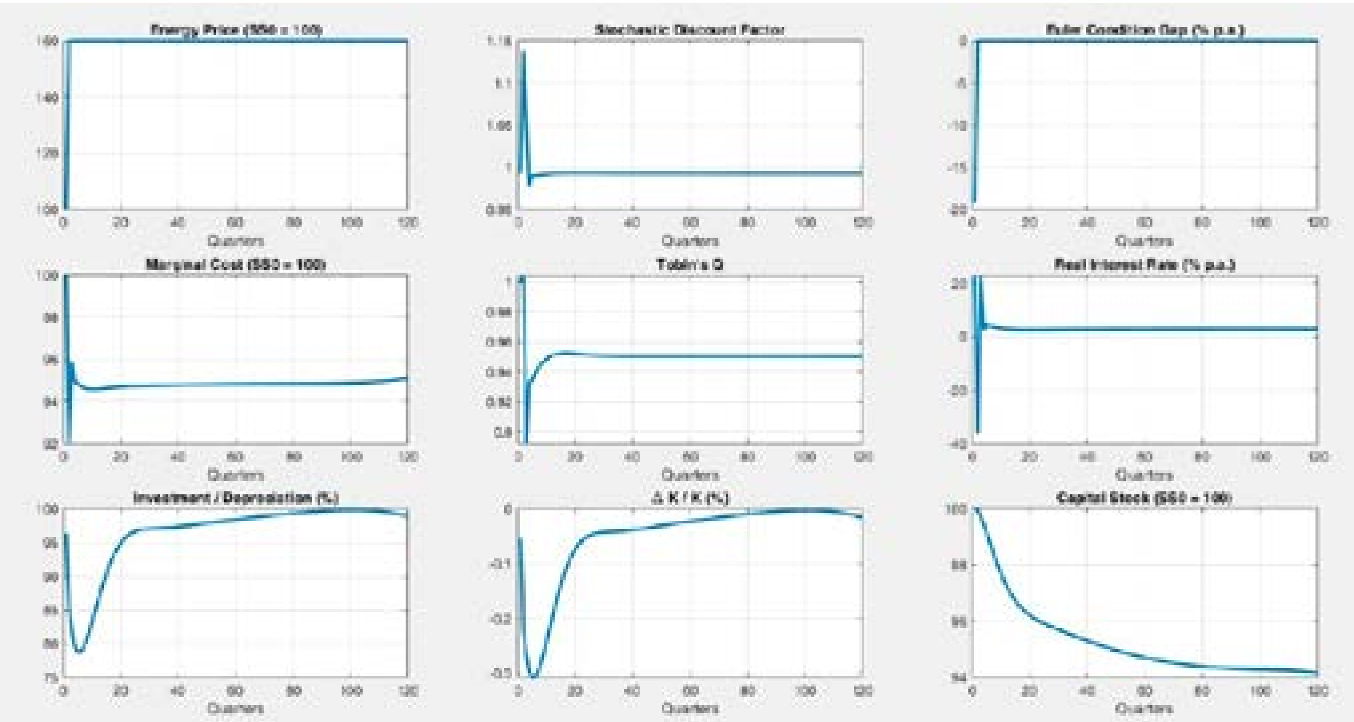

Figure 6. Capital stock adjustment and its channels

Source: Own elaboration.

Note: the variables are represented in different measurement units, as indicated for each sub-figure. Unless otherwise noted, the path of the variable is presented in its natural measurement units

Because capital is a durable factor of production, this adjustment occurs slowly through reduced investment and depreciation dynamics rather than through immediate capital destruction. As a consequence, while many macroeconomic variables recover relatively quickly after the initial shock, the economy continues to adjust over a much longer horizon as it converges to its new long-run equilibrium. The transition therefore may unfold in two stages. The early phase is dominated by a rapid adjustment of investment and asset valuations. The subsequent phase is characterized by a long period during which the capital stock gradually declines through the cumulative effect of depreciation exceeding investment.

3.4. Summarization of the Transitional Path

As mentioned in Section 2.1, the different logic underlying the simulation of the transition path naturally leads to somewhat different results. We treat the results of QPM simulations as the baseline transition scenario, while those of the DSGE model represent the stress scenario. If the transition path itself is the ultimate object of interest, the properties of these two scenarios may be summarized as follows (see Table 3).

Table 3. Transitional path: key characteristics of the two scenarios

Variable	Characteristic	Transition Baseline Scenario	Transition Stress Scenario
GDP	Maximum deviation from the initial steady state, %	-2.7	-12.8
	Recovery/transition duration, quarters	20	10
	New steady state, % of the initial steady state	98.3	96.8
Inflation, % per annum	Maximum deviation from the initial steady state, p.p.	13.7	18.7
	Recovery duration, quarters	23	6
	New steady state vs. the initial steady state, p.p.	0	-0.4
Real Wages	Maximum deviation from the initial steady state, %	-7.0	-16.0
	Recovery/transition duration, quarters	20	10
	New steady state, % of the initial steady state	91.3	84

Source: Own elaboration.

As shown in Table 3, the baseline and stress scenarios of the transitional path differ significantly in terms of both magnitude and duration. The baseline transition scenario mainly assumes smaller adjustments, but a longer recovery period, with the economy adjusting to the new steady state. The stress scenario assumes sharper adjustments in terms of magnitude, while the main variables recover more quickly toward a new steady state (which is lower than the initial one). To a large extent, these differences are predetermined by the design and logic of the respective modelling frameworks.

For the subsequent steps within the inter-model simulation framework, however, we adjust both scenarios in terms of their duration in order to make them more compatible with the framework of debt sustainability analysis, long-term convergence simulations, and to ensure greater comparability across scenarios. In particular, we preserve the magnitude of the adjustments of the main variables obtained from the macroeconomic simulations, but smooth the duration of the adjustment paths over a five-year horizon (20 quarters). This horizon corresponds to the medium-term horizon typically used in macroeconomic policy analysis and ensures consistency with the debt sustainability framework used in the next stage of the analysis. In addition, we partially reconsider the path of nominal variables in order to make the scenarios more conservative. In particular, adjustments are introduced to the assumed dynamics of inflation, exchange rate depreciation, and interest rates. Furthermore, for the purposes of the debt sustainability analysis, additional assumptions are introduced regarding the nominal effective interest rate (in foreign currency) on public debt servicing as well as the path of the primary fiscal balance. As a result, the transitional scenarios used in the subsequent stages of the inter-model framework represent adjusted versions of the original QPM and DSGE simulations. These adjusted transition paths therefore constitute the transition block of the inter-model framework and serve as inputs for the subsequent stages of the analysis, entering the following inter-model simulations in the form reported in Table 4.

Table 4. Transitional path: key characteristics of the two scenarios for inter-model simulations

Indicator	Initial value	Transition Baseline Scenario (5-year average)	Transition Stress Scenario (5-year average)
GDP growth rate, %	1.3	-0.6	-1.5
GDP deflator, %	11.0	7.5	7.2
Nominal effective interest rate, %	5.0	5.0	8.0
Exchange rate depreciation, %	0.1	5.4	4.4
Primary fiscal balance, % of GDP	0.3	-0.4	-1.3

Source: Own elaboration.

3.5. Debt Sustainability Analysis

For the debt sustainability analysis, we rely on the assumptions reported in Table 4 and start simulations from 2026, relying on the actual data available as of the beginning of 2026. The simulation results are presented in Figure 7.

Under the baseline scenario, the debt-to-GDP ratio could increase by 7.5 p.p. relative to the initial level after five years (Figure 7). The debt-stabilizing primary surplus is estimated close to 1% of GDP on average. For comparison, in 2016–2025 the average primary budget surplus was about 2.2% of GDP and in 2022–2025 – around 0.8% of GDP. Therefore, the debt-stabilizing primary surplus projected under the baseline scenario is realistic, meaning the public debt trajectory can be considered sustainable.

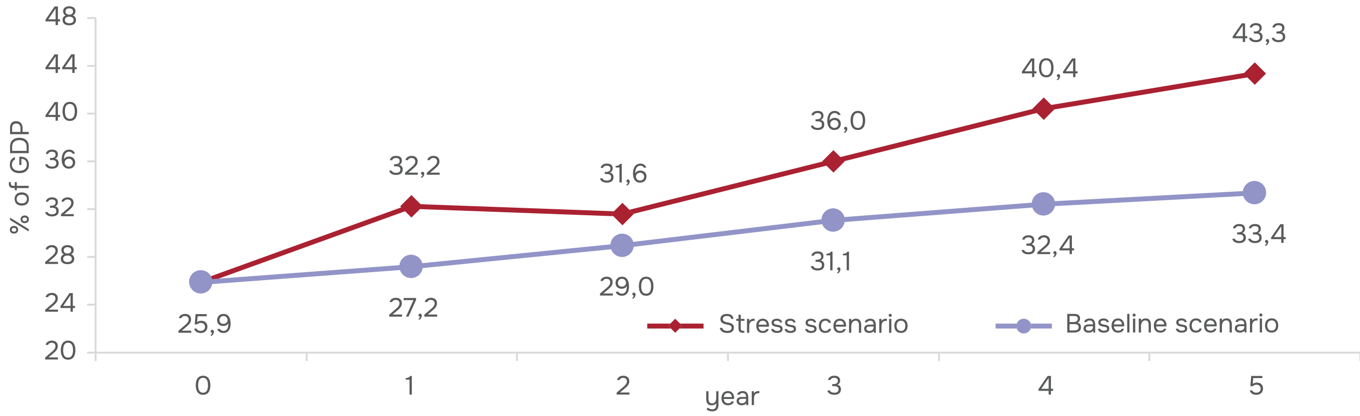

Figure 7. Public debt stress tests

Source: Own elaboration.

Note: year zero is the initial year (before the start of the integration process of Belarus with the EU). The public debt estimate at the beginning of 2026 was used as the baseline.

Under the stress scenario, the debt-to-GDP ratio could increase by 17.5 p.p. relative to the initial level (Figure 7). The increase in debt appears significant, but the debt burden is still not critically high. The debt-stabilizing primary surplus is estimated close to 1.8% of GDP on average. This is still lower compared to the long-run average, but more than two times higher than the average after the start of the war in Ukraine.

This level of surplus still cannot be considered economically unrealistic. However, in the context of a severe recession, such a tight fiscal policy could lead to a significant deepening of the downturn and social unrest. Therefore, the political feasibility of such a budget surplus appears questionable. Consequently, in the stress scenario – a deep transitional economic downturn – the public debt trajectory could be considered unsustainable.

3.6. Long-run Convergence and Long-Term Growth Model

As described in Section 2.6.3, the long-run convergence analysis is conducted for three scenarios. To ensure consistency with the timeline of the LTGM, we treat the year 2028 as t=1 for all scenarios. This year corresponds to the assumed initiation of EU integration and the beginning of the energy price adjustment, which triggers the transitional recession described in the previous sections. The characteristics of the transitional recession are aligned with the assumptions presented in Table 4. For the stress scenario, we apply the trajectory of the transitional decline corresponding to the stress case in Table 4.

For the 'EU integration: Convergence only' and 'EU integration: Baseline' scenarios, we use the baseline trajectory of the transitional recession from Table 4. In the 'EU integration: Stress' scenario, the convergence mechanism is assumed to activate slowly and gradually. The convergence parameter β increases by 0.25 percentage points per year, starting from t=3 (2030), and reaches its maximum value of β = 0.02 only by t=10 (2037). This assumption reflects a delayed and gradual institutional and economic adjustment process. In the "EU integration: Convergence only" scenario, the convergence mechanism activates earlier and more rapidly. The parameter β begins to increase in t=2 (2029) and rises by 0.5 percentage points per year, reaching its maximum level of β = 0.025 in t=6 (2033). In the 'EU integration: Baseline' scenario, we assume a similar activation path for β, increasing by 0.5 percentage points annually starting from t=2 (2029), but reaching a higher maximum convergence speed of β = 0.03 by t=7 (2034). The key distinguishing feature of this scenario is that total TFP growth increases to the Polish level (0.7% annually) already from t=1 (2028). Within the specification of Equation (9), this raises Belarus's baseline growth rate $g_{baselne}$ to a level close to that observed in Poland (see Table 1). The underlying reasoning for this assumption is discussed in detail in Section 2.6.3.

A summary of the assumptions underlying the EU integration scenarios for Belarus is reported in Table 5.

Table 5. Assumptions for the scenarios of long-run projections

Indicator	'EU integration: Stress' Scenario	'EU integration: Convergence only' Scenario	'EU integration: Baseline' Scenario
g_{tr_r}, average during t=1...5, (2028, 2032)	-1.5	-0.6	-0.6
TFP growth rate, % annual average	0.1	0.1	0.7
β, long-run value	0.02	0.025	0.03
The year when β reaches a long-run value	t=10 (2037)	t=6 (2033)	t=7 (2034)

Source: Own elaboration.

The results of the long-run simulations from the national perspective – that is, the projected change in GDP per capita relative to its actual level in 2027 – are reported in Table 6. The year 2027 is used as the benchmark representing the last pre-integration period before the modeled transition dynamics begin.

Table 6. GDP per capita level (PPP, constant 2021 int.$) under different scenarios, index, 2027=100

Year	Scenarios			
	Inertial	'EU integration: Stress' Scenario	'EU integration: Convergence only' Scenario	'EU integration: Baseline' Scenario
2028	102	96	100	101
2029	104	97	101	103
2030	106	99	103	105
2040	125	126	137	150
2050	138	155	169	196
2075	187	261	285	366
2100	240	413	451	612

Table 7 presents the relative outcomes of the three EU integration scenarios compared with the inertial scenario.

Table 7. GDP per capita level (PPP, constant 2021 int.$) under different scenarios vs. inertial scenario (inertial scenario=100)

Year	Scenarios		
	'EU integration: Stress' Scenario	'EU integration: Convergence only' Scenario	'EU integration: Baseline' Scenario
2028	94	98	99
2029	93	98	99
2030	93	98	99
2040	101	110	120
2050	112	122	142
2075	140	153	196
2100	172	188	255

However, for a proper interpretation of long-term convergence dynamics, the international perspective is more informative. In particular, the comparison with the selected benchmark economy (Poland, whose relevance as a comparator is discussed in Section 2.6.3) provides a clearer picture of the potential convergence path. The results of these simulations are presented in Figure 8.

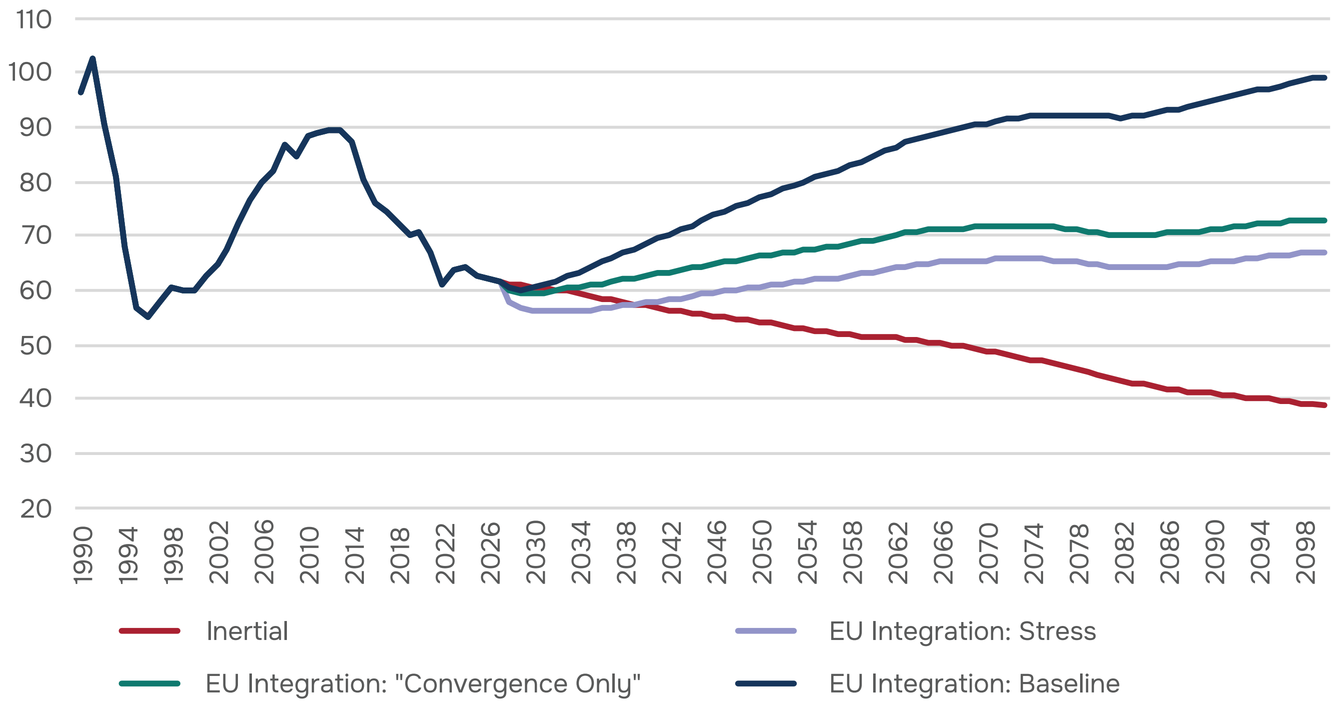

Figure 8. GDP per capita level (PPP, constant 2021 int.$) in Belarus as % of Poland under different long-term scenarios

Source: Own elaboration.

4. Discussion

4.1. Value of a Multi-Model Analytical Framework

An important methodological insight emerging from this study concerns the value of combining several modelling frameworks when analyzing large structural shocks such as the potential EU integration of Belarus. Each of the models used in this paper captures a different dimension of the adjustment process. The CGE framework is well suited for analyzing structural reallocations and long-run sectoral equilibrium under new price conditions. The QPM provides a macroeconomic stabilization perspective and allows the analysis of cyclical adjustment dynamics around potential output. The DSGE framework highlights expectation-driven mechanisms and intertemporal decision making by households and firms. Debt sustainability analysis addresses macro-financial constraints during the transition. The LTGM captures convergence dynamics and productivity-driven development trajectories. Considered separately, each framework would provide only a partial picture. Taken together, however, they allow a more comprehensive understanding of the macroeconomic, structural, and financial dimensions of the integration shock.

4.2. Post-Integration Steady State

The simulations suggest that the post-integration steady state of the Belarusian economy would likely be somewhat weaker than the current one, but not dramatically so. According to the CGE simulations, the long-run level of GDP would decline by approximately 2.7–3.9 percent relative to the initial steady state, depending on the availability of external support. From a policy perspective, such losses appear moderate. They do not suggest a macroeconomic collapse, nor do they imply a scale of disruption that would necessarily undermine public support for the EU integration process. In addition, long-run growth simulations demonstrate that these initial steady-state losses can be more than compensated over time by stronger productivity growth and convergence dynamics associated with integration. This result is particularly important in the context of the widespread narrative that the removal of Russian energy subsidies would inevitably lead to a dramatic collapse of the Belarusian economy. The model results do not support such a view. Instead, they suggest that while the removal of energy subsidies represents a significant structural shock, the economy appears capable of adjusting to the new relative price structure.

At the same time, the relatively moderate steady-state losses should not be interpreted as guaranteed outcomes. Although the CGE framework represents the most appropriate tool for analyzing long-run structural adjustments, it still relies on assumptions about the ability of the economy to reallocate resources efficiently. In particular, the model assumes that export structures gradually adjust as resources move towards sectors that become more competitive under the new price environment. In practice, such restructuring may be considerably slower and more constrained than in the model environment.

Alternative estimates of the potential output losses associated with a breakdown of economic relations with Russia are substantially higher. For instance, Hartwell et al. (2022) provide estimates based on a financial-programming framework that imply much larger contractions (Scenario ‘openly hostile Russia’, especially regarding current account balance). These estimates are derived using a more mechanical methodology that does not incorporate complex structural adjustment mechanisms. However, they highlight an important risk: if labor and capital reallocation across sectors is hindered, or if access to external markets of Belarusian exporters becomes constrained, the realized steady-state outcome could be less favorable than the one obtained in the CGE simulations. This risk may be particularly relevant if Russia attempts to actively obstruct the economic reorientation of Belarus following the launch of the EU integration process. In this sense, the "openly hostile Russia" scenario discussed in Hartwell et al. (2022) should be treated as an extreme but relevant contingency scenario.

From a policy perspective, these risks suggest that steady-state outcomes are not purely structural and can be influenced by policy choices. One particularly important instrument in this regard is external support. The CGE simulations indicate that even relatively modest levels of external financial assistance can noticeably improve the post-integration equilibrium outcome. Given the geopolitical risks associated with potential Russian reactions, the level of external support assumed in the simulations should therefore be interpreted as a minimum baseline rather than an optimal level of assistance. Additional external support may play an essential stabilizing role during the early stages of the integration process.

4.3. Nature of the Transition Period

The estimated transition dynamics also appear relatively moderate. None of the simulated scenarios produces an uncontrolled collapse of output despite the magnitude of the energy price shock. This finding reflects a relatively high degree of macroeconomic resilience in the Belarusian economy. The main policy implication is that the transitional downturn associated with the EU integration appears manageable. Nevertheless, preventive policy actions aimed at mitigating transitional disruptions may still play an important role in limiting the depth and duration of the adjustment period. At the same time, some qualitative variations between QPM and DSGE simulations suggest that the dynamics of the transitional downturn are far from predetermined. The two modelling frameworks highlight different adjustment mechanisms. In the QPM simulations, the transition is characterized by a significant inflationary spike and a relatively gradual recovery path. In the DSGE framework, the adjustment takes the form of an internal devaluation process in which declining real wages reduce firms’ production costs and gradually restore external competitiveness. As a result, nominal variables stabilize relatively quickly, and output recovery occurs faster, but the new steady state is associated with weaker household purchasing power and lower investment activity. These differences indicate that the actual trajectory of the transition period will depend strongly on the policy environment and institutional context in which integration takes place. Monetary and fiscal policy responses, labor market dynamics, and the credibility of economic reforms may all significantly influence the form and duration of the adjustment.

The simulations also highlight several mechanisms that may play an unexpectedly important role during the transition period. One of them concerns the behavior of households and their expectations about future economic conditions. In the DSGE framework, the stochastic discount factor, which captures households' intertemporal preferences, plays a central role in shaping adjustment dynamics. A sharp deterioration in household expectations about future economic prospects could lead to stronger consumption contraction and amplify transitional disturbances. From this perspective, transparent communication and credible policy commitments may become critical elements of the economic policy agenda during the early stages of integration. Another important mechanism identified in the simulations is the risk of gradual decapitalization of the economy. During the transition period, lower profitability and higher uncertainty may lead to reduced investment and a drift toward a lower capital stock equilibrium. Such a process could create a form of capital-based development trap that slows down the realization of long-term growth potential. Addressing this risk may require institutional policies that facilitate the reallocation of capital from declining sectors toward more productive activities and that raise the marginal productivity of capital in the economy. Such measures may include policies that support technological diffusion, reduce barriers to capital reallocation, and implement modern forms of industrial policy aimed at productivity enhancement rather than direct sectoral subsidization.

From a macro-financial perspective, the debt sustainability analysis indicates that public debt dynamics remain manageable under the baseline transition scenario. However, under the stress scenario the debt burden becomes more problematic and may prolong the adjustment period. This suggests that the availability of external financing will be an important stabilizing factor. From this perspective, access to borrowing at rates below market rates – through concessional loans, grants, and EU support programs – might be an important policy priority in the area of public debt management. Furthermore, a similar task will be to ensure that the European integration process itself contributes to improving Belarus's access to international financial markets by reducing the country risk premium and expanding access to new financing instruments.

4.4. Long-Run Development Trajectory

The long-run simulations demonstrate that the inertial development trajectory represents a clear path toward relative economic impoverishment. Under this scenario, Belarus would reach the level of GDP per capita already achieved by Poland in 2025 only around 2061. Given that Poland itself continues to grow, Belarus would experience a widening income gap relative to its regional benchmark. By the mid-2040s, the relative income level would fall to approximately the same level observed in the mid-1990s, and new historical lows would continue to be reached thereafter.

In contrast, all EU integration scenarios fundamentally alter the long-term trajectory of the Belarusian economy. Instead of relative divergence, the economy enters a path of gradual convergence. In the baseline integration scenario, Belarus eventually reaches income parity with Poland by the end of the century. Even in more conservative scenarios, the income gap narrows substantially over time. Importantly, the transitional downturn does not significantly alter this long-term outcome. Even in the deliberately pessimistic stress scenario, the cumulative benefits of integration begin to outweigh the transitional losses approximately eleven years after the start of the integration process. From this perspective, the range of realistic expectations regarding integration outcomes lies between the conservative "convergence-only" scenario and the baseline integration scenario.

A crucial factor behind the long-term convergence process is the potential activation of additional productivity growth mechanisms. EU integration creates favorable conditions for technological diffusion, participation in international value chains, and stronger trade-related productivity effects. However, these mechanisms are not automatically activated by integration itself. Rather, integration creates opportunities for productivity growth, while the actual realization of these opportunities depends on domestic institutional and policy choices. Because productivity growth plays a decisive role in determining the long-term development trajectory (which is the distinctive feature of our ‘EU integration: baseline’ scenario), effectively transforming these opportunities into actual productivity gains represents a central strategic challenge for the Belarusian economy.

4.5. Policy Implications and Limitations

The results of the analysis suggest that the success of the EU integration process will depend on several key policy factors. First, the scale and effectiveness of external financial support can influence both the parameters of the post-integration steady state and the stability of the transition period. Second, communication and public trust will be critical, as household expectations can significantly affect adjustment dynamics. Third, the quality of macroeconomic policy will influence the management of the transition period, including inflation dynamics, fiscal sustainability, and financial stability. Finally, the effectiveness of institutional policies will determine whether the economy is able to translate integration opportunities into sustained productivity growth and convergence.

Several potentially important factors remain outside the scope of the present study. In particular, the experience of other Eastern European countries suggests that the early stages of EU integration may be accompanied by significant outward migration. Such migration flows may influence labor supply, wage dynamics, and long-term growth prospects. Because the economic and demographic effects of migration are complex and multidimensional, they fall beyond the scope of the current study, which represents an important direction for future research. In addition, the present framework does not analyze sector-specific adjustment effects. Given the strong intersectoral linkages within the Belarusian economy, sectoral restructuring may also play a significant role in shaping the transitional dynamics. Finally, the Belarusian economy currently hosts a substantial presence of Russian capital, particularly in the banking sector and several large industries. A potential withdrawal of this capital could represent an additional source of downside risk and may amplify the scale of economic losses during the transition period.

5. Conclusions

This paper examines a complex hypothetical scenario of Belarusian EU integration and its potential macroeconomic consequences. Such a transformation unfolds through several stages and economic mechanisms. Initially, the launch of EU integration is likely to generate a significant external shock, mainly associated with the removal of implicit energy subsidies and the restructuring of external economic relations. This is followed by a transition period marked by macroeconomic adjustment and sectoral reallocation. Only after these adjustments can the economy reach a new post-integration steady state and subsequently enter a phase of long-term growth driven by convergence with more advanced economies. Because no single modelling framework can capture all these stages simultaneously, the paper adopts a multi-model analytical approach. The analysis combines CGE, QPM, DSGE, debt sustainability analysis, and LTGM, each addressing a specific dimension of the integration process. In this framework, outputs from some models serve as inputs for others, allowing us to construct a coherent macroeconomic narrative of Belarus's potential integration path and to illustrate the analytical value of combining modelling frameworks when analyzing complex structural transformations.

The simulations suggest that the post-integration steady state of the Belarusian economy would likely be somewhat weaker than the current one, but not dramatically so. According to the CGE simulations, the level of potential GDP in the post-integration steady state may decline by approximately 2.7–3.9 percent relative to the initial equilibrium, depending on the availability of external support. From a policy perspective, such losses appear manageable and indicate that the economy is capable of adjusting to a significant relative price shock. This finding is particularly important in the context of widespread narratives suggesting that the removal of Russian energy subsidies would inevitably lead to a dramatic collapse of the Belarusian economy. The results of the structural simulations do not support such a conclusion.

At the same time, the transition period following the integration shock is expected to involve non-trivial macroeconomic adjustments. However, none of the simulated scenarios produces an uncontrolled collapse of output despite the magnitude of the energy price shock. The adjustment appears significant but contained. The exact trajectory of the transition period will depend strongly on the policy environment and institutional context in which integration takes place. The simulations highlight several mechanisms that may amplify transitional disturbances if left unaddressed. In particular, adverse shifts in household expectations may propagate the shock through consumption and investment dynamics, while reduced profitability and uncertainty may create a risk of gradual decapitalization through weakened investment incentives. From a macro-financial perspective, debt sustainability analysis indicates that public debt dynamics remain manageable under the baseline transition scenario, although under more adverse conditions the debt burden may become more problematic and prolong the adjustment period.

The long-term simulations provide an important strategic perspective. Under the inertial development scenario, Belarus faces a trajectory of gradual relative economic impoverishment. In this case, the country would reach the level of GDP per capita already achieved by Poland in 2025 only around 2061, while the income gap with

Poland would continue to widen. By contrast, all EU integration scenarios fundamentally alter the long-term development path of the Belarusian economy. Even under relatively conservative assumptions, integration shifts the economy from a trajectory of relative divergence to one of gradual convergence with more advanced economies. Importantly, the transitional downturn does not significantly alter this long-term outcome: even under the deliberately pessimistic stress scenario, the cumulative benefits of integration begin to outweigh the transitional losses within roughly a decade after the start of the integration process. A crucial determinant of long-term outcomes is the potential activation of additional productivity growth mechanisms. EU integration creates favorable conditions for technological diffusion, deeper participation in international value chains, and stronger trade-related productivity effects. However, these mechanisms are not automatically activated by integration itself. Rather, integration creates opportunities for productivity growth, while the actual realization of these opportunities depends on domestic institutional capacity and economic policy choices. In the favorable scenario where such productivity gains materialize, Belarus may eventually close the income gap with its regional benchmark, Poland. In less optimistic scenarios, convergence still occurs but proceeds more gradually.

The results also highlight several policy factors that will play a decisive role in shaping the integration trajectory. These include the scale and effectiveness of external financial support; effective communication and public trust; the quality of macroeconomic policy during the transition period; and the effectiveness of institutional reforms aimed at strengthening productivity growth and facilitating resource reallocation across sectors.

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The Path of EU Integration for Belarus

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Co-funded by
the European Union

Abstract

This paper develops a structured framework for Belarus's potential path toward European Union integration under conditions of deep structural and institutional constraints. Unlike typical enlargement cases, Belarus faces a dual transition challenge: it must simultaneously undertake internal institutional transformation and external disengagement from Russia-led integration frameworks, including the EAEU and the Union State. Building on comparative evidence from Ukraine, Moldova, and Armenia, the paper proposes a continuous, stage-based integration pathway. This framework combines an initial transition phase anchored in a CEPA-type arrangement, a core convergence phase based on the implementation of an Association Agreement and DCFTA, and a final stage of formal accession negotiations. The analysis emphasizes that successful integration requires early institutional anchoring, a clearly defined long-term trajectory, and careful synchronization of reforms with exit procedures from existing Russia-centered integration frameworks. The paper also provides an indicative timeline, suggesting that, under favorable political and institutional conditions, full integration could be achieved within a 10–15 year horizon. A central insight is that EU integration for Belarus represents a case of "integration under constraints," where forward convergence to EU standards must be combined with backward institutional disentanglement. In this context, the Belarusian case illustrates how accession pathways can be operationalized in structurally constrained environments while remaining consistent with the formal logic of EU enlargement.

JEL codes: F15, O52, P21, P27, P29

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1. Introduction

From today's perspective, Belarusian accession to the European Union (EU) remains primarily a political dream scenario rather than an immediate policy task. Nevertheless, analyzing such a trajectory has substantial analytical value, including making this policy option more analytically tractable and therefore more realistic. In Kruk & Karaitis (2026), we demonstrate that EU integration constitutes a coherent and economically meaningful regime shift for Belarus. That study provides a structured assessment of the macroeconomic rationale for integration and evaluates its potential consequences across different stages, including the transition period, the post-integration steady state, and long-run convergence dynamics. However, once the economic desirability of integration is established, a more operational question emerges: how can such a transformation be implemented in practice?

This question defines the central focus of the present paper. While the economic logic of integration can be articulated within standard frameworks of trade, institutional convergence, and long-run growth, translating this logic into a feasible policy pathway is substantially more complex. It requires moving from a desired outcome to a sequence of procedures, institutional adjustments, and political-economic decisions that are consistent with both domestic constraints and the formal requirements of the EU accession process. In this sense, the problem of European integration is not only analytical but also procedural and strategic.

The logic and practice of EU enlargement itself are far from uniform. Over time, the process has evolved alongside changes in the depth of European integration, the expansion of the acquis communautaire, and shifts in the political environment within the EU. Early waves of enlargement were characterized by relatively limited institutional requirements. The 2004 "big bang" enlargement marked a turning point, involving a large group of Central and Eastern European countries and a significantly expanded regulatory framework. Subsequent enlargements, including Croatia's accession in 2013, took place under stricter conditionality and more demanding institutional criteria. In recent years, enlargement policy has become increasingly politicized, with greater emphasis on rule-of-law conditions, institutional resilience, and geopolitical considerations. As a result, past accession experiences, while informative, are only partially applicable to current candidates. The institutional content of the acquis has deepened, the sequencing of reforms has become more complex, and the political economy of enlargement has changed substantially. Therefore, historical cases should not be treated as directly replicable templates, but rather as sources of partial lessons that need to be reinterpreted in the context of contemporary conditions.

At present, the most relevant empirical references are the ongoing integration processes of Ukraine and Moldova, as well as the Western Balkan countries. These cases reflect different integration logics and speeds, ranging from accelerated, geopolitically driven candidacy to more gradual and protracted accession paths. For Belarus, Ukraine and Moldova are particularly informative due to geographical proximity and partially comparable initial conditions. Importantly, these cases are unfolding in real time, allowing for the observation of emerging constraints, policy trade-offs, and institutional bottlenecks that were less visible in earlier enlargement episodes. In addition, the case of Armenia provides an example of partial and hybrid integration under constraints imposed by membership in the Eurasian Economic Union (EAEU), illustrating that limited forms of alignment with the EU may be feasible even in the presence of conflicting integration commitments.

Despite these reference points, the Belarusian case remains structurally distinct. Unlike most EU candidates, Belarus has been deeply embedded for a prolonged period in alternative integration frameworks led by Russia, including the EAEU and the Union State. These arrangements have shaped tariff policies, technical regulations, energy pricing mechanisms, and broader institutional configurations. As a result, EU integration for Belarus would not represent a marginal adjustment or continuation of an existing trajectory, but rather a fundamental reorientation – a shift between competing integration regimes. This implies not only the need for alignment with EU standards, but also the necessity of disengagement from existing institutional commitments.

This dual constraint fundamentally differentiates Belarus from other accession cases. First, the country faces institutional lock-in effects associated with its participation in Russia-centered integration frameworks. Second, a transition toward the EU is likely to encounter political and economic resistance, including potential barriers to exiting existing agreements and disruptions in established economic linkages. Third, the domestic economic model, which is characterized by a significant role of state-owned enterprises, administrative interventions, and elements of dirigisme, implies a relatively large gap between current institutional arrangements and EU standards. Taken together, these factors suggest that Belarus represents a case of constrained or "reversal" integration, where accession requires both forward alignment and backward disentanglement.

This paper aims to develop strategic contours of a feasible pathway for Belarusian EU integration under these constraints. The central research question can be formulated as follows: how can Belarus, given its structural, institutional, and geopolitical constraints, enter and successfully navigate the process of European integration? This question extends beyond the Belarusian case and has broader analytical relevance. In this context, Belarus can serve as a particularly illustrative and informative case of how EU accession may be operationalized under conditions of deep structural and institutional constraints.

Addressing this question requires combining two analytical dimensions. On the one hand, it is necessary to assess the internal constraints that may hinder integration, including economic structure, institutional capacity, and existing external commitments. On the other hand, it is essential to map these constraints onto the formal and informal mechanisms of EU accession, ensuring that the proposed pathway remains consistent with the procedural logic of enlargement. To answer this question, the paper proceeds in several steps. First, we assess the current distance between Belarus and EU standards, providing a benchmark for the scale of required transformation. Second, we analyze relevant international cases: primarily Ukraine, Moldova, and Armenia. From their experience, we aim at extracting policy-relevant lessons regarding sequencing, institutional adaptation, and constraint management. Third, we examine the implications of Belarus's membership in the EAEU and the Union State, with a particular focus on identifying possible avenues for reconciling these commitments with elements of European integration. Finally, based on the synthesis of these analytical components, we propose a set of strategic principles for Belarus's integration pathway and outline an indicative timeline for its implementation.

A particular emphasis in the analysis is placed on the energy sector, which emerges as a critical transmission channel in the integration process. The Belarusian economy has historically benefited from preferential energy pricing arrangements, and the transition toward EU-compatible market conditions implies a substantial structural adjustment. Given the strong intersectoral linkages of energy with the rest of the economy, developments in this sector have the potential to amplify both transitional shocks and long-term adjustment dynamics. For this reason, the energy sector serves as a focal point for illustrating how the general logic of EU integration interacts with sector-specific constraints and reform requirements.

The remainder of the paper is structured as follows. Section 2 assesses Belarus's current distance from EU standards, providing a benchmark for the scale and nature of the required transformation. Section 3 analyzes relevant international cases—primarily Ukraine, Moldova, and Armenia—in order to extract lessons for sequencing and institutional design of the integration process. Section 4 develops the strategic logic of Belarus's EU integration pathway, including key constraints related to EAEU and Union State membership, and proposes an indicative timeline for implementation. Section 5 focuses on the energy sector as a critical and highly sensitive domain, illustrating how the general logic of EU integration interacts with sector-specific constraints, risks, and reform requirements. Section 6 concludes.

2. The Starting Point for Belarus: Compliance with European Standards

2.1. EU Enlargement: Formal Procedure

European integration is grounded in a formally open-access principle: any European State may apply for membership, provided it respects the Union's foundational values. This principle is codified in Article 49 of the Treaty on European Union (TEU), which links eligibility to compliance with the values set out in Article 2 TEU, including democracy, the rule of law, and respect for human rights (European Union, 2012a, 2012b). In practice, these broad legal provisions are operationalized through the Copenhagen criteria (1993), which define three overarching conditions for accession: (i) stable institutions guaranteeing democracy, the rule of law, and fundamental rights; (ii) a functioning market economy capable of withstanding competitive pressures within the EU; and (iii) the ability to assume the obligations of membership.

The accession procedure follows a structured and conditional sequence, although in practice some stages (such as screening and negotiations) may partially overlap. From a legal perspective, the procedure starts with an application submitted by a country seeking to become an EU member and includes the following steps:

1. Submission of application by the country
2. European Commission opinion
3. Decision of the EU regarding the granting of candidate status
4. Opening of accession negotiations
5. Acceptance of the negotiation framework (by the candidate)
6. Negotiations
    - Screening
    - Negotiating positions
    - Conclusion of negotiations
7. European Commission opinion on readiness
8. EU decision on admission
9. Signing and ratification of the Accession Treaty

The application is submitted to the Council of the European Union, which informs the European Parliament and national parliaments. Article 49 TEU also explicitly states that the conditions of eligibility agreed upon by the European Council must be taken into account. The European Commission prepares an Opinion (Avis) assessing the applicant country's readiness to proceed. On the basis of this assessment, the Member States decide whether to grant candidate status. Once the necessary conditions are deemed to be met, the Council unanimously agrees to open accession negotiations. The country then undergoes a comprehensive screening process conducted by the European Commission to assess alignment with EU law. Negotiations are then conducted chapter by chapter of the acquis communautaire, although the opening and closing of chapters do not necessarily follow a strictly linear sequence, covering the full scope of EU policy domains. For each chapter, progress requires not only legislative alignment but also credible administrative and institutional capacity for implementation and enforcement. Transitional arrangements may be granted in limited cases, but are subject to strict conditions and time limits. Chapters can be provisionally closed only once sufficient alignment is demonstrated, and the process culminates in the signing and ratification of an Accession Treaty by all member states. Throughout the process, progress is strictly conditional and reversible, reflecting the EU's emphasis on credible and sustained reform.

After all chapters are provisionally closed and negotiations are concluded, the Commission provides an assessment of the country's readiness for membership. This leads to a unanimous decision by the Member States to admit the new member, subject to the consent of the European Parliament. Finally, an Accession Treaty is signed and ratified by all Member States and the acceding country. The formal logic of accession thus combines treaty-based provisions (Article 49 TEU), substantive eligibility criteria (Copenhagen criteria), and an institutionalized negotiation process coordinated by the Commission and governed by the Member States.

2.2. EU Enlargement: De Facto Procedure

While the framework described above accurately reflects the formal, legally codified stages of accession, it does not fully capture the broader political and institutional dynamics of EU enlargement. In practice, the accession process rarely begins in a substantive sense with the submission of a formal application. Rather, the application typically marks the transition to a visible and legally structured phase of a process that has already been unfolding over a longer period. This earlier phase can be described as the pre-accession phase, which, although not codified in a single legal instrument, plays a critical role in shaping the feasibility and trajectory of accession.

Substantively, this preparatory stage encompasses at least two interrelated dimensions. The first is alignment and coordination with the European Union. This involves the establishment of a stable political dialogue, the development of a shared understanding of the prospective integration path, and an implicit assessment by EU institutions and Member States of the country's readiness to move forward. Although Article 49 TEU does not formally require prior approval before submitting an application, in practice countries rarely apply without prior signaling and engagement with the EU, given that subsequent decisions depend on unanimous agreement among Member States and on the Commission's assessment. The second dimension is domestic preparation. This includes the initial alignment of national legislation with EU law, strengthening of administrative and regulatory capacity, institutional reforms, and the development of mechanisms necessary for the implementation and enforcement of the acquis. It is at this stage that many of the most complex and resource-intensive transformations are undertaken. Without sufficient progress in this preparatory phase, the formal stages of the accession process – ranging from the Commission's Opinion to negotiations across acquis chapters – are likely to be delayed, constrained, or rendered politically unviable.

From an analytical perspective, it is therefore essential to distinguish between the formal and de facto logics of accession. The formal framework begins with the submission of an application and proceeds through candidate status, screening, negotiations, and ultimately accession. In contrast, the de facto process often begins earlier, with political alignment and institutional preparation preceding the formal application. The summary of the de facto procedure can be presented as follows:

1. Preparation phase (pre-accession)
   - Institutional reforms
   - Initial integration of the acquis at the national level
2. Submission of application
3. Screening and negotiations
   - Screening procedures
   - Implementation of the acquis Communautaire
   - Negotiations
4. Accession

Depending on the model of integration, this pre-accession phase may involve substantial structural reforms, including strengthening the rule of law, reforming public administration, establishing independent regulatory institutions, and initiating sectoral harmonization. These transformations are frequently decisive for the overall success of the accession process, as they determine the country's capacity to navigate and complete the formal stages. In this sense, the formal procedure provides the legal architecture of accession, while the pre-accession phase underpins its practical feasibility.

2.3. The Role of Acquis Communautaire

The acquis communautaire constitutes the operational core of European standards and serves as the benchmark to be implemented by the candidate country. The acquis encompasses the full set of rights and obligations binding on EU member states, including primary law (the TEU and the Treaty on the Functioning of the European Union), secondary legislation (regulations, directives, and decisions), the jurisprudence of the Court of Justice of the European Union, and a broad range of policy frameworks governing the internal market, competition, energy, environment, and public administration. In this sense, the acquis can be understood as a detailed specification and institutionalization of the Copenhagen criteria, translating high-level principles into concrete legal, regulatory, and administrative requirements.

Operationally, the acquis is divided into 35 negotiating chapters (Chapters of the Acquis – Enlargement and Eastern Neighborhood, 2012), each corresponding to a specific policy domain, such as free movement of goods, competition policy, energy, taxation, or judiciary and fundamental rights. These chapters can be interpreted in a simplified manner as reflecting six thematic clusters used in the EU accession framework (European Commission, 2025): (i) Fundamentals (including judiciary and fundamental rights, justice, public administration, and financial control); (ii) Internal Market (free movement of goods, services, capital, company law, competition, financial services, consumer protection); (iii) Competitiveness and Inclusive Growth (taxation, economic and monetary policy, social policy, enterprise and industrial policy, digital transformation); (iv) Green Agenda and Sustainable Connectivity (transport, energy, trans-European networks, environment and climate); (v) Resources, Agriculture and Cohesion (agriculture, rural development, food safety, fisheries, regional policy, budgetary provisions); and (vi) External Relations (trade policy, foreign, security and defence policy). This structure operationalizes the Copenhagen criteria by linking (a) economic convergence to internal market and competitiveness clusters, (b) institutional and rule-of-law requirements to the fundamentals cluster, and (c) sectoral and policy alignment to thematic clusters covering sustainability, connectivity, and external relations. This grouping highlights that the acquis is not a fragmented checklist, but a coherent system translating high-level accession criteria into operational policy domains. The accession process is therefore effectively structured as a process of progressive alignment with the acquis across these domains. Screening exercises identify gaps between national legislation and EU requirements, while negotiations define the pathways, timelines, and institutional changes needed to close these gaps.

A critical feature of this framework is that compliance with European standards extends well beyond formal legal transposition. The EU places strong emphasis on effective implementation and enforcement, reflecting lessons from previous enlargements, particularly in Central and Eastern Europe. In these cases, successful integration depended on deep structural reforms, including the establishment of independent regulatory institutions, credible competition policy frameworks, and functioning market mechanisms.

Economic evidence from past enlargement rounds indicates that the benefits of EU accession—such as increased investment, productivity growth, and income convergence—are closely linked to the depth and credibility of institutional reforms undertaken prior to membership. In this sense, the acquis operates not only as a legal framework, but also as a mechanism of economic convergence, shaping incentives, reducing uncertainty, and anchoring expectations (IMF, 2024; World Economic Forum, 2024).

At the same time, the accession process is inherently asymmetric. Candidate countries are required to fully adopt the acquis without participating in its design prior to accession. This creates strong incentives for front-loaded reforms but also implies significant administrative, political, and economic costs. The experience of previous enlargements suggests that the speed and sustainability of convergence critically depend on state capacity, policy coherence, and the ability to manage distributional consequences of reform.

Thus, European standards should be understood not as a static regulatory checklist, but as a comprehensive framework for institutional and economic transformation. Their role in the accession process is both procedural—structuring negotiations and conditionality—and substantive, defining the trajectory of convergence toward the EU's economic and governance model.

2.4. Belarus: Measuring the Distance from the European Standards

2.4.1. EaP Index as the Tool for Measurement

A direct and comprehensive assessment of a country's proximity to the EU acquis is inherently complex and resource-intensive. In practice, such an evaluation requires a systematic, chapter-by-chapter screening of national legislation against the evolving body of EU law. This process is typically conducted within the formal accession framework by the European Commission or through detailed national pre-screening exercises. It entails not only identifying formal legal alignment, but also assessing institutional capacity, enforcement mechanisms, and practical implementation. As a result, a full-fledged measurement of convergence with the acquis is less an analytical exercise and more a procedural undertaking embedded in the accession process itself.

At the same time, there is no single comprehensive and universally accepted methodology that would allow for an exhaustive, comparable, and static measurement of acquis alignment outside this procedural context. This reflects both the breadth and the dynamic nature of the acquis. On the one hand, EU law is continuously evolving, with new directives, regulations, and jurisprudence regularly updating the scope of required alignment. On the other hand, domestic legal systems are also in flux, particularly in transition economies, where reforms may be partial, uneven, or subject to reversal. Moreover, formal legal approximation does not necessarily translate into effective implementation, creating a persistent gap between de jure alignment and de facto outcomes. These factors collectively limit the feasibility of constructing a fully standardized and comparable metric of acquis convergence across countries and over time.

Against this background, the Eastern Partnership (EaP) Index (Eastern Partnership Civil Society Forum, 2025a) provides a practical and analytically grounded framework for assessing countries' proximity to European standards in a comparative and tractable manner. The index was specifically designed to address the need for a structured, cross-country evaluation of reform progress among the EU's Eastern partners, without requiring the full procedural depth of formal accession screening. Its core objective is to approximate the degree of alignment with EU norms and practices by combining a broad set of indicators that capture both formal policy convergence and elements of implementation.

Conceptually, the EaP Index operates as an intermediate analytical tool between high-level qualitative assessments and full legal-institutional screening. It translates the multidimensional nature of European integration into a set of comparable metrics, allowing countries to be benchmarked both across peers and over time. This longitudinal and cross-sectional comparability is a key feature of the index, enabling the identification of reform trajectories, stagnation periods, and divergence patterns since its initial implementation in 2011.

Importantly, the index is not intended to replicate the acquis-based negotiation framework; however, it remains closely linked to the acquis and is grounded in its underlying logic of policy alignment and institutional convergence. Rather, it serves as a diagnostic instrument, highlighting areas of relative strength and weakness across key domains relevant for EU integration. In doing so, it provides a structured entry point for policy analysis, helping to identify priority reform areas and systemic bottlenecks. For countries without an active accession track – such as Belarus – this type of tool is particularly valuable, as it allows for an evidence-based assessment of alignment with European standards in the absence of formal screening procedures.

Over time, the EaP Index has evolved to reflect both changes in EU policy priorities and lessons learned from previous rounds of measurement. While its core architecture has remained stable, successive iterations have refined indicators, expanded coverage, and improved the balance between de jure and de facto dimensions of convergence. As such, the index represents a cumulative effort to operationalize the concept of European integration readiness in a way that is both methodologically robust and practically applicable.

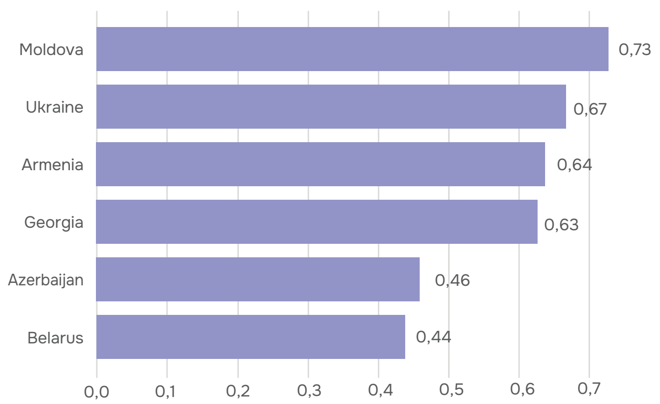
Methodologically, the EaP Index is constructed as a composite indicator combining both quantitative and qualitative inputs (Eastern Partnership Civil Society Forum, 2025b). Its empirical foundation rests on a large-scale expert survey complemented by systematic desk research, drawing on national legislation, official statistics, and international data sources. The 2025 edition, for example, is based on a detailed questionnaire comprising several hundred individual indicators, completed by country experts from the civil society sector, whose assessments are subsequently validated through peer review and cross-country comparison. This approach allows the index to capture not only formal legal developments but also the practical realities of implementation, including informal constraints and institutional performance gaps.

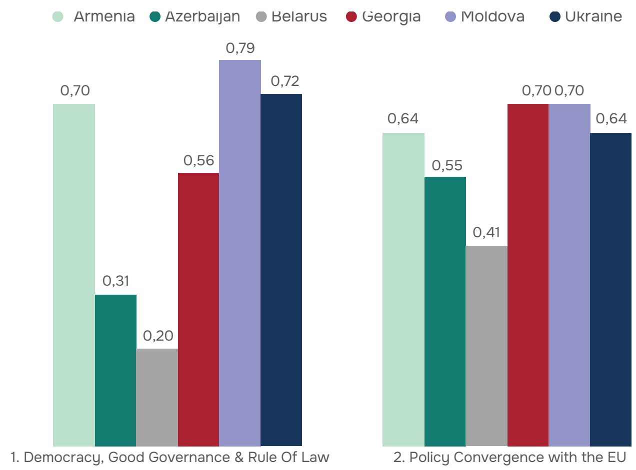
The structure of the index reflects a hierarchical conceptual framework. At the highest level, it aggregates performance across three core dimensions: democracy, good governance and the rule of law; policy convergence with the European Union; and sustainable development. Each of these dimensions is further disaggregated into thematic sub-indicators, which are scored on a standardized scale and aggregated using consistent weighting rules. For the purposes of this study, particular attention is paid to the second dimension—Policy Convergence with the European Union—as it most directly captures the extent of alignment with EU economic and regulatory standards. Within this dimension, three sub-components are of primary relevance: (2.1) Market Economy and DCFTA, which reflects the functioning of market institutions, competition policy, and trade integration; (2.3) Energy Policy, which captures regulatory convergence and structural reforms in the energy sector; and (2.4) Environment and Climate Policy, which reflects alignment with EU environmental acquis and climate-related commitments. These areas collectively provide a focused lens for assessing the structural and sectoral dimensions of convergence most pertinent to the Belarusian case. This design ensures internal coherence while preserving sufficient granularity to identify specific areas of progress or stagnation. In the construction of the index, benchmark values (typically normalized to 1) are generally derived from the corresponding performance of Lithuania. This choice reflects both substantive and methodological considerations. On the one hand, Lithuania, as a fully integrated EU member state, represents compliance with the acquis and thus provides a meaningful reference point for convergence. On the other hand, as a relatively recent member state and a former Soviet economy, it offers a degree of structural comparability with Eastern Partnership countries. Consequently, the distance of a given country's score from the benchmark value of 1 can be interpreted as the distance from EU-consistent outcomes along a specific indicator.

Importantly, the methodology explicitly accounts for the distinction between de jure and de facto convergence. By combining factual indicators with expert-based qualitative assessments, the index is able to capture discrepancies between formal legislative alignment and actual enforcement outcomes. While this approach inevitably introduces some degree of subjectivity, it is widely regarded as a necessary trade-off in the analysis of complex institutional transformations, particularly in transition contexts where purely quantitative metrics often fail to reflect underlying realities.

2.4.2. EaP Index for Belarus: Data and Facts

In 2025 EaP Index, Belarus is ranked among the lowest-performing countries in the Eastern Partnership region, forming a distinct group of laggards together with Azerbaijan. Its overall index score remains significantly below that of the leading countries – Moldova, Ukraine, Georgia, and Armenia – indicating a structural gap in terms of integration towards the EU standards (see Figure 1a). This divergence is not marginal: rather, it reflects a persistent and systemic distance from EU-oriented reform paths, as captured by the composite nature of the index.





1a). Aggregate Index

1b). Main Index Components

Figure 1. EaP Index-2025 and Its Components

Source: Eastern Partnership Civil Society Forum (2025a).

Importantly, this position of Belarus cannot be explained solely by weaknesses in the domain of democracy, governance, and the rule of law, although these remain substantial. The decomposition of the index into its main components (see Figure 1b) shows that Belarus also underperforms in the dimension of policy convergence with the European Union. This is a critical observation, as it points to deficiencies not only in political and institutional fundamentals, but also in the alignment of economic, regulatory, and sectoral policies with EU standards. In other words, the gap is not confined to "fundamentals," but extends to the core areas of acquis-related convergence, suggesting a broader pattern of institutional and policy divergence.

The dynamics of Belarus's performance in the EaP Index over time reveal a persistent pattern of structural lagging combined with episodic, yet ultimately limited, improvements (see Figure 2). Throughout the entire observation period, Belarus remains among the lowest-performing countries, forming a distinct cluster with Azerbaijan and consistently trailing behind the group of more advanced reformers such as Moldova, Ukraine, and Georgia. This positioning reflects not merely cyclical fluctuations, but a stable divergence in the underlying model of economic and institutional development.

A period of partial and selective improvement can be identified in 2016–2019. During these years, Belarus demonstrated some progress in specific elements of market regulation, including aspects of competition policy, financial sector regulation, and selected areas of sectoral cooperation. In particular, earlier reforms and regulatory adjustments, such as the gradual implementation of international banking standards and preparatory work on competition policy frameworks, contributed to a relative strengthening of formal indicators. However, these improvements were fragmented and did not amount to a systemic transformation of the economic model. Even at that stage, maintaining the existing institutional setup often represented the most tangible outcome, rather than a consistent forward movement toward EU standards.

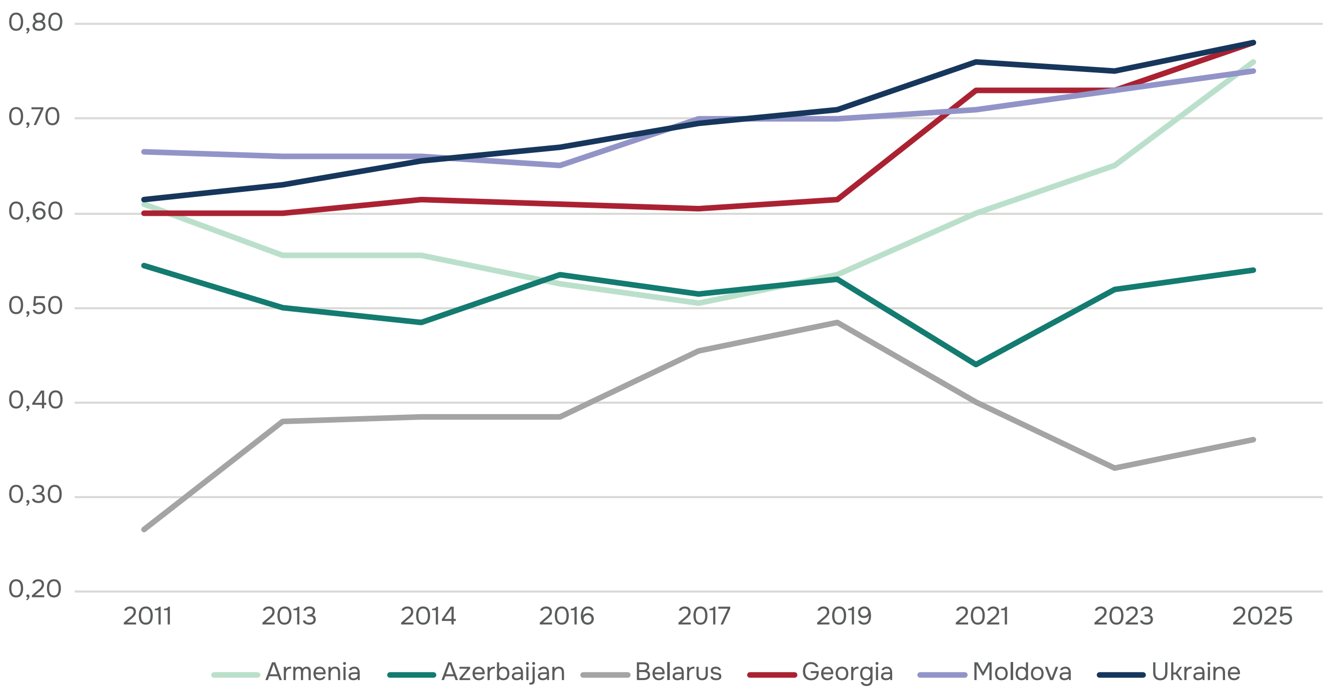


Figure 2. The Dynamics of Economic Component of EaP Index

Note: Due to multiple revisions of the EaP Index methodology over time, the reported values for the economic component of the Index, are not fully comparable across years. Nevertheless, they provide a sufficiently consistent basis to approximate the direction and relative magnitude of changes over time, allowing for a cautious interpretation of temporal dynamics.

Source: Own computations based on EaP-Index.

Crucially, even during this comparatively favorable period, Belarus exhibited persistent structural gaps in key domains of policy convergence. Trade policy remained one of the most significant areas of divergence. The country showed limited progress in aligning with EU frameworks in areas such as technical barriers to trade (TBT), sanitary and phytosanitary measures (SPS), and customs procedures. This was closely associated with Belarus's increasing reliance on the EAEU as the primary regulatory benchmark. While certain EAEU norms are partially based on international or even European standards, the overall institutional logic, governance mechanisms, and trajectory of convergence differ substantially from those embedded in the EU acquis. Similarly, the domain of competition and state aid represents a long-standing weakness. Despite the existence of formal legislation, the practical framework is characterized by a high degree of state intervention, the dominance of state-owned enterprises, and the absence of an independent authority responsible for enforcing competition policy. Over time, the role of the state has expanded further, with growing reliance on direct and indirect support mechanisms for SOEs, including directed lending, tax arrears, and other quasi-fiscal instruments. These practices undermine competitive neutrality and limit the development of a market-based environment. Other areas of persistent divergence include energy policy and sectoral regulation more broadly, where the absence of EU-type liberalization logic and regulatory independence constrains convergence. In parallel, domains related to governance, justice, and institutional accountability reflect a structurally different model, which is not only weakly aligned with EU standards but, in many respects, incompatible with them.

An important analytical insight emerging from the data is that Belarus's trajectory should not be interpreted solely as slow convergence. Rather, it increasingly reflects movement along an alternative regulatory path. In many domains, policy development has been oriented not toward approximation with the EU acquis, but toward alignment with the regulatory and institutional frameworks of the EAEU and Russia. This is particularly evident in trade policy, technical regulation, and elements of sectoral governance. As a result, the gap with EU standards is not only maintained, but in some areas structurally reinforced. Another defining feature of Belarus's trajectory is the growing divergence between de jure and de facto convergence. While certain elements of legislation formally incorporate international norms, their implementation is often partial, inconsistent, or overridden by administrative practices. This creates a widening gap between formal compliance and actual policy outcomes, particularly in areas such as competition policy, state aid, and regulatory enforcement. The period 2020–2022 marks a clear turning point in this trajectory. The termination of earlier reform initiatives, most notably the suspension of the competition development measures, combined with the expansion of state intervention and support for state-owned enterprises, signaled a shift away from even limited convergence efforts. The broader political and economic environment, including the impact of sanctions and increasing international isolation, further reinforced these trends. As a result, the dynamics of convergence with EU standards not only stalled, but reversed in a number of domains.

In the subsequent period (2022–2025), these tendencies became institutionalized. The economic model evolved toward a more centralized and dirigiste system, characterized by the growing role of the state in resource allocation, investment decisions, and sectoral coordination. Policy adjustments during this period were largely driven by the need to stabilize the economy under sanctions, rather than to advance structural reforms. Institutional changes that did occur were either incremental or driven by obligations within the EAEU framework, rather than domestic reform agendas. At the same time, integration with Russia and within the Union State and EAEU frameworks deepened significantly. What had previously been a gradual drift became a dominant structural feature of the Belarusian economic model. Integration shifted from a programmatic and declarative stage toward the establishment of functioning institutional mechanisms, including joint industrial projects, financial arrangements, and technological cooperation. This process was selective – concentrated in priority sectors such as industry and technology – but increasingly systemic in its implications. In parallel, the growing role of security considerations further reshaped economic policy choices, reinforcing dependence and reducing policy autonomy.

A complementary way to interpret these dynamics is through the lens of cumulative progress and the remaining distance to the benchmark. Over the full observation period, Belarus has closed only a limited portion of the gap toward the reference level, with progress significantly lagging behind most peer countries. At the same time, the remaining distance to the benchmark remains substantial, indicating that the country still faces one of the largest convergence gaps in the region. This combination of modest cumulative gains and a persistently wide gap underscores the structural nature of Belarus's divergence from EU-oriented development trajectories. Taken together, these developments suggest that Belarus's trajectory can be characterized not simply as delayed convergence, but as a transition from lagging to structural divergence. The evolution of its institutional and policy framework increasingly reflects a process of lock-in within an alternative regulatory system, making future convergence with EU standards more complex and path-dependent.

The disaggregated structure of the EaP Index-2025 provides a more granular view of Belarus's current position, allowing one to identify not only the overall gap, but also its specific sources (see Table 1). Consistent with the broader structural dynamics outlined above, the most pronounced areas of underperformance are concentrated in trade policy, energy (particularly its institutional setup), and the domains of competition and state aid.

Table 1. EaP-Index 2025: Detailed Scores

	ARM	AZE	BLR	GEO	MDA	UKR	MV*	BMV**
2.1 Market Economy [score]	**0.76**	**0.54**	**0.36**	**0.78**	**0.75**	**0.78**	0.72	-0.36
2.1.1 Market economy and DCFTA	0.80	0.67	0.39	0.76	0.79	0.76	0.76	-0.37
2.1.1.1 Competition policy and state aid	0.93	0.65	0.40	0.69	0.76	0.88	0.78	-0.38
2.1.1.2 Private property	0.82	0.67	0.34	0.89	0.70	0.62	0.74	-0.40
2.1.1.3 Intellectual property rights (IPRs)	0.65	0.69	0.42	0.69	0.90	0.77	0.74	-0.32
2.1.2 Trade policy convergence	0.71	0.48	0.26	0.76	0.62	0.86	0.69	-0.43
2.1.2.1 Technical Barriers to Trade (TBT)	0.70	0.45	0.10	0.88	0.70	0.83	0.71	-0.61
2.1.2.2 Sanitary and phytosanitary measures	0.71	0.48	0.42	0.60	0.65	1.12	0.71	-0.29
2.1.2.3 Customs and trade facilitation	0.71	0.51	0.26	0.79	0.52	0.64	0.63	-0.37

2.1.3 Sectoral cooperation	0.78	0.47	0.43	0.82	0.84	0.72	0.73	-0.30
2.1.3.1 Financial services and movement of capital	0.55	0.49	0.49	0.91	0.82	0.80	0.71	-0.22
2.1.3.2 Digital Services	1.00	0.45	0.36	0.73	0.86	0.64	0.74	-0.38
2.3 Energy Policy	**0.58**	**0.74**	**0.51**	**0.65**	**0.73**	**0.64**	0.67	-0.16
2.3.1 Institutional framework of energy market	0.39	0.61	0.08	0.49	0.66	0.57	0.54	-0.46
2.3.1.1 Independent energy regulators	0.67	0.50	0.00	0.83	0.67	0.50	0.63	-0.63
2.3.1.2 Energy market competitiveness	0.50	0.33	0.00	0.63	0.63	0.38	0.49	-0.49
2.3.1.3 Energy distribution and connections	0.00	1.00	0.25	0.00	0.67	0.83	0.50	-0.25
2.3.2 Energy Security	0.63	1.00	0.75	0.75	0.75	0.75	0.78	-0.03
2.3.3 Renewable Energy	0.61	0.81	0.45	0.79	0.69	0.65	0.71	-0.26
2.3.4 Energy efficiency	0.67	0.54	0.76	0.57	0.82	0.60	0.64	0.12
2.4 Environment and climate policy	**0.55**	**0.54**	**0.46**	**0.57**	**0.57**	**0.51**	0.55	-0.09
2.4.1 Environmental policy	0.37	0.57	0.41	0.47	0.63	0.59	0.53	-0.12
2.4.1.1 Comprehensiveness of strategy documentation	0.00	0.06	0.06	0.06	0.81	0.50	0.29	-0.23
2.4.1.2 Adoption by parliament/government of sectoral environmental strategies	0.60	0.70	0.70	0.60	0.90	0.30	0.62	0.08
2.4.2 Climate Change	0.73	0.50	0.50	0.67	0.50	0.42	0.56	-0.06

Note: Cells are color-coded according to performance thresholds: red (score below 0.3), orange (0.3–0.5), yellow (0.5–0.7), and green (above 0.7), reflecting increasing levels of alignment with EU standards.

* The column 'MV' represents the mean value across 5 EaP countries excluding Belarus; ** - the column 'BMV' indicates the deviation of Belarus's score from the 5-country average benchmark.

Source Eastern Partnership Civil Society Forum (2025a), own calculations.

A closer look at the underlying indicators helps to specify the sources of these weak scores. In trade policy, the sharpest gaps are concentrated in TBT, where Belarus scores particularly poorly due to the absence of affiliation with key European standardization bodies, the lack of direct harmonization with EU product safety and market surveillance legislation, and the fact that only a very small share of technical regulations is based on EU rules. In customs and trade facilitation, the country retains electronic procedures and selected modern instruments, but remains outside the WTO Trade Facilitation Agreement, the Common Transit framework, and EU-compatible customs arrangements. In competition and state aid, the weakness stems not from the absence of any legal basis, but from the lack of an independent competition authority, the absence of a transparent state aid register, and the proliferation of opaque support mechanisms for SOEs. In energy, the institutional gap is even more explicit: Belarus scores near zero on independent regulation and market competition, reflecting the continued dominance of vertically controlled and administratively managed arrangements. These examples show that the weakest domains are underpinned not by isolated technical omissions, but by broader institutional choices.

In the area of trade policy convergence, Belarus exhibits the deepest and most systematic gaps. However, these weaknesses are not primarily the result of administrative incapacity, but rather reflect the country's integration within an alternative regulatory framework, namely, the EAEU. In practice, technical regulations, conformity assessment procedures, and customs rules are largely aligned with EAEU norms, which only partially overlap with EU standards and differ in their institutional logic and enforcement mechanisms. As a result, Belarus's low scores in this domain largely capture a misalignment of regulatory anchors rather than an absence of formal rules. Importantly, this implies that, under a change in the integration framework, the direction of convergence could be altered. However, such a transition would not be automatic: the revision of technical standards, regulatory procedures, and certification systems represents a complex and resource-intensive process that would require sustained administrative effort.

A different type of constraint is observed in the domains of competition policy and state aid, as well as energy. Here, the gap with EU standards is rooted in the underlying economic model. In the domain of competition, despite the existence of formal legislation, the practical environment is characterized by a dominant role of the state, widespread use of direct and indirect support mechanisms for state-owned enterprises, and a lack of transparency in the allocation of such support. Over recent years, these tendencies have intensified, with expanding use of directed lending, quasi-fiscal instruments, and ad hoc interventions aimed at maintaining the financial stability of key enterprises. Moreover, the institutional capacity and independence of competition authorities remain limited, and the policy focus has shifted away from promoting competition toward preserving stability within the existing economic structure. As a result, the gap in this domain reflects not only regulatory shortcomings, but also a fundamentally different policy paradigm. The situation in the energy sector reveals similarly deep-rooted constraints, particularly in its institutional dimension. The absence of independent regulators, limited competition in energy markets, and the persistence of administratively determined pricing mechanisms stand in contrast to the liberalization principles embedded in the EU acquis. Moreover, energy policy is closely intertwined with broader patterns of economic governance and external dependence, including long-standing structural ties with Russia. This further constrains the scope for convergence, as energy sector reforms would require not only regulatory changes, but also a reconfiguration of underlying economic and geopolitical relationships.

Taken together, these patterns suggest a clear differentiation between types of divergence. In the case of trade policy, the gap is primarily driven by alignment with an alternative regulatory framework and can, in principle, be addressed through administrative and technical adjustments, albeit at significant cost. In contrast, the gaps observed in competition policy and energy are structural in nature, reflecting deeply embedded features of the current economic model. Addressing them would require more fundamental changes in policy orientation, institutional design, and the role of the state in the economy. For this reason, these domains should be considered priority areas for any future strategy aimed at advancing convergence with EU standards.

3. EU-integration Experience of other CIS-countries and Lessons for Belarus

3.1. The Case of Ukraine and Moldova

3.1.1. Key Milestones of the EU Integration Path

The integration paths of Ukraine and Moldova are best understood as a sequence of distinct, yet interlinked stages: initial engagement within the EU neighborhood framework, deep legal and economic integration through Association Agreements and DCFTAs, and, finally, transition to the formal accession track. While the timing and political context differed, both countries followed a structurally similar trajectory (see Table 2).

Table 2. Ukraine and Moldova: Timeline of the EU-Integration Path

Stage	Ukraine	Moldova
ENP participation/ early engagement	mid-2000s	mid-2000s
AA negotiations launched	2007	2010
Eastern Partnership	2009	2009
DCFTA negotiations	integrated in AA process	2012
AA initialled	2012	-
AA signed	2014 (March/June)	27 June 2014
Provisional application	2014 (political), 2016 (DCFTA)	1 September 2014
Visa liberalisation	2017	2014
AA entry into force (fully)	1 September 2017	1 July 2016
EU membership application	28 February 2022	3 March 2022
Candidate status	23 June 2022	23 June 2022
Decision to open negotiations	December 2023	December 2023

Accession negotiations launched (IGC)	25 June 2024	25 June 2024
Screening process initiated	July 2024	July 2024
Screening process completed	September 2025	September 2025
Current stage (early 2026)	Preparation for opening negotiation clusters	Preparation for opening negotiation clusters

Source Own elaboration.

The first stage was defined by incorporation into the EU's neighborhood architecture. Both Ukraine and Moldova became part of the European Neighborhood Policy (ENP) in the mid-2000s and later joined the Eastern Partnership in 2009. This phase established the initial framework for political dialogue, sectoral cooperation, and gradual regulatory approximation. The second stage consisted of negotiating and implementing Association Agreements (AA), including Deep and Comprehensive Free Trade Areas (DCFTAs). For Ukraine, negotiations started in 2007 and were concluded in 2011, with the agreement initialed in 2012. Following the political crisis of 2013–2014, the agreement was signed in 2014 and fully entered into force in 2017. For Moldova, negotiations began later (2010 for the AA, 2012 for the DCFTA), but the agreement was signed already in 2014 and entered into force in 2016. In both cases, visa liberalization was achieved in parallel (Moldova in 2014, Ukraine in 2017), marking an important step in societal integration with the EU.

The third stage marks the transition from neighborhood policy to formal enlargement. Following Russia's full-scale invasion of Ukraine, both countries applied for EU membership in early 2022 (Ukraine on 28 February, Moldova on 3 March). In June 2022, the European Council granted candidate status to both countries. A decisive step followed in December 2023, when the European Council decided to open accession negotiations. In June 2024, the first intergovernmental conferences were held, formally launching the negotiation process. Since then, both countries have entered the technical phase of accession negotiations. Throughout 2024–2025, the European Commission conducted the screening of national legislation against the EU acquis. By September 2025, both Ukraine and Moldova had formally completed the screening phase, marking the transition toward the opening of individual negotiation chapters. At the current stage (2026), both countries are preparing for the opening of negotiation clusters, subject to continued progress on reform conditionality.

This sequence highlights a key analytical point: accession readiness in both cases is the result of a long preparatory period. The AA/DCFTA phase played a critical bridging role, creating the institutional and regulatory foundation necessary for the transition to candidate status and the launch of negotiations. At the same time, the recent acceleration of the process demonstrates the importance of geopolitical factors and specific context in shaping the timing of enlargement decisions.

3.1.2. Key Thematic Priorities and Obstacles Across Different Stages of Integration

The Ukrainian and Moldovan cases suggest that the content of European integration evolves significantly across stages. Prior to the Association Agreements, the agenda was not yet framed in terms of accession, but it already centered on building the political, legal, and administrative preconditions for deeper integration. In Moldova, this pre-AA stage was anchored in the 2005 EU-Moldova ENP Action Plan and later in the Eastern Partnership framework. It focused on democratic governance, rule of law, human rights, public administration reform, mobility, border management, and initial legislative approximation. In Ukraine, a similar function was performed by the Association Agenda, which served as a preparatory instrument for the AA while advancing political association and economic integration. Reform priorities included constitutional and judicial reform, anti-corruption, public administration, trade facilitation, and visa liberalization. Across both countries, the core obstacles at this stage were institutional: weak administrative capacity, limited regulatory predictability, insufficient judicial independence, and challenges in border and customs governance.

The Association Agreements marked a qualitative shift, moving from preparatory reforms to a structured and legally binding framework for integration. Both AAs combine political conditionality with extensive commitments to approximate national legislation to EU law. However, this approximation was selective and sequenced rather than equivalent to full acquis adoption. The agreements define priority sectors and establish detailed annexes specifying EU directives and regulations to be transposed over medium- to long-term horizons, often with transition periods. The scope is particularly extensive in areas directly linked to market integration: customs, technical regulation, SPS measures, competition policy, public procurement, intellectual property, financial services, and parts of environmental and energy regulation. Monitoring and enforcement mechanisms were central to this framework. Both agreements created institutional architectures: Association Councils, Committees, and sectoral subcommittees responsible for overseeing implementation. Progress was assessed through regular reporting, benchmarking, and dialogue with the European Commission, with a strong emphasis not only on formal transposition but also on effective implementation and enforcement. The approximation process was dynamic, with commitments periodically updated to reflect developments in EU law and implementation progress. In this sense, the AA stage introduced a quasi-accession logic, but without the full institutional framework of enlargement policy.

A central component of both AAs was the DCFTA, which operationalizes economic integration. The DCFTA went beyond traditional free trade agreements by combining tariff liberalization with regulatory convergence. On tariffs, both sides committed to substantial liberalization: the EU granted near-complete duty-free access for most goods relatively quickly, while Ukraine and Moldova implemented asymmetric liberalization schedules with longer transition periods for sensitive sectors. Temporary exemptions and tariff-rate quotas remained in place for certain agricultural products, reflecting domestic sensitivities and adjustment constraints. The "comprehensive" dimension of the DCFTA was equally important. Market access was conditional on regulatory approximation, particularly in areas such as TBT, SPS standards, customs procedures, and competition policy. This created a functional link between legal convergence and trade integration: access to parts of the EU internal market was progressively expanded as countries aligned their regulatory frameworks and demonstrate enforcement capacity.

Despite the structured nature of the AA/DCFTA framework, implementation proved challenging. Both Ukraine and Moldova faced persistent capacity constraints, including limited administrative resources, weak inter-agency coordination, and uneven technical expertise in complex regulatory areas (European Parliament, 2017). Legislative transposition often outpaced practical enforcement, leading to gaps between formal compliance and actual implementation. In addition, political economy constraints played a significant role: vested interests in sectors affected by competition policy, public procurement reform, or state aid control often resisted change. These factors resulted in uneven progress across sectors.

The candidate-stage agenda represents a further shift toward a fully structured accession framework. Following the granting of candidate status in June 2022 and the opening of accession negotiations in June 2024, both Ukraine and Moldova moved into a process defined by screening, negotiation clusters, and opening benchmarks. At this stage, reforms are organized around the enlargement methodology, with particular emphasis on the "Fundamentals" cluster – rule of law, democratic institutions, public administration reform, and anti-corruption – which effectively conditions progress in other areas. The sectoral and technical reforms continue in parallel, but their advancement is increasingly linked to performance in these core domains. An important innovation of this stage is the closer integration of financial support with accession-related reforms. For Ukraine, the Ukraine Facility (passed in 2024) links large-scale EU funding to a reform and investment plan aligned with accession priorities. For Moldova, the Reform and Growth Facility (passed in 2025) plays a similar role, supporting economic convergence and institutional reform within an accession-oriented framework. In substantive terms, both instruments combine three core components: (i) macro-financial support and budgetary assistance conditional on reform progress; (ii) investment windows aimed at infrastructure, energy, connectivity, and private sector development; and (iii) a reform agenda structured around accession priorities, including rule of law, public administration, and market regulation. Disbursements are explicitly tied to the achievement of predefined milestones and targets, effectively embedding conditionality into financial flows. This creates a tighter coupling between reform implementation and external support, while also increasing the credibility of commitments through monitoring and verification mechanisms. Compared to the AA phase, the candidate stage is therefore more tightly sequenced, more benchmark-driven, and more explicitly anchored in the logic of enlargement conditionality.

3.2. The Case of Armenia

3.2.1. Key Milestones of the EU Integration Path

Armenia's trajectory of relations with the European Union differs fundamentally from the cases of Ukraine and Moldova. While it initially followed a similar path within the ENP and EaP, its integration process diverged at a critical juncture and evolved into a hybrid model combining selective convergence with the EU and deep integration within the EAEU. As a result, Armenia represents a distinct pathway of partial and non-linear alignment with EU standards (see Table 3).

Table 3. Armenia: Timeline of the EU-Integration Path

Stage	Armenia
ENP participation	2004
ENP Action Plan	2006
Eastern Partnership	2009
AA/DCFTA negotiations launched	2010
AA/DCFTA negotiations concluded	2013 (not signed)
Strategic shift toward Customs Union	September 2013
EAEU accession	2 January 2015
CEPA negotiations launched	2015
CEPA signed	November 2017
CEPA provisional application	1 June 2018
CEPA entry into force (fully)	1 March 2021
EU monitoring mission (EUMA)	2023
Deepening EU engagement / policy reorientation	2023–2025
Strategic Agenda for EU–Armenia Partnership	2025

Source Own elaboration.

The first stage of Armenia's engagement with the EU was embedded in the ENP framework. Armenia joined the ENP in 2004, and in 2006 adopted an EU–Armenia ENP Action Plan, which defined priorities in areas such as democratic governance, rule of law, human rights, economic reform, and sectoral cooperation. This was followed by Armenia's participation in the Eastern Partnership from its launch in 2009. As in the cases of Ukraine and Moldova, this stage focused on institutional development, regulatory approximation, and political dialogue, laying the groundwork for deeper integration.

A significant shift occurred in the late 2000s and early 2010s, when Armenia entered negotiations on an AA with the EU, including a DCFTA. Negotiations were launched in 2010 and were largely concluded by mid-2013. However, in September 2013 Armenia announced its decision to join the Russia-led Customs Union (later the EAEU), effectively halting the signature of the negotiated AA/DCFTA. This marked a major turning point: Armenia abandoned a full-fledged integration track with the EU in favor of deeper integration with the EAEU, which it formally joined on 2 January 2015. Despite this strategic reorientation, Armenia did not disengage from the EU. Instead, a new framework for cooperation was developed, resulting in the Comprehensive and Enhanced Partnership Agreement (CEPA). Negotiations on CEPA were launched in 2015 and concluded in 2017. The agreement was signed in November 2017 and provisionally applied from 1 June 2018. CEPA entered fully into force on 1 March 2021. Unlike the AA/DCFTA, CEPA does not include a deep trade component, reflecting Armenia's commitments within the EAEU. However, it retains a broad agenda of political dialogue, institutional reform, and sectoral cooperation, including elements of regulatory approximation to EU standards in selected areas.

The post-2020 period introduced a new dynamic into EU-Armenia relations. Following the 2020 Nagorno-Karabakh war and subsequent geopolitical shifts, Armenia gradually increased its engagement with the EU, including in areas such as resilience, connectivity, and governance reforms. The EU expanded its presence in Armenia, including through the deployment of a civilian monitoring mission (EUMA) in 2023. In parallel, EU financial and technical assistance increased, particularly under the Economic and Investment Plan for the Eastern Partnership. A more pronounced reorientation emerged in 2023–2025, amid Armenia's growing tensions with Russia and reassessment of its external alignments. While Armenia remains formally a member of the EAEU, it has signaled an interest in deepening cooperation with the EU beyond the existing CEPA framework. In 2024-2025, discussions intensified around strengthening political dialogue, expanding sectoral cooperation, and potentially revisiting elements of economic integration, although no formal accession perspective has been granted.

An important recent development in EU–Armenia relations is the adoption of the Strategic Agenda for the EU-Armenia Partnership, which builds on the CEPA and sets a more structured and forward-looking framework for cooperation. The document defines a comprehensive set of short- and medium-term priorities across governance, security, and economic domains, with a strong emphasis on democratic institutions, rule of law, and socio-economic resilience. It also introduces a more operational approach to implementation, with clearly defined timelines, monitoring mechanisms, and linkage to EU financial assistance instruments. Notably, the Agenda expands cooperation into new areas, including security and defense, while deepening sectoral alignment in energy, transport, and digital connectivity. At the same time, it explicitly recognizes the need to advance regulatory approximation to EU standards where compatible with Armenia's existing international commitments, particularly within the EAEU. In this sense, the Strategic Agenda represents an attempt to maximize the integration potential of the CEPA framework without formally entering the accession track.

As of 2026, Armenia's position can be characterized as a hybrid integration model: legally anchored in CEPA/Strategic Agenda with the EU, structurally embedded in the EAEU, and increasingly exploring avenues for deeper engagement with European institutions. Unlike Ukraine and Moldova, Armenia has not applied for EU membership and is not part of the formal enlargement process. However, its trajectory demonstrates that partial convergence with EU standards can be sustained even under constraints imposed by alternative integration frameworks, albeit with clear limits.

3.2.2. Key Thematic Priorities and Obstacles Across Different Stages of Integration

Unlike the Association Agreement/DCFTA model, Armenia's CEPA-based pathway reflects a constrained but progressively deepening form of sectoral integration, shaped by both institutional commitments and external constraints. At the initial (pre-CEPA) stage, the core priorities were concentrated in governance and institutional reforms. CEPA phase explicitly served as a legal and institutional framework for strengthening democratic institutions, rule of law, and public administration capacity. The Strategic Agenda further operationalizes these priorities, placing emphasis on judicial reform, anti-corruption measures, electoral integrity, and alignment with European human rights standards. This stage broadly corresponds to the "foundational convergence" phase, where political conditionality and institutional alignment dominate.

During its path, Armenia demonstrated relatively strong performance in selected regulatory domains, particularly in areas such as intellectual property protection and basic trade-related legislation (see Table 1). The CEPA stage of integration was characterized by gradual sectoral approximation and economic cooperation. Key priorities included trade diversification, energy and transport connectivity, digitalization, and the development of regulatory frameworks in areas such as services, public procurement, SPS measures, and technical standards. Furthermore, the CEPA framework underpinned expansion of regulatory approximation in selected sectors, including food safety, services regulation, and technical barriers to trade. These reforms were directly linked to facilitating market access and enabling Armenian firms, particularly SMEs, to integrate into EU value chains. Simultaneously, EU financial and technical assistance instruments (e.g., TAIEX, Twinning, Global Gateway investments) were mobilized to support capacity building and infrastructure development.

However, implementation gaps remained significant, indicating that formal alignment often outpaces effective enforcement and institutional capacity. The CEPA stage also is the illustration of the case when structural constraints of Armenia's integration model become most binding. Membership in the EAEU implies that key elements of trade policy, particularly tariff-setting and parts of external trade regulation, are delegated to a supranational framework. As a result, EU-related regulatory approximation must remain selective and compatible with Armenia's existing international obligations. This fundamentally limits the scope for deep trade integration comparable to DCFTA countries.

The Strategic Agenda introduces a more structured prioritization between short- and medium-term priorities, with increasing emphasis on measurable implementation and regulatory convergence. At the advanced stage, integration priorities expand into more complex and politically sensitive domains, including security and defense-related cooperation, resilience to hybrid threats, and deeper sectoral integration in areas such as energy transition, climate policy, and digital economy. In parallel, horizontal priorities such as socio-economic resilience, migration management, and the integration of displaced populations become increasingly important, linking internal reforms with broader regional stability considerations. The introduction of monitoring frameworks, conditional financial assistance enhance the link between reform progress and EU support.

Despite this progression, several cross-cutting obstacles persist across the Armenia's EU-integration path. First, administrative and absorption capacity constraints continue to limit the effective implementation of CEPA commitments, necessitating ongoing institutional strengthening. Second, the geopolitical environment remains highly volatile, directly affecting reform priorities and resource allocation. Third, the hybrid nature of Armenia's integration model, which tries to combine EU-oriented regulatory convergence with EAEU membership, creates structural inconsistencies that constrain the depth and speed of alignment. Overall, Armenia's integration pathway can be characterized as a model of incremental and selective convergence: meaningful progress is achieved in governance and sectoral regulation, while structural external constraints prevent a transition toward full market integration.

3.3. Lessons for Belarus

The following 10 lessons from Ukrainian, Moldovan, and Armenian cases are relevant for Belarus:

1. EU integration is inherently long-term and implementation-driven.

Even under accelerated and politically favorable conditions, convergence with EU standards requires sustained effort over many years. The key constraint is not the formal adoption of EU legislation, but its effective and durable implementation. This, in turn, depends on administrative capacity, institutional quality, and the ability to ensure the irreversibility of reforms over time.

2. Political and economic criteria are deeply interlinked.

Although this paper focuses primarily on economic aspects, in practice progress in economic convergence is closely tied to developments in governance, rule of law, and institutional stability. Weaknesses in political institutions tend to translate into implementation gaps, regulatory uncertainty, and reduced credibility of reform commitments.

3. The AA/DCFTA pathway represents the dominant and most structured model of integration.

In the Eastern European context, gradual convergence followed by formalization through an Association Agreement with a DCFTA has emerged as the most institutionalized and predictable pathway. This model provides a clear roadmap, combines incentives with obligations, and allows for progressive alignment with EU standards.

4. The AA stage functions as a quasi-accession framework.

Association Agreements combine political conditionality with selective and sequenced approximation to EU law. While not equivalent to full acquis adoption, they effectively act as a preparatory phase, building both regulatory alignment and the institutional capacity required for eventual accession negotiations.

5. A preparatory phase is practically indispensable.

Transition to advanced stages of integration is highly unlikely in practice without a prolonged preparatory phase, typically associated with AA/DCFTA implementation. This phase reduces risks during formal negotiations and ensures that countries are capable of meeting the more stringent requirements of the accession process.

6. The Armenian case illustrates a hybrid integration model with structural limits.

Armenia demonstrates that partial convergence with the EU is possible even within an alternative integration framework such as the EAEU. However, such a model is inherently constrained: regulatory approximation must remain selective and compatible with existing international commitments, limiting both scope and depth of integration.

7. Hybrid integration creates long-term trade-offs.

The absence of a deep trade component, as in the CEPA framework, significantly restricts market integration and reduces the economic benefits associated with convergence. At the same time, dual alignment generates systemic inconsistencies. At more advanced stages, a strategic choice between integration frameworks becomes increasingly unavoidable.

8. The candidate stage introduces a qualitatively different logic.

Compared to the AA phase, the candidate stage is more tightly sequenced, benchmark-driven, and anchored in strict conditionality. Progress is increasingly structured around predefined benchmarks, with particular emphasis on the "fundamentals" (rule of law, governance, and administrative capacity), which condition advancement in other areas.

9. Institutional capacity is the key binding constraint.

Across all stages, the ability of the state to design, implement, and enforce reforms determines the speed and depth of integration. Limited administrative capacity, weak coordination mechanisms, and insufficient technical expertise consistently emerge as major bottlenecks.

10. Integration pathways are path-dependent.

Early strategic choices—particularly regarding external economic alignment—create long-term constraints and shape the feasible trajectory of convergence with the EU. Once embedded in a specific integration framework, shifting to an alternative model becomes increasingly complex and costly.

4. The Logic, Strategy and Indicative Time-Line for Belarus' EU-Integration Case

4.1. Strategic Considerations

1. Belarus faces a dual transition challenge.

Unlike most other cases, Belarus will need to simultaneously undertake internal institutional transformation and external economic reorientation. This dual transition significantly increases systemic risks and requires careful coordination of reforms across multiple domains.

2. Belarus starts from a structurally disadvantaged position.

Belarus faces a significantly larger gap relative to EU standards compared to other Eastern Partnership countries, as demonstrated in Section 2. In addition, the country is deeply embedded in economic and institutional integration frameworks with Russia, including the EAEU and the Union State, which creates strong path-dependence effects. These are reinforced by deep trade, energy, and financial linkages. Furthermore, Belarus has a relatively low level of formalized relations with the EU and lacks a sustained track record of institutional cooperation, which reduces mutual trust and increases uncertainty at the outset of integration.

3. A hybrid pathway is strategically constrained and cannot be considered as a full-fledged integration model.

Armenia demonstrates that partial convergence with the EU is possible within an alternative integration framework. However, such a model is inherently limited: regulatory approximation remains selective and constrained by external commitments, and the absence of a deep trade component restricts economic integration. This suggests that hybrid models may be viable only as temporary or second-best solutions under strong geopolitical constraints.

4. Full EU integration requires disengagement from the EAEU and the Union State.

Deep integration into the EU—particularly participation in the internal market—requires alignment with EU trade, regulatory, and competition frameworks, which is incompatible with continued membership in the EAEU and the Union State. While temporary hybrid arrangements may be possible during a transitional phase, full convergence with EU standards ultimately necessitates a strategic disengagement from these integration structures.

5. Exit from the EAEU and the Union State is the main source of uncertainty.

The timing, sequencing, and conditions of disengagement from existing integration frameworks represent a major uncertainty factor. These elements will critically shape both the feasibility and the speed of Belarus's EU integration trajectory.

6. Democratization is the necessary starting point.

Under the current political regime, meaningful EU integration is not feasible. Democratization acts as a trigger that enables integration to begin and opens a window of opportunity for reforms and engagement with the EU. This moment must be used to establish a comprehensive and forward-looking integration strategy. Following democratization, Belarus will face a limited time window during which reforms and integration efforts are most feasible. Delays or loss of momentum may increase the risk of policy reversal and re-entrenchment of previous institutional patterns.

7. Early institutional anchoring and access to EU benefits are critical.

At early stages, it is essential for Belarus to establish a strong institutional linkage with the EU and gain access to key benefits, including market access, financial support, and technology transfer. Without such anchoring, there is a risk of incurring the adjustment costs associated with reforms without receiving compensatory gains, leading to economic and political backlash. Furthermore, such anchoring enhances credibility, reduces uncertainty, and strengthens reform incentives.

8. A preparatory phase is critical for reducing the initial gap.

Given the significant initial distance from EU standards, a preparatory phase is indispensable. This phase should focus on both de jure and de facto convergence with EU norms, with reforms driven by domestic economic needs while simultaneously aligning with EU integration logic. Early movement toward an Association Agreement framework is particularly important in this regard.

9. Acceleration matters, but within institutional and capacity constraints.

A faster integration trajectory can help reduce the duration of adjustment costs and accelerate access to benefits. However, acceleration must be consistent with the country's administrative and institutional capacity. Poor sequencing or overextension of reform efforts may undermine implementation and lead to systemic instability.

10. EU integration for Belarus requires a clear, coherent, and accelerated strategy.

Given the structural constraints, the integration process must be designed to be as transparent, consistent, and time-efficient as possible. Policy inconsistency or fragmented reform efforts may lead to reversals, undermine credibility, and generate reform fatigue. A clearly articulated and sequenced strategy is therefore essential to maintain momentum and ensure alignment between domestic reforms and integration objectives.

4.2. Exit from the EAEU and the Union State: Legal Constraints, Scenarios, and Strategic Choices

The incompatibility between deep integration in the EU and continued participation in the EAEU and the Union State is structural, legal, and rooted in fundamentally different integration logics. The EU is based on principles of market competition, strict state aid control, and supranational rules with direct effect. In contrast, the EAEU relies to a greater extent on coordinated industrial policies and administered economic arrangements. As a result, the two frameworks are impossible to reconcile at a fundamental level and do not allow for their simultaneous application in a deep integration format. Structurally and legally, there are three major sources of incompatibility. First, at the level of trade policy, participation in the EU internal market presupposes alignment with the EU's common commercial policy (Article 3(1)(e) and Article 207 TFEU), while the EAEU entails a common external tariff and coordinated external trade measures. Second, at the level of regulatory sovereignty, EU integration requires systematic adoption and enforcement of EU-based rules in areas such as technical regulation, SPS, competition, and state aid, whereas the EAEU and the Union State embed alternative rule-making and coordination mechanisms. Third, at the legal–institutional level, Union State commitments envisage coordinated external policy and a unified legal space, which constrains the ability to assume obligations that could conflict with EU law (Article 4(3) TEU). Taken together, these factors imply that participation in alternative integration arrangements involving autonomous trade policy or conflicting regulatory commitments is fundamentally incompatible with full EU membership. Therefore, deep integration within both the EU and EAEU frameworks is not feasible.

Both frameworks – EAEU and Union State – provide formal exit clauses, but these define only minimum legal timelines rather than realistic adjustment horizons. In the EAEU, withdrawal follows written notification to the depositary, with termination of obligations after a fixed notice period of roughly twelve months. In the Union State, exit requires domestic constitutional procedures, including a referendum, followed by written notification, with termination after a longer notice period of roughly eighteen months. Legally, these periods should be understood as the minimal exit terms.

However, on the one hand, they do not capture the time required to unwind practical linkages or to substitute existing arrangements with new ones compatible with EU integration. Legal withdrawal is not equivalent to functional disentanglement. Beyond the core treaties, Belarus is embedded in a dense network of sectoral arrangements and de facto dependencies, including energy pricing and supply, transit and logistics, financial linkages, standards and certification chains, and defense and security cooperation. Effective exit therefore entails renegotiation, substitution, or reconstruction of these links. This process is inherently complex and can substantially extend timelines and amplify transition costs, even if legal withdrawal is completed within the formal notice periods.

On the other hand, potential full dismantle of these Russia-led integrational frameworks – which might be probable in case of weakened Russia – might lead to accelerated procedures and terms of dismantle. Hence, there is a binding uncertainty, which is more strategic rather than procedural. Economic outcomes and the feasibility of a pivot to the EU depend critically on Russia's response, which may range from loyal to openly hostile. Similar legal pathways can therefore produce markedly different macroeconomic and institutional trajectories depending on the external environment. Existing studies visualize the potential dispersion of outcomes. Estimates in Kruk & Karaitis (2026) and Hartwell et al. (2022) suggest that transition costs and adjustment paths can vary widely across scenarios, particularly with respect to trade reorientation, energy prices, and short-run output dynamics. Given the difficulty of assigning reliable ex ante probabilities to this or that scenario of exit from Russia-led integrational frameworks, for the purposes of this paper we consider two scenario-based approaches. Both of them stem from a normative approach, and assume relatively rapid exit from these integrational frameworks. The logic here is as follows: unless relatively rapid exit happens – either due to Belarusian initiative or given a geopolitical shock resulting in the disruption of the Russia-led integrational frameworks – the chances for a full-fledged pivot to the EU for Belarus are pretty low. The first scenario assumes a duration of up to 2 years needed for the exit. It relies on formal terms envisaged by the corresponding legal commitments. It assumes that phased dismantle of supranational obligations happens, and a special transitory regime is introduced for the exit phase. The second one, accelerated exit, assumes the duration of up to 1 year and is associated with disruptive trends coming from inside the EAEU and the Union State. It assumes simultaneous denunciation of key obligations, and rapid move to autonomous trade and regulatory policy. However, we admit that exit from the EAEU and the Union State, its scenarios and duration are highly sophisticated and sensitive issues. Unless our 'normative' logic works, these issues may result in a protracted procedures of both EAEU and the Union State exit, as well as EU-integration.

The process of exit from the EAEU and the Union State raises a complex set of interrelated economic, institutional, and coordination challenges that must be addressed in a highly synchronized manner. On the economic side, a central issue concerns the conditions of access to the Russian market during the transition period, given the high degree of trade dependence and the risk of sudden disruptions. This is closely linked to the need to rapidly restore autonomous tariff policy and customs administration, while simultaneously building capacity to operate under a new external trade regime aligned with EU requirements. Energy represents another critical vulnerability: existing contractual arrangements and preferential pricing regimes may be revised or withdrawn, potentially triggering significant cost increases and short-term inflationary pressures. Institutionally, the transition implies the re-establishment of full national sovereignty over trade and regulatory policy, including the creation or strengthening of national regulatory bodies capable of implementing EU-aligned frameworks in areas such as competition, technical standards, and market supervision. A key risk in this process is the emergence of legal and regulatory gaps during the transition period, especially if withdrawal from existing frameworks is not carefully sequenced with the introduction of new rules and institutions.

Hence, the external and coordination dimension is of critical importance. To avoid an institutional vacuum, the exit phase should be tightly coupled with immediate EU anchoring. Based on the experience of Armenia, it might be feasible to underpin this stage by CEPA for Belarus or a functional equivalent. Early anchoring might provide regulatory guidance, financial support, and to some limited improvement in access to the EU markets. Thus, it would mitigate the risk of "adjustment without compensation," and enhances the credibility of the reform trajectory. CEPA can be conceptualized as a transitional institutional framework that helps structure Belarus's early-stage integration with the EU without immediately entering the full accession track. Its primary function is to anchor the direction of convergence, providing a clear signal to both domestic and external actors about the strategic orientation of reforms. At the same time, it facilitates institutional and regulatory preparation for eventual acquis adoption, allowing the gradual build-up of administrative capacity and policy alignment. By establishing a formalized framework of cooperation, CEPA also helps reduce uncertainty during the transition period, particularly for businesses and investors. However, it should be clearly understood that CEPA does not substitute for either withdrawal from the EAEU or the conclusion of an Association Agreement, but rather complements and precedes these steps.

4.3. Core Principles and Indicative Time-line of EU-Integration for Belarus

Building on the specific structural constraints of the Belarusian case, as well as on the experience of other countries in the region, the logic of EU integration for Belarus should be constructed around a set of core principles that ensure both feasibility and consistency of the process.

1. Democratization is the enabling starting point of EU integration (t = 0).

A credible EU integration trajectory for Belarus becomes feasible only after a democratic transition that restores international subjectivity and enables formal engagement with EU institutions. At this stage, it is critical to make an explicit European choice and rapidly institutionalize relations with the EU. Belarus starts from a comparatively low baseline, including the absence of a fully operational Partnership and Cooperation Agreement (the 1995 PCA was never ratified), which creates an institutional vacuum that must be filled as soon as possible.

2. Early commitment to a continuous, end-to-end integration pathway is essential.

From the outset, Belarus should anchor its reforms to a clearly articulated, continuous pathway that leads from the initial transition phase to full EU membership. Avoiding stop-and-go dynamics is critical: fragmented or reversible reforms would undermine credibility and delay subsequent stages, particularly when moving to acquis-based processes.

3. A preparatory phase is critical to close the initial gap.

Given the substantial distance from EU standards (both de jure and de facto), a preparatory phase is indispensable. This phase should combine rapid legislative approximation in priority areas with institutional capacity building (regulators, courts, enforcement bodies) and policy credibility (consistent application and enforcement). It also serves a second function: creating the legal and economic conditions necessary for disengagement from the EAEU and the Union State.

4. The transition phase should be anchored in a formal EU framework (CEPA/Strategic Agenda).

The first integration stage – synchronized with exit procedures from the EAEU and the Union State – should be formalized through a CEPA-type agreement and a Strategic Agenda (similar to Armenia). This framework anchors the direction of convergence, structures reform priorities, and provides immediate access to EU technical and financial support. Its purpose is transitional: to reduce uncertainty, coordinate reforms, and accelerate movement toward the next stage rather than substitute for deeper integration instruments.

5. The Association Agreement (AA/DCFTA) is the core engine of convergence.

The decisive phase of integration is associated with the negotiation, signing, and implementation of an Association Agreement, including a DCFTA. This stage introduces structured, sector-by-sector approximation to EU law under conditionality, while the DCFTA drives economic integration through tariff liberalization and regulatory alignment (TBT, SPS, customs, competition, public procurement). In practice, this is where sustained convergence to EU standards occurs and where the institutional infrastructure for acquis adoption is built.

6. De facto integration precedes de jure accession.

By the time AA/DCFTA commitments are largely implemented, Belarus would have achieved substantial de facto integration with the EU. However, from a legal perspective, the formal accession process begins only with the submission of a membership application and the launch of screening and negotiations on the acquis.

7. Time compression is desirable but constrained by capacity.

An accelerated trajectory reduces the duration of adjustment costs and the risk of reform reversal. At the same time, sequencing must remain consistent with administrative capacity to avoid implementation gaps. In practice, phases will partially overlap (e.g., CEPA implementation, exit procedures, and AA preparation), which allows time compression but requires strong coordination.

8. Indicative horizon reflects an ambitious but feasible benchmark.

Under favorable political conditions and strong EU support, a full integration horizon of approximately 10–15 years is an ambitious yet plausible benchmark (see Table 4). This estimate assumes effective coordination of overlapping phases, sustained reform momentum, and timely external anchoring.

Table 4. Indicative Timeline of the EU-Integration Path for Belarus

Stage	Key Actions	Indicative Duration
t = 0	Democratization; restoration of international subjectivity; political decision on EU path	Immediate
Transition (CEPA + exit launch)	Signing CEPA/Strategic Agenda; launching exit procedures from EAEU and Union State; initial regulatory alignment	~1–2 years
AA/DCFTA preparation	Negotiation and preparation of Association Agreement and DCFTA; priority legislative alignment; institutional build-up	~1–2 years

AA/DCFTA implementation	Phased implementation of AA commitments; tariff liberalization; deep regulatory convergence across sectors	~4–5 years
Accession process	Membership application; screening; negotiations on acquis chapters/clusters	~4–6 years
Overall horizon	**From democratization to membership**	**~10–15 years**

Source Own elaboration.

Within this timeline, CEPA (or a functional equivalent) plays a strictly transitional role. Its scope should prioritize governance, rule of law, public administration reform, and selected regulatory domains that can be advanced without conflict with legacy commitments during the exit phase. CEPA structures short- and medium-term priorities, aligns them with EU support instruments, and creates a predictable policy environment for economic agents. In practical terms, the content of such an agreement for Belarus can be anchored in the structure and scope of the EU-Armenia CEPA, which provides a workable template for transitional integration under constraints. This includes a strong focus on governance, rule of law, public administration reform, and selective regulatory approximation in areas such as competition, public procurement, and technical standards. Adapting this model would allow Belarus to operationalize early convergence while maintaining flexibility during the exit phase from existing integration frameworks. Crucially, it provides early anchoring of expectations, both domestically and externally, reducing uncertainty during the most volatile stage of transition. At the same time, its limitations must be explicit: it does not provide deep trade integration and cannot substitute for the AA/DCFTA framework.

The AA/DCFTA phase determines both the content and the speed of convergence. The agreement should prioritize high-impact domains: customs and trade facilitation; technical regulation and standards (TBT); sanitary and phytosanitary measures (SPS); competition policy and state aid control; public procurement; financial services; and selected areas of energy and digital regulation. Implementation requires detailed sequencing, transitional periods, and strong enforcement capacity. The DCFTA component is critical for early economic gains—market access, investment attraction, and integration into EU value chains—which, in turn, support political sustainability of reforms. The indicated timelines (1–2 years for preparation and 4–5 years for implementation) are consistent with regional experience but assume effective coordination, sufficient administrative capacity, and continuous EU support.

The energy sector represents the most sensitive and structurally specific domain in the Belarusian case, given its deep integration with Russian supply systems, pricing arrangements, and infrastructure dependencies. As a result, any transition in this sector carries both significant economic risks and broader macroeconomic implications. Initial steps toward reform, particularly in areas such as regulatory governance, market transparency, and gradual alignment with EU energy principles, should already be embedded within the CEPA/Strategic Agenda framework. However, comprehensive restructuring of the sector, including market liberalization, tariff reform, and integration into EU energy markets, can only be realistically achieved at the AA/DCFTA stage, where stronger conditionality, regulatory alignment, and investment support mechanisms are in place.

5. Synchronizing Energy Sector with the EU Standards

Based on the experience of other countries (the Baltic states, Ukraine, Moldova, Poland, Slovakia, etc.), it can be concluded that integration with the EU takes place either under a “gradual” scenario of planned system reform, or under an “emergency” scenario in the context of an energy crisis caused by a sharp increase in energy prices or the disruption of supply. Therefore, it is necessary to clearly distinguish between measures that would hinder the organization of emergency supplies from the European Union and those that can be implemented under stable conditions with long-term planning of reforms.

5.1. Gas Supply

As of today, Belarus is 100% dependent on gas supplies from Russia. At the same time, the share of gas in total energy consumption is around 50% (depending on the volume of processing). In 2020, the share of gas in electricity and heat generation exceeded 85%. This figure has since declined due to the commissioning of the Belarusian Nuclear Power Plant. As a result, the share of gas in electricity generation has decreased to about 65%, while its share in heat generation has remained almost unchanged, as the operation of the nuclear power plant does not affect the structure of fuel consumption for heat production.

In addition to energy dependence, gas supplies from Russia also create economic dependence: gas prices for Belarus are relatively low, on average 2–3 times lower than prices on EU gas trading hubs. At the same time, it should be noted that under the agreement on the terms of purchase and sale of shares of OJSC “Beltransgaz”, all trunk gas networks, the Yamal–Europe gas pipeline, and underground gas storage facilities are owned by PJSC “Gazprom”.

Therefore, when integrating Belarus’s gas system, it is necessary to take into account both technological requirements (requirements for gas system equipment) and regulatory requirements (requirements for the management and operation of the gas system).

5.1.1. Regulatory Framework

Unbundling of the network by type of activity. The European Union is convinced that, in order to ensure sufficient and efficient attraction of investment into the development of gas and hydrogen transport systems (the new directive already regulates hydrogen transport systems as well), it is necessary to guarantee non-discriminatory access to the various segments of the gas market. Such non-discriminatory access can only be ensured through the separation of different types of activities. This includes:

- the establishment of an independent gas market operator that owns neither gas pipelines nor gas, but carries out the operational management of the gas network;
- the separation of the owner of the gas transmission network;
- the separation of the owner of gas storage facilities;
- the separation of natural gas owners (suppliers and consumers);
- the establishment of a supervisory body to ensure compliance with unbundling requirements;
- the establishment of an independent natural gas market regulator.

It should be noted that the transition to such an advanced structure must be implemented gradually and step by step. PJSC Gazprom owns gas, gas pipelines, and gas storage facilities. The separation of these activities may be significantly complicated by the terms of the sale of OJSC "Beltransgaz". Moreover, existing agreements do not allow for the separation of ownership of trunk gas networks and gas storage facilities for the purpose of alternative gas supplies. At the same time, the remaining stages can be implemented within the framework of national legislation and negotiations with the European Union regarding minimum requirements and reform milestones. For example, requirements for information exchange and interaction between system operators will be necessary from the outset, while the unbundling of Beltransgaz as a gas owner and an owner of distribution networks may be implemented at a later stage.

In addition to unbundling, it is necessary to adopt a large number of regulatory documents governing the overall operation of gas networks and access to their services, the allocation of transmission capacities, and the maintenance of network balance. There are also requirements related to gas market transparency, energy security, and reliability of supply. Furthermore, there are requirements concerning the certification of independent market participants (operators, regulators, etc.).

These are already EU regulations, meaning that they do not require transposition at the national level. In EU member states, they enter into force immediately upon adoption. In the context of the initial phase of Belarus's European integration, certain parts of these regulations will need to be incorporated into national legislation, while some provisions cannot be implemented directly and will require gradual approximation to EU standards.

5.1.2. Technological Arrangements

The separation of state monopolies and the introduction of independent regulation will require a restructuring of data collection and operational planning systems (IT/SCADA systems), the development of online platforms for information disclosure and automated management, as well as significant efforts in the education and training of specialists.

The Regulation on security of gas supply requires that the system be able to ensure reliability under the N-1 standard (the failure of any single element must not lead to a disruption of supply). In the case of supplies from a single country, this requirement cannot be met. To comply with European legislation, it may be necessary to construct additional gas pipelines or to modify the operating regimes of existing ones. It is also necessary to consider investments in LNG terminals located in coastal areas of other countries.

Along the path of integration with the EU, several stages can be identified:

- **Phase A — Legal and regulatory framework.** The establishment of national gas market legislation implementing the requirements of EU directives.

- **Phase B — Modernization and integration.** Technological modernization of enterprises and organizations in parallel with the development of the necessary “soft” infrastructure (communication and data-exchange systems, etc.) and workforce training. At the same time, continuous work is carried out on the implementation of EU regulations into the Belarusian legal framework.

- **Phase C — Supply diversification and physical readiness.** Planning of projects and investments for the development of internal and cross-border “hard” infrastructure, including the construction of gas pipelines, gas storage facilities, and LNG terminals in other countries, etc.

5.2. Oil and Oil Products

The oil and oil products market is regulated to a much lesser extent than the gas market. There are several reasons for this. From the outset, the oil refining market has been more competitive, and therefore the need for strict competition control and investment incentives has been significantly lower. In addition, supply systems are usually based on discrete deliveries (by tankers or rail transport). Such a system does not require continuous real-time regulation, and operational stocks are created by companies to meet the needs of their commercial activities. The main regulatory requirement concerns the volume of oil and oil product storage. According to Directive 2009/119/EC, countries must maintain stocks equivalent to 90 days of imports and at least 61 days of domestic consumption.

In Belarus, oil and oil product stock requirements are set out in the Energy Security Concept, which requires crude oil reserves sufficient for 10 days of refinery operation. Reserves of oil products must cover domestic demand for 30 days. Reserve fuel (fuel oil) must also be stored in volumes exceeding 30 days. In 2020, plans were announced to increase crude oil storage capacity to 1 million tons (up to 30 days) and to begin construction of a connecting pipeline between the oil pipelines serving the Mozyr Refinery and Naftan, which would allow crude oil to be redirected between the two plants. In 2022, it was announced that this task had largely been completed (storage capacity of 0.9 million cubic meters, with the interconnection completed), and further expansion plans were presented. The interconnection has indeed been completed, and it was planned to further increase storage capacity by an additional 1.35 million tons.

Taking into account the need to use part of the storage capacity for operational purposes, the remaining volumes can be used for long-term storage, providing reserves for up to two months. Thus, meeting the oil stock volume requirements does not constitute a significant challenge for Belarus. Environmental fuel quality parameters are also regulated in the EU. However, Belarus is most likely already compliant with these requirements, as meeting them was necessary for supplying fuels to the EU market. Therefore, no substantial changes or major reforms are required in this area.

5.3. Electricity and Nuclear Power

At present, Belarus has no technical capability to transmit electricity to EU countries. Therefore, even under an "emergency" scenario, it would not be possible to organize electricity supplies to Belarus. As a result, reform of the electricity market is less dependent on external conditions; instead, political factors are likely to have a greater influence on the pace of reforms.

5.3.1. Regulatory Framework

To harmonize legislation on electricity market regulation, it is necessary to implement Directive (EU) 2019/944, which sets out the requirements for the organization of the internal electricity market. It is also necessary to implement the requirements of Regulation (EU) 2019/943. The core objective of these documents is the establishment of a competitive electricity market, which is currently entirely absent in Belarus. Therefore, at the initial stage, only certain provisions of these directives and regulations can realistically be implemented.

At the first stage, it is necessary to ensure the independence of the transmission system operator and the market operator. From 1998 to 2019, Belarus had the Republican Unitary Enterprise "ODU", which performed the functions of a system operator. Although the influence of the State Production Association "Belenergo" on this organization was significant, ODU nevertheless enjoyed a certain degree of independence. However, in 2019 the organization was liquidated, and all its assets and personnel were transferred to "Belenergo". In practice, the first step towards implementing European legislation should therefore be the restoration of an independent system operator, as well as the establishment of a market operator and a market regulator.

Previously, an analysis of possible options for reforming the internal electricity market was carried out, identifying five stages:

Stage 1: Establishment of a regulator

Stage 2: Establishment of a market operator

Stage 3: Transition to a "single buyer" (purchasing agency) model

Stage 4: Transition to a wholesale market model

Stage 5: Transition to a retail market model

The first three stages can be implemented simultaneously. This would require amendments to national legislation and corresponding changes to the organizational structure governing interactions between existing and newly created institutions. At the third stage, it would be necessary to unbundle “Belenergo” by type of activity, separating networks (to be transferred to the system operator), generation, and supply and distribution companies.

Transition to Stage 4 would require further unbundling of generation into several companies capable of competing with each other on the wholesale market. At this stage, significant challenges may arise due to the structure of electricity generation in Belarus. Combined heat and power plants (CHPs) and nuclear power plants typically operate under special load dispatch rules and are prioritized in dispatch. Given that these facilities account for a large share of electricity generation, the remaining volumes of electricity and available capacity may be insufficient to ensure the minimum level of liquidity required for the formation of an efficient market. Addressing this issue may take a considerable amount of time—years or even decades—either through additional demand growth or through the replacement of existing generation capacity.

Overall, the requirements of European legislation regarding the governance structure of the electricity market are similar to those applicable to the gas market.

When establishing a system operator, it is also necessary to comply with the requirements of Commission Regulation (EU) 2017/1485. Article 118 of this regulation requires system operators within a synchronous area to develop a Synchronous Area Operational Agreement (SAOA) for their system. This agreement must include a set of methodologies for frequency and load control, load allocation among generators, and procedures for emergency situations in the system. It also defines the rules for the establishment of primary, secondary, and tertiary reserves.

For the electricity market to function, it is also necessary to establish its various segments (the long-term market, day-ahead market, balancing market, etc.). Requirements for these market elements are set out in Regulation (EU) 2019/943, which must likewise be gradually implemented into national legislation.

5.3.2. Technological Arrangements

From a technological perspective, synchronization of the power system with the EU system implies a transition to European standards of system interaction and the application of common reliability standards. From a technical standpoint, the system must be capable of maintaining a stable frequency within a defined range. Under European rules, each country is required to control its own frequency and to be able to operate in island mode in the event of failures in neighboring countries or system desynchronization.

Such frequency control differs from the current control practices in Belarus and will require modernization of equipment at generating units within the power system. In addition to frequency control, it is necessary to ensure sufficient system inertia, which depends on the structure of connected generation and equipment.

Meeting these requirements may require the construction of new generating units or specific technical modifications.

Data transmission systems, automation, and relay protection equipment will also require modernization in line with new requirements for transparency, public access to information, and cybersecurity. Requirements related to distributed generation may necessitate the upgrading of distribution networks to enable bidirectional power flows. Furthermore, it will be necessary to implement all requirements related to information exchange between the transmission system operators of neighboring countries.

Regulation (EU) 2022/869 (TEN-E) requires that countries have cross-border interconnection capacity of at least 15% of peak electricity demand. For Belarus, this corresponds to approximately 1 GW. At present, Lithuania has announced plans to dismantle existing transmission lines between Belarus and Lithuania. At the same time, interconnections with Poland (0.1 GW, currently not operational) and with Ukraine, with a combined capacity exceeding 1 GW, remain in place. It is therefore likely that this requirement could be met; however, if Ukraine were also to decide to dismantle its interconnections, Belarus would lack sufficient cross-border capacity. The construction of new transmission lines is a very time-consuming process and may take decades.

5.3.3. Nuclear Power Plant

For integration with the EU, Belarus will also need to address a number of technical, regulatory, and legal requirements related to the operation of the Belarusian Nuclear Power Plant (NPP).

The first step should be the establishment of an independent nuclear regulator. At present, regulatory functions are performed by Gosatomnadzor, which is legally part of the Ministry for Emergency Situations. This organizational structure does not ensure genuinely independent regulation.

Subsequently, Belarus will need to implement the requirements of Council Directive 2009/71/Euratom, which sets out nuclear safety rules for nuclear installations and requirements for the independence of the regulatory authority.

Equally important from a safety perspective is Council Directive 2014/87/Euratom, meaning that these issues will be subject to particularly detailed scrutiny. It should be noted that in the operation of nuclear installations, most operational activities are governed by dedicated technical and procedural documents. At present, Belarus relies either directly on Russian regulatory documents or on adapted versions whose requirements are largely aligned with Russian standards. For harmonization with EU legislation, it will be necessary to transition to Euratom standards and requirements. This may require modernization of equipment at the nuclear power plant.

In addition to the direct operation of the NPP, it is necessary to regulate systems for the management of spent nuclear fuel and radioactive waste, which over time will also need to be gradually aligned with European standards.

An important element of nuclear safety assurance is the conduct of stress tests and various monitoring missions. European legislation requires the periodic implementation of monitoring and peer-review missions, and Belarus will need to organize such missions to demonstrate the safe operation of its nuclear installations.

In terms of priorities and sequencing, several phases can be identified:

Phase A — Immediate measures

- Publication of available materials required to be disclosed under European legislation;
- Strengthening the independence of the regulator.

Phase B — Medium term (6–24 months)

- Adaptation and harmonization of national legislation in line with EU regulatory requirements;
- Organization and conduct of monitoring missions and stress tests;
- Signing of international agreements and accession to associations related to the operation and safety of nuclear installations.

Phase C — Long term (24–60 months)

Modernization of installations that do not meet EU requirements, until full compliance is achieved.

5.3.4. Decarbonization and EU Climate Policy

Decarbonization is a key element of EU energy policy, while in Belarus it currently receives little practical attention. The development of renewable energy sources for heat production is legally constrained to such an extent that it can effectively be described as a near-total ban on RES development. These policies will need to be repealed. In addition, a range of regulatory and strategic documents will need to be adopted in order to harmonize Belarusian legislation with EU standards.

For many years, the European Union has operated an emissions trading system (ETS) for greenhouse gas emissions (Directive (EU) 2023/959) . However, implementation of this directive requires a number of additional measures, including the introduction of a system for monitoring, reporting, and verification (MRV) of greenhouse gas emissions (Regulation (EU) 2015/757). Belarus has previously begun work in this area: international projects were implemented, analytical studies were prepared, and draft regulatory documents were developed, but the system was never formally adopted. The establishment of a greenhouse gas emissions trading system involves the creation of an independent market operator, a system for allocating emission allowances, the establishment of a trading platform, and other related infrastructure elements.

For Belarus, implementation of such a system will also be driven by the EU's carbon border regulation – Regulation (EU) 2023/956 (CBAM, Carbon Border Adjustment Mechanism). This regulation introduces a system under which payment for greenhouse gas emissions is levied not only for emissions occurring within the EU, but also for emissions generated in third countries during the production of goods subsequently imported into the EU. At the same time, the regulation provides that if a carbon price has already been paid in another jurisdiction, no additional payment is levied upon import into the EU. Thus, in the absence of an ETS in Belarus, exports of energy-intensive goods (cement, chemical fertilizers, steel, etc.) will be subject to additional charges, and producers will pay for greenhouse gas emissions regardless. If an ETS is in place in Belarus, these payments will accrue to the Belarusian budget; without such a system, they will be paid into the EU budget.

There are also EU directives and regulations governing reporting on greenhouse gas emissions and ESG requirements. Separate legislation exists on energy efficiency (Directive 2012/27/EU), which establishes not only mechanisms and instruments for improving energy efficiency in buildings, equipment, and other areas, but also specific target indicators for achieving defined levels and rates of improvement in energy efficiency. A similar directive applies to the development of renewable energy sources (Directive (EU) 2018/2001), which sets a specific target (32% renewable energy in final energy consumption by 2030) and defines support mechanisms and instruments to achieve this target.

Each EU Member State is required to have a National Energy and Climate Plan (NECP) under Regulation (EU) 2018/1999. This plan includes measures related to energy efficiency, internal energy markets, energy security, and support for innovation and research in designated areas. On the path to integration, Belarus will also need to develop and implement such a plan. Moreover, all strategic planning will need to be reformatted in line with European standards.

Overall, European climate policy (not limited to energy policy) is set out in Regulation (EU) 2021/1119, which establishes the objective of achieving climate neutrality by 2050. This does not formally require Belarus to assume identical obligations, but legislative harmonization will entail EU involvement at each stage of developing strategic documents. All of these legal acts are collectively known as the Fit for 55 package — a set of legislative measures aimed at reducing greenhouse gas emissions by 55% by 2030 compared to 1990 levels.

Based on the analysis, the following steps can be proposed for implementing EU climate legislation:

Phase 0 — Immediate objectives (0–6 months)

- Analysis of exports to the EU with respect to CBAM risk — categorization of goods and assessment of greenhouse gas emissions associated with their production;
- Introduction of MRV systems for leading export-oriented sectors.

Phase 1 — Strategic documents and emissions trading system

- Preparation of an NECP (Regulation (EU) 2018/1999) with acceptable scenarios for 2030 and 2050;
- Inclusion of renewable energy and energy efficiency targets in strategic planning documents;
- Making MRV mandatory for industry and the energy sector, ensuring compatibility with the EU ETS, and launching a reporting system;

- Introduction of a carbon emissions trading system and adaptation of legislation in line with CBAM requirements.

Phase 2 — Technical transformations

- Preparation of a legislative framework and launch of investment projects in the renewable energy sector: tenders for solar, wind, and biogas generation, and support programs;
- Reform of the legislative framework and launch of investment projects in energy efficiency: thermal renovation programs, updated standards for new construction, building labelling, etc.;
- Implementation of reforms required to gain access to European financing mechanisms (EU funds, EBRD, EIB, bilateral donors) for “green” investments.

5.4. Aligning Arrangements in the Energy Sector with the Indicative Timeline for the EU-integration Path for Belarus

Based on an analysis of EU and Belarusian legislation, as well as the experience of other countries joining the European Union (primarily Ukraine and Moldova), it is possible to outline a tentative timeline for the necessary actions at each step of integration: preparation for the CEPA preparation for the AA, and direct accession to the EU.

These requirements must be adjusted to national specifics, in particular through the adoption of domestic legislation within a separate track that is not directly linked to EU integration but is necessary to improve Belarus’s economic situation and enhance its energy independence.

Moreover, the divergences in the existing systems are so significant that they cannot be synchronized in a single stage through legislative changes. Some changes will need to be implemented gradually: initially adopting the relevant regulatory act, modernizing the existing systems in accordance with it, and then amending the act further to implement subsequent steps in legislative harmonization.

5.4.1. CEPA

At the CEPA stage, the following steps are necessary:

A. Gas

1. Adoption of a framework law on the gas market. This law may not require immediate implementation of all requirements in accordance with EU legislation. For example, requirements for unbundling can be significantly softened due to the absence of market participants and the full state ownership of the gas infrastructure.

2. Creation of a market operator and a gas system operator, which will remove restrictions on further market development and allow subsequent steps for unbundling.

3. All requirements related to data exchange and interaction between operators should be implemented as much as possible. This is necessary to harmonize rules for forming the gas balance, which will, in turn, enable obtaining gas from the EU in case of supply disruptions from Russia.

B. Oil and Oil Products

4. Conduct an audit of strategic reserves of oil and oil products and develop a plan to increase reserve levels in accordance with requirements.

5. Transition to reporting forms in accordance with European standards regarding oil and oil products.

C. Electricity

6. Update and adopt the developed Electricity Law. During the update, the requirements of Regulation (EU) 2019/943 should be considered as much as possible.

7. Restore the system operator (TSO) as a legally independent entity. Even at this stage, the requirements of Regulation (EU) 2017/1485 (SAOA) should be taken into account to simplify further synchronization.

8. Launch the electricity market according to the "Purchasing Agency" model, which will create incentives for the development of independent generation, primarily from renewable energy sources (RES), and will form the foundation for liquidity growth necessary to transition to a "Wholesale Market" model.

At this stage, the above documents cannot be fully implemented. However, it is essential to lay the foundation for future reforms and demonstrate the intention to develop an electricity market.

The first step in synchronizing nuclear power plant (NPP) regulation is to ensure the real independence of the regulator, organize the publication of operational safety data, and prepare and conduct comprehensive audits and stress tests of the NPP with participation from EU representatives.

D. Climate and decarbonization

9. Implement an MRV system at least for major exporters and, if necessary, introduce payments for greenhouse gas emissions into a dedicated decarbonization fund. This will exempt Belarus from making payments to the EU budget under CBAM.

10. Begin the development of the NECP (National Energy and Climate Plan). Considering the volume of changes required in later stages, it is likely that this stage could even complete its development and approval.

5.4.2. Association Agreement

A. Gas

1. Implementation of unbundling.

2. Implementation of key directives and parts of regulations, including legislation on third-party access to Belarusian gas infrastructure.

3. Continued development and synchronization of functions of the gas system operator, the market operator, and the gas market regulator.

At this stage, it is also necessary to develop a strategy for diversifying gas supplies, including the implementation of investment projects in Belarus and other EU countries.

B. Oil and Oil Products

4. Implementation of a program to increase oil storage volumes in Belarus.

Possible future requirements for the operation of the oil and petroleum products market may emerge, including environmental standards. Belarus must monitor these changes and implement them into national legislation, including projects at refineries and oil infrastructure.

C. Electricity

5. Full implementation of the requirements of Directive 2019/944.

6. Separation of DVA "Belenergo" by type of activity.

7. Formation of electricity market liquidity and launch of the wholesale market model.

Regarding the NPP, the provisions of Euratom directives should be implemented as fully as possible, necessary stress tests conducted, and work carried out on transitioning to Euratom operational standards.

D. Climate and decarbonization

8. Adoption of the NECP (National Energy and Climate Plan).

9. Implementation of the MRV system for all significant emitters, in accordance with similar EU requirements.

10. Development and launch of an ETS system is desirable. This will simplify foreign trade and reduce costs under the CBAM mechanism.

At this stage, full synchronization of prices with the EU ETS system will not be achieved, so a direct link to EU ETS carbon prices may be necessary. Legally, this point is not mandatory at the stage of signing the Association Agreement, but it is important for Belarus to simplify foreign trade and reduce CBAM-related costs

5.4.3. EU Accession Stage

A. Gas

1. Full compliance with EU directives and regulations regarding the gas market.

2. Complete unbundling and supply diversification (likely including the creation of a price stabilization fund).

3. Full integration with the European gas market.

B. Electricity

4. Completion of the wholesale and balancing market operation, as well as system services markets.

5. Completion of preparations for physical synchronization with ENTSO-E, including achieving the TEN-E requirement (15% cross-border capacity relative to installed capacity).

C. Nuclear Power and Safety Systems

6. All NPPs and safety systems brought into full compliance with Euratom requirements.

7. Spent fuel and radioactive waste management systems are fully aligned with EU standards.

D. Climate and decarbonization

8. A fully operational ETS system must be launched prior to full synchronization.

9. Strategic documents must ensure compliance with EU-wide Fit-for-55 requirements.

6. Conclusions

This paper develops a structured framework for Belarus's potential path toward European integration under conditions of deep structural and institutional constraints. The analysis demonstrates that, unlike most previous enlargement cases, Belarus faces a dual transition challenge: it must simultaneously undertake internal institutional transformation and external disengagement from existing integration frameworks. This fundamentally shapes both the sequencing and feasibility of the integration process.

The key contribution of the paper lies in articulating a coherent strategic logic of integration that is consistent with both EU accession procedures and the specific constraints of the Belarusian case. Building on comparative evidence from Ukraine, Moldova, and Armenia, we propose a continuous, stage-based pathway that combines an initial transition phase (anchored in a CEPA-type framework), a core convergence phase (based on AA/DCFTA implementation), and a formal accession stage. Within this structure, the paper also outlines an indicative timeline, suggesting that, under favorable conditions, a full integration horizon of approximately 10–15 years may be feasible.

A central analytical insight is that EU integration for Belarus cannot be interpreted as a standard convergence process. Rather, it represents a case of integration under constraints, where forward alignment with EU standards must be combined with backward institutional disentanglement. In this sense, the Belarusian case contributes to partially filling an existing research gap by illustrating how EU-oriented transformation can be operationalized in the presence of conflicting integration commitments.

At the same time, several important caveats apply. The most critical and uncertain element of the proposed pathway concerns the scenario, procedures, and duration of exit from the EAEU and the Union State. In this paper, we adopt a normative assumption of relatively rapid disengagement. However, in an analytical context, this issue requires further in-depth examination, as alternative exit trajectories may significantly alter both the timeline and the overall feasibility of integration.

Finally, the analysis highlights the importance of sectoral perspectives. While the paper focuses on the energy sector as the most sensitive and systemically important domain, similar analytical work is required across other key areas of acquis alignment. These include competition policy and state aid control, technical barriers to trade, sanitary and phytosanitary standards, public procurement, financial sector regulation, etc. Identifying sector-specific reform priorities and aligning them with the overall integration strategy represents an essential direction for future research.

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Breaking the Lock: Decoupling Belarus from Russia under EU Integration. Economic Dependencies, Risks, and Policy Options

Dzmitry Kruk, Yauhen Makarchuk

Abstract

This paper examines Belarus's potential European integration through the lens of decoupling from Russia and Russia-centered integration frameworks. While existing studies establish that the long-term benefits of EU integration outweigh transitional costs (Kruk & Karaitis, 2026) and outline corresponding policy strategies (Kruk & Makarchuk, 2026), this paper addresses a critical gap: how such a transition can be operationalized under conditions of deep structural and institutional dependence on a dominant partner. The analysis combines substantive (economic) and legal perspectives to assess Belarus's dependence on Russia across production linkages, energy, trade, and finance, as well as its institutional commitments within the EAEU and the Union State. It shows that while legal constraints define the formal parameters of exit, the primary challenges arise from entrenched economic interdependencies. A scenario-based framework is used to evaluate the implications of different possible responses by Russia. The findings suggest that, under realistic assumptions, a strategy of relatively rapid disengagement may be more consistent with achieving long-term convergence, despite higher short-term adjustment costs. At the same time, the transition path cannot be fully predefined, and a range of sector-specific challenges, particularly in debt relations, value chains, financial exposure, and institutional continuity, require flexible policy responses. The paper identifies the energy sector as the most sensitive domain of adjustment. Rising energy prices following decoupling are likely to translate into significant increases in domestic tariffs, necessitating targeted support mechanisms and price-smoothing instruments. Overall, the results indicate that, despite substantial uncertainty and transitional costs, Belarus's integration into the European Union remains both feasible and economically justified, provided that policy strategies are adaptive and responsive to evolving external conditions.

JEL codes: F15, O52, P21, P27, P29

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1. Introduction

The prospect of Belarus's integration into the European Union raises a set of fundamental economic and policy questions. Existing research provides important insights into both the economic benefits and the policy challenges associated with such a transition. In particular, Kruk & Karaitis (2026) assess whether the long-term gains from EU integration outweigh the transitional costs for Belarus, demonstrating that, even under conservative assumptions, the benefits of convergence substantially exceed short- and medium-term losses. Complementing this, Kruk & Makarchuk (2026) focus on the policy dimension, outlining how a strategy of European integration could be designed to accelerate Belarus's shift toward a higher-growth trajectory.

At the same time, these studies highlight that the Belarusian case differs fundamentally from that of other countries in Central and Eastern Europe. The key distinguishing factor is the depth of Belarus's economic integration with Russia, as well as its participation in Russia-centered institutional frameworks, including the Eurasian Economic Union (EAEU) and the Union State (US). This dual layer of dependence, structural and institutional, creates a configuration in which the process of European integration cannot be analyzed independently of the problem of disengagement from existing economic and legal ties with Russia.

Importantly, while this dependence represents a significant barrier to European integration, it is not insurmountable. The estimates presented in Kruk & Karaitis (2026) already incorporate many of the economic costs associated with weakening or severing ties with Russia, including disruptions in trade, production linkages, and energy supply. Even under these conditions, the analysis demonstrates that EU integration offers a markedly superior long-term development path for Belarus. This suggests that the central challenge lies not in the economic feasibility of integration per se, but in the policy domain, namely, how to operationalize a transition toward the European trajectory under conditions of deep existing interdependence.

This challenge can be framed as a problem of decoupling. In this paper, decoupling is understood as the process of dismantling or reconfiguring existing economic, institutional, and legal linkages with a dominant partner, in this case Russia, in order to enable integration into an alternative economic and regulatory system. While the benefits of European integration and the general contours of transition strategies have been explored in the literature, the specific problem of decoupling from a dominant partner embedded in formal integration arrangements remains insufficiently addressed.

The Belarusian case is particularly complex in this regard. Unlike most transition economies in the region, Belarus is not only economically dependent on Russia through trade, energy, and production linkages, but is also formally integrated into institutional frameworks that constrain its policy autonomy. As shown in Kruk & Makarchuk (2026), membership in the EAEU and the Union State (and, crucially, the process of exiting these arrangements) constitutes one of the most significant obstacles on the path toward EU accession. These constraints operate not only through formal legal mechanisms, but also through deeply embedded economic relationships that cannot be easily or rapidly unwound.

The objective of this paper is to develop a conceptual and analytical foundation for a strategy of decoupling from Russia and Russia-centered integration frameworks in the context of Belarus's potential European integration. To this end, the paper analyzes Belarus's dependence on Russia from two complementary perspectives: a substantive (economic) dimension and a legal-institutional dimension. The analysis demonstrates that while legal constraints are non-trivial, the more significant challenge lies in the underlying economic linkages, which create structural inertia and amplify transition costs. In this sense, the legal dimension should be viewed as a starting point that defines the formal parameters of exit, rather than as a determinant that fully specifies the trajectory of decoupling.

Building on this dual perspective, the paper develops a scenario-based framework that incorporates different possible responses by Russia, ranging from limited intervention to openly hostile actions. By combining legal constraints, structural dependencies, and scenario analysis, the paper formulates a set of baseline assumptions for the design of a decoupling strategy. The analysis suggests that, under realistic conditions, a strategy oriented toward relatively rapid disengagement from Russia-centered integration frameworks may offer a more consistent pathway to long-term convergence, despite the risk of higher short-term adjustment costs.

At the same time, the paper emphasizes that the precise configuration of decoupling cannot be fully predefined ex ante. Depending on the trajectory of bilateral relations and external conditions, a range of sector-specific challenges is likely to emerge. Given the high degree of uncertainty, the paper does not aim to provide a single optimal set of policy prescriptions. Instead, it identifies key domains in which policy choices will be required and outlines a range of feasible options for addressing them.

One of the central findings is that Belarus's vulnerability to decoupling is particularly acute in the energy sector. The country's high dependence on imported energy resources, primarily from Russia, makes the adjustment in this domain both unavoidable and potentially destabilizing. For this reason, the paper pays particular attention to the energy dimension, focusing on the implications of changing supply conditions and pricing structures for domestic tariffs and the design of mechanisms to mitigate their impact on households and firms.

More broadly, the Belarusian case has relevance beyond its immediate context. It represents an example of a small open economy characterized by deep economic dependence on a dominant partner and embedded in institutional arrangements that limit policy autonomy. As such, the analysis contributes to a broader understanding of how decoupling processes may unfold under conditions of asymmetric interdependence.

The remainder of the paper is structured as follows. Section 2 examines the main domains of Belarus's economic dependence on Russia, distinguishing between institutional, structural, and macro-financial dimensions. Section 3 develops a framework for decoupling, including legal constraints, ideal and realistic scenarios, and key areas of policy uncertainty. Section 4 focuses on the energy sector, analyzing the implications of higher energy prices for domestic tariffs and the design of compensatory policy mechanisms. The final section concludes.

2. Economic Dependency of the Belarusian Economy on Russia

2.1. Institutional and Regulatory Foundations of Dependency

The institutional layer of dependency refers to linkages embedded in regulatory frameworks, administrative systems, and economic governance infrastructure that align Belarus with Russian rules, standards, and operational mechanisms, thereby constraining autonomous policymaking and external reorientation.

The logic underpinning this institutional dependence predates the recent wave of integration and can be traced back to the mid-1990s. Already in 1995–1996, the foundational model of Belarus–Russia relations was established as an exchange of economic preferences (provided by Russia to Belarus) for military and strategic commitments (by the Belarusian side). A package of agreements signed during that period combined security arrangements, such as joint military infrastructure and unified air defense, with economic concessions, including preferential energy supplies, debt relief, and trade arrangements. This created a durable template of asymmetric interdependence, where economic benefits were conditional upon Belarus's strategic alignment with Russia.

This model was subsequently institutionalized in the late 1990s through the creation of the Union State framework, which formalized ambitions of coordinated policies, legislative convergence, and a common economic space. Although many of these provisions remained only partially implemented, they established the long-term logic and model of integration: not as a neutral economic process, but as a politically conditioned exchange embedded in broader strategic relations. The underlying principle of integration – economic incentives in return for geopolitical and military alignment – remained stable even as institutional formats evolved. An important conclusion even at this stage is that Russia's demand for greater geopolitical and military loyalty is the de facto fuel of this model of integration. Unless such demand is present and Russia is willing to compensate it through economic preferences, integration tends to stall. This logic largely prevailed during the early 2000s, reflecting asymmetric expectations between the parties and resulting in a low pace of de facto progress despite ambitious announcements.

In the 2000s and early 2010s, the mechanisms of institutional dependence on Russia, which had previously been mainly bilateral, were partially reframed through multilateral integration initiatives, most notably the Eurasian Economic Union (EAEU). However, the transition to the EAEU framework was again largely driven by Russia's strategic considerations. The EAEU functioned as an attempt to reconcile geopolitical ambitions with economic mechanisms, positioning integration as a tool for sustaining influence in the post-Soviet space while formally adhering to principles of economic cooperation. For Belarus, participation in the EAEU was again motivated by primarily pragmatic considerations. Particularly from the early 2010s, the country faced weakening long-term growth due to declining productivity drivers. Joining the EAEU and securing more stable access to preferential energy pricing was considered by the Belarusian regime a strategic solution for reinvigorating long-term growth.

This divergence in motivations produced a structurally asymmetric integration dynamic. While Belarus (and other EAEU members except Russia) approached integration primarily as an economic necessity, Russia viewed it as part of a broader geopolitical strategy, including elements of restoring regional influence and responding to domestic and international political pressures. As a result, the institutional design of the EAEU reflected Russia's priorities. Sensitive sectors – most notably energy – remained subject to exemptions and were excluded from full market liberalization. At the same time, the integration framework emphasized industrial coordination and policy alignment rather than competition, reinforcing existing economic structures based on subsidized energy inputs.

Under the EAEU Treaty, a significant set of economic rules is harmonized or coordinated at the supranational level, particularly in areas directly affecting the functioning of the common market. This includes a common customs tariff and a unified customs code, with external trade policy instruments (tariffs, trade remedies, non-tariff measures) largely centralized. Technical regulation is based on EAEU-wide technical regulations that replace national standards in covered sectors, defining product safety and conformity assessment procedures. Competition policy has a supranational dimension for cross-border markets, with rules on anticompetitive practices and general principles governing state and municipal preferences applied in cases affecting the Union market. At the same time, unlike the EU model, which prioritizes competition neutrality and strict state aid control, the EAEU framework places greater emphasis on the coordination of industrial policies and allows a more active role for state support in sustaining existing economic structures. Sanitary, phytosanitary, and veterinary measures are also harmonized through common rules and shared information systems, reducing national discretion in these domains. In addition, common rules govern the movement of goods, services, capital, and labor, including mutual recognition mechanisms and common rules facilitating labor mobility. Financial markets are subject primarily to gradual harmonization and coordinated regulation, including payment systems interoperability and converging approaches to financial market supervision, although full integration remains incomplete. At the same time, some core areas – most notably energy pricing and the full liberalization of energy markets (despite repeated declarations, with numerous delays) – remain outside comprehensive supranational control, reflecting the political sensitivity of rent distribution. As a result, the EAEU framework both constrains national regulatory autonomy in key market areas and leaves strategically important sectors partially exempt, creating an uneven but consequential limitation and partial pooling of national regulatory authority at the supranational level.

The embedded contradictions of the EAEU multilateral framework – cheap energy as the main incentive for non-Russian participants, while the sector remains regulated by Russia outside the multilateral framework – became particularly evident from 2019 onwards. From that year, the consequences of Russia's tax maneuver in the oil sector affected the price of oil imports for Belarus. Moreover, Russia's geopolitical priorities shifted, increasing demands for deeper alignment. At the same time, Belarusian authorities expected to be shielded from such deterioration by the EAEU framework. This mismatch resulted in economic pressure on Belarus, accompanied by explicit political conditionality: compensation for losses was linked to deeper integration within the Union State framework. This marked a shift back toward bilateral mechanisms of control. From Belarus's perspective, this was perceived as a breach of the implicit contract underlying earlier integration. Having ratified the EAEU agreement with the expectation that energy conditions would not deteriorate, the Belarusian leadership viewed the push for deeper integration after 2020 as an imposed adjustment rather than a mutually beneficial evolution.

Thus, by 2020 the institutional foundations of dependence had already been shaped by decades of asymmetrical integration. The post-2020 period is characterized by significantly intensified and formalized institutional arrangements, transforming previously fragmented ones into a more coherent and enforceable system of institutional linkages. A key turning point in this process was the adoption of the 28 Union State programs in 2021, which transformed bilateral cooperation from a declarative and largely symbolic framework into a structured, sector-specific integration agenda. These programs covered a wide range of domains, including taxation, customs, industrial policy, financial markets, transport, and technical regulation. In particular, they envisaged the harmonization of macroeconomic and monetary policies, the integration of payment systems and financial supervision, and the creation of a common financial market. A substantial part of the agenda focused on the unification of tax and customs administration, including the development of integrated information systems and joint control mechanisms. The programs also envisaged the formation of common markets in energy (gas, oil, electricity), the creation of a unified transport market, and the alignment of industrial and agricultural policies. In addition, they promoted regulatory convergence in areas such as public procurement, consumer protection, and digital infrastructure, including communication and data systems. A further layer of integration concerned the synchronization of social, labor, and elements of civil legislation, pointing to a broad attempt to align not only economic rules but the wider governance architecture of the two states.

Empirically, the execution of the 2021 package was substantial: by 2023 a substantial share of measures had been implemented, with visible effects in industrial cooperation, logistics, and administrative convergence. However, progress affected energy markets only marginally (a chronic feature of this integration) as the creation of common energy markets was once again postponed, with timelines for oil and gas now shifted to 2027. A concrete illustration of this logic can be found in the bilateral agreement on joint principles of indirect taxation. This agreement effectively formalized a trade-off at the core of the integration model: Belarus's acceptance of reduced autonomy in tax policy in exchange for preferential energy supply mechanisms provided by Russia. In practical terms, this included compensation for Belarus's losses from Russia's oil tax maneuver through the mechanism of a reverse excise, as well as the stabilization of gas prices at a relatively low level. Furthermore, the agreement introduced a shared infrastructure of tax administration. The implementation of integrated digital systems has provided the Russian side with access to detailed information on Belarusian fiscal operations. This development goes beyond standard coordination: it effectively embeds Belarus's fiscal governance within a shared informational and administrative framework, thereby creating a powerful channel of influence.

In general, the 2021 package and its implementation indicate that from this period the programs began to function not only as declarative commitments but as effective instruments of institutional deepening. As a result, energy preferences continued to function not as market-based outcomes but as politically conditioned transfers. This reinforces the broader pattern of institutional dependence, where access to economic benefits is contingent upon regulatory alignment and policy concessions, rather than secured through stable, rules-based integration mechanisms.

The implementation of the 28 programs during 2022–2023 coincided with the imposition of Western sanctions, which significantly increased their practical relevance. Hence, for the Belarusian authorities, bilateral integration also began to be treated as a tool for short-term economic stabilization and adaptation. Moreover, while macroeconomic performance during 2023–2024 appeared relatively strong, the authorities tended to interpret this momentum as evidence that further integration could serve as a systemic response for sustaining growth in a new environment shaped by sanctions and isolation from developed markets.

By 2024–2025, the Union State framework entered a new phase characterized by institutional consolidation and operationalization. Rather than launching new large-scale integration packages, the focus shifted toward implementing previously agreed measures, establishing permanent administrative mechanisms, and embedding integration into routine governance processes. This transition marks a qualitative shift: integration is no longer driven primarily by political agreements but by functioning institutional arrangements.

At the same time, Belarus is embedded in two parallel tracks of economic integration with Russia: the multilateral framework of the EAEU and the bilateral framework of the Union State. This dual structure reflects the political logic behind the evolution of both formats. More neutral and formally economic mechanisms, such as trade standards, technical regulations, sanitary and phytosanitary measures, as well as rules governing the common market and the movement of factors of production, are largely regulated within the EAEU framework. In this dimension, integration is at least formally aligned with internationally recognized models of economic unions, although political drivers remain significant. This layer is complemented by bilateral integration within the Union State, through which Russia advances deeper institutional penetration into the Belarusian economy. Within this track, political, strategic, and situational considerations are more directly translated into concrete areas of regulatory alignment and dependence on Russian standards.

This institutional embedding has given rise to regulatory convergence. Across a broad range of sectors, Belarus has been aligning its legal and administrative frameworks with Russian standards. This includes selected areas such as public procurement, consumer protection, sanitary norms, digital and data-related rules, and sector-specific provisions in industry, agriculture, and trade. It should be emphasized that this supplements another broad range of institutional standards aligned under the EAEU framework. While such convergence formally facilitates economic interaction, it also reduces Belarus's regulatory autonomy and limits its capacity to pursue alternative integration paths. In practical terms, regulatory alignment creates compatibility with the Russian system while increasing divergence from EU norms.

Financial and payment infrastructure constitutes another critical layer of institutional dependence. The progressive shift toward settlements in national currencies, reaching around more than 90% of bilateral transactions, combined with the increasing use of Russian financial messaging systems, has reoriented Belarus's financial architecture toward Russia. In the context of restricted access to global financial markets, Russian channels have become the primary mechanism for conducting Russia-linked and sanctions-constrained cross-border transactions. As a result, financial intermediation, liquidity provision, and payment processing are increasingly tied to Russian systems, reinforcing dependence at the level of economic coordination while reducing exposure to external financial infrastructures.

Digital and technological integration further deepens this institutional lock-in. The integration agenda includes recognition of electronic signatures, interoperability of digital systems, and the gradual linkage of public service platforms, alongside broader cooperation in ICT and high-tech sectors. This trend is driven both by market dynamics and by restricted access to Western technologies. Over time, such alignment creates path dependency: switching to alternative systems becomes progressively more costly, both financially and organizationally. In addition, digital integration extends beyond economic functions to include data governance, public services, and elements of cybersecurity cooperation, thereby expanding the scope of institutional dependence without necessarily implying complete technological substitution.

An important feature of the current stage is the emergence of sector-specific integration with high levels of depth but limited breadth. Rather than creating a fully unified economic space, integration advances selectively in areas that are politically feasible and economically beneficial in the short term. These include industrial cooperation, logistics coordination, digital interaction, and financial infrastructure. At the same time, more sensitive domains, such as the formation of fully integrated energy markets, remain only partially implemented. This asymmetry reflects the underlying logic of integration: progress occurs where it reduces adjustment costs and stalls where it affects the distribution of economic rents.

Another notable development is the resurgence of overlap between economic and military dimensions of integration. The agreement on security guarantees in late 2024 expanded cooperation beyond economic governance to include elements of security coordination and mutual guarantees. This shift reinforces institutional dependence by linking economic arrangements with broader political and strategic commitments. As a result, disentangling economic relations becomes more complex, as it increasingly intersects with security considerations.

Taken together, these developments indicate that Belarus's dependence on Russia has evolved into a form of institutional lock-in. The economy operates within a framework of rules, standards, and infrastructures that are either directly shared with or closely aligned with those of Russia. This does not necessarily imply full integration or the existence of supranational governance structures. However, it does mean that the space for independent policymaking and external reorientation has narrowed significantly. Importantly, this lock-in is not only the result of technical alignment, but also of embedded channels of leverage, where access to key economic benefits – energy pricing, market access, and financial support – remains conditional on continued alignment. As a result, institutional dependence translates into a mechanism of influence, constraining not only policy options but also the sequencing and feasibility of any external reorientation.

From the perspective of potential EU integration, this institutional configuration represents a fundamental constraint. Decoupling from Russia would not only require the reorientation of trade flows or energy supplies but also the dismantling and replacement of existing institutional arrangements. This includes regulatory frameworks, administrative systems, financial infrastructure, and digital platforms. Such a process is inherently complex, time-consuming, and politically sensitive.

In this sense, institutional dependence defines the long-term dimension of the decoupling challenge. While structural dependencies generate immediate economic shocks, institutional linkages determine the feasibility and sequencing of reforms. They shape the depth of adjustment required and the capacity of the state to implement it. Therefore, understanding the institutional foundations of Belarus's dependence on Russia is essential for assessing both the costs and the trajectory of any future integration with the European Union.

2.2. Structural Domains of Dependency on Russia

While institutional linkages define the rules and constraints of Belarus's economic alignment with Russia, structural dependencies reflect the material basis of this relationship. In practical terms, these dependencies determine the immediacy and scale of adjustment costs: they translate external shocks into direct output effects, limit short-term substitutability, and constrain the sequencing of any decoupling strategy. These dependencies are embedded in production systems, energy supply, and physical infrastructure, and therefore constitute the most immediate and economically disruptive dimension of potential decoupling. Unlike institutional arrangements, which can be gradually reformed, structural dependencies are characterized by high switching costs, long adjustment periods, and direct output effects.

2.2.1 Production and Value Chain Linkages

The sectoral structure of the Belarusian economy was historically shaped within the Soviet system with a deliberately high degree of dependence on intermediate inputs supplied from Russia. As a result, the product profile and technological cycles of a large share of manufacturing sectors presuppose the use of raw materials, components, and energy resources that are not produced domestically. For logistical, technological, and financial reasons, such inputs are, in many cases, only realistically available from Russian suppliers.

This pattern is particularly evident across a range of key sectors, including energy production (Belenergo), oil refining (Mozyr and Novopolotsk refineries), metallurgy (BMZ), the chemical industry (Himvolokno, Grodnoazot), woodworking (Bellesbumprom), agricultural machinery and trucks production (Gomselmash, MAZ), and rubber and plastics manufacturing (Belshina). In these sectors, intermediate consumption accounts for approximately 50–70% of gross output, while imports represent 50–80% of intermediate inputs, of which around 60–70% originate from Russia. At the same time, a substantial share of output in these industries is exported back to the Russian market.

Taken together, these characteristics imply that a significant portion of Belarusian industrial production is effectively embedded in closed production loops with Russia, where both input supply and output realization depend on continued interaction with the Russian economy. In this sense, production is not merely oriented toward Russia but structurally contingent on it. Estimates suggest that such production configurations, taking into account inter-sectoral linkages, account for up to 40% of Belarus's GDP. This form of dependence constitutes the deepest structural layer of Belarus–Russia economic interconnection, from which other forms of dependence – trade, financial, and institutional – partially derive. Unlike more flexible forms of integration, production linkages are characterized by high sunk costs and low short-term substitutability. Reconfiguring them would require not only changes in trade partners but a fundamental restructuring of technological processes, supplier networks, and product standards.

From a political economy perspective, the persistence of this structure is not accidental. The Belarusian development model has consistently prioritized the preservation of large-scale, predominantly state-owned industrial enterprises and has avoided disruptive structural reforms. As a result, the basic configuration of production dependence has remained largely unchanged over the past two decades. While there was some limited reduction in dependence prior to 2020 (driven by the relative expansion of the private sector and incremental improvements in energy and material efficiency) these shifts were gradual and did not alter the core structure. After 2020, the trajectory reversed. The combination of sanctions, loss of access to Western markets, and the need to stabilize output led the Belarusian authorities to actively reinforce production linkages with Russia. In the short term, this strategy allowed for the rapid reallocation of exports to the Russian market, where newly opened niches emerged following the withdrawal of Western suppliers. In the medium term, however, it resulted in a further tightening of production dependence. Moreover, it has grounds to strengthen due to institutional underpinnings, i.e. the Union State programs for 2021–2023, and especially 2024–2026 (see Section 2.1).

From an analytical standpoint, these developments can be interpreted through the lens of input-output interdependence. As shown by Kruk & Panasevich (2023), Belarusian industries are tightly integrated with Russian production chains, both as suppliers of intermediate goods and as consumers of Russian inputs. This creates a system in which shocks are transmitted across sectors through production linkages, amplifying their overall economic impact. The result is a form of systemic vulnerability: disruptions in trade or supply relations do not remain localized but propagate throughout the economy.

Overall, production and value chain linkages represent the most deeply rooted and least flexible dimension of Belarus's economic dependence on Russia. They anchor this dependence in the material organization of the economy and significantly constrain the feasibility of rapid decoupling. Any attempt to reduce such dependence would require not only market diversification but a comprehensive restructuring of industrial capacities, supply chains, and technological standards, implying substantial economic costs in the short to medium term.

2.2.2 Energy Dependence

Energy dependence constitutes the most structurally binding and economically sensitive dimension of Belarus's reliance on Russia. Unlike other domains, where substitution may be theoretically possible through market diversification or institutional change, energy dependence combines physical supply constraints, pricing asymmetries, and technological lock-in, making it particularly resistant to rapid adjustment.

According to available estimates, total energy resource production and imports in Belarus amount to approximately 47 million tons of oil equivalent. Of this volume, around 40.8 million toe, i.e. approximately 87%, is supplied from Russia, including oil, natural gas, and nuclear fuel (Makarchuk, 2026). This figure captures not only the scale of dependence but also its systemic nature: Russian energy resources underpin industrial production, export capacity, and household consumption simultaneously. The remaining share is covered by domestic production and minor non-Russian sources, but they are insufficient to alter the basic structure of dependence. In practical terms, Russia remains the dominant external supplier of energy to Belarus and, through this position, has substantial leverage over both the production system and energy security for households (heat and electricity). Any restriction of access to Russian energy resources would risk a simultaneous contraction of industrial output and shortages for end-users.

In economic terms, Russian energy supplies have also functioned as a source of implicit subsidies and soft budget constraints for enterprises. Historically, energy has been supplied at below-market prices, generating a wide range of effects: from sustaining industrial competitiveness to providing quasi-fiscal revenues via improved external balances and budgetary inflows. Ensuring preferential pricing for energy carriers has therefore been critical for the functioning of the Belarusian economic model. Periods of reduced energy subsidies (notably 2010–2011, 2016, and 2020) were associated with pronounced macroeconomic turbulence. A key feature of this dependence is its heterogeneity across energy types, implying that different segments of the energy system exhibit distinct forms of vulnerability and adjustment constraints.

In the oil sector, dependence is shaped by pricing distortions and by infrastructure and supply chain rigidity. Belarusian refineries historically processed approximately 15–16 million tons of oil annually, with only a small fraction (around 1.7-2 million tons) produced domestically (Makarchuk, 2026). Processing volumes have fluctuated since 2020, largely reflecting external constraints, particularly export market access, rather than domestic capacity limitations.

At first glance, Russian oil prices for Belarus have generally remained close to global benchmarks, with deviations not exceeding roughly 10%. This might imply that direct price shocks from switching to global pricing would be relatively moderate, potentially increasing petroleum product prices by only 3–7%. From a purely pricing perspective, this suggests that oil dependence is less critical than gas dependence.

However, this interpretation is misleading if detached from macroeconomic and logistical realities. **First**, the specific importance of oil refining follows from its exceptionally strong inter-sectoral linkages. Kruk & Panasevich (2023) classify the production of coke and refined petroleum products as one of Belarus's core sectors, despite its relatively modest direct share in value added. The reason is its unusually high index of vertical integration: according to estimates by Kruk & Panasevich (2023), each BYN 1 of value added generated directly in oil refining is associated with BYN 9.87 of value added generated outside the sector. Taking the sector's scale into account, this implies that oil refining is "responsible" for roughly 11% of Belarusian GDP through direct and indirect linkages. This is why disruptions in oil refining generate losses far beyond the sector itself, affecting transport, energy, chemicals, manufacturing, and related services. Therefore, the economic role of oil dependence cannot be assessed only through the price of crude oil; it must be evaluated through the systemic effects of oil refining on the wider production structure (Kruk & Panasevich, 2023).

Second, although the price of Russian oil does not deviate significantly from market benchmarks, Belarus still enjoys preferential conditions, and the oil sector acts as a source of implicit subsidies for the economy. Before 2020, when Russia's tax maneuver changed the mechanism, the price discount generated subsidies equivalent to 3–6% of GDP annually. In the 2020s, the mechanism changed, but the oil subsidy has been maintained. First, it arises from the discount of Urals relative to Brent. When such a discount becomes sensible, for instance as it was in 2022-2023 amid sanctions environment, it allows Belarus to import crude oil substantially cheaper than global benchmarks. In 2022, this generated estimated savings of about $1.7 billion (around 2.3% of GDP) (MACROBY, 2023). In 2023, this effect persisted, with the discount remaining elevated at around 27%, resulting in additional savings of roughly $1.9 billion (2.6% of GDP) and cumulative gains of about $3.6 billion over 2022–2023 (MACROBY, 2024). These windfall gains played a critical role in stabilizing the refining sector: processing volumes recovered to around 16 million tons, and exports of petroleum products rebounded to approximately 8.5–9 million tons (MACROBY, 2024). At the same time, the sustainability of this mechanism is inherently fragile. The magnitude of the rent depends on external price dynamics and Russian pricing policy, while access to export routes remains contingent on Russian-controlled logistics infrastructure. Second, based on the agreement on joint principles of indirect taxation, from 2023 Belarus receives 1.5–2.0% of GDP as a direct budgetary transfer from Russia in the form of a reverse excise. The size of this inflow depends on the volume of Russian oil processed by Belarusian refineries.

Third, the primary logistical constraint lies in the lack of viable alternative supply routes at scale. Several diversification options exist in principle, but each is associated with substantial technical and infrastructural limitations: supplies via Lithuania by rail are technically possible but difficult to scale to required volumes; reverse flows through the Odesa–Brody pipeline depend on Ukrainian infrastructure availability and tariff conditions; deliveries via the Polish port of Gdansk and onward through Plock are constrained by capacity saturation, as existing infrastructure is already utilized for supplying other European refineries (Makarchuk, 2026).

Gas dependence represents the most economically consequential dimension of energy reliance. Belarus consumes approximately 17-20 billion cubic meters of natural gas annually, making it the dominant energy input for both industrial production and household heating (Makarchuk, 2026). The central issue here is pricing asymmetry. Russian gas is supplied at significantly discounted rates (around $129 per thousand cubic meters in 2025) whereas alternative supplies from European markets would cost at least $350–430 per thousand cubic meters (Makarchuk, 2026). This implies a potential 3.3-fold increase in gas prices in the event of diversification. The macroeconomic implications of such a shift are substantial and multidimensional: the cost of heat would increase by approximately 2.7 times; electricity prices would rise by 33–35%; and given that thermal energy is currently subsidized at roughly 80%, maintaining existing tariff structures would become fiscally unsustainable (Makarchuk, 2026). Under these conditions, the removal of subsidies would likely require a dramatic increase in household tariffs – potentially up to tenfold – creating both economic and social adjustment challenges. Alternatively, maintaining subsidies would impose a severe burden on the state budget, necessitating either external financial support or major fiscal restructuring.

Even where physical alternatives exist, they do not eliminate dependence. Gas imports could theoretically be organized via reverse flows through the Yamal-Europe pipeline and connections to German and Polish networks. However, these options are constrained by ownership and control structures, as key pipelines and storage facilities are owned by Gazprom, effectively preserving Russian control over supply infrastructure (Makarchuk, 2026).

Thus, gas dependence combines price dependence, infrastructure dependence, and institutional control, making it the most binding constraint in the energy system.

Nuclear energy introduces a qualitatively different form of dependence, characterized by long-term technological lock-in rather than short-term supply constraints. The Belarusian nuclear power plant operates using Russian-designed technology and fuel, and its fuel supply is contractually tied to the original construction agreement (Makarchuk, 2026). This creates a situation in which substitution is not immediately feasible, even if alternative suppliers exist globally. While countries such as Ukraine have successfully transitioned to alternative nuclear fuel suppliers (e.g., Westinghouse), these transitions were implemented for older Soviet-designed reactors. In the Belarusian case, the plant represents a newer design, implying that any transition would require development of compatible fuel by alternative suppliers, regulatory approval and safety certification, and significant time and financial investment.

Moreover, nuclear energy interacts with gas dependence. In the event of disruptions in nuclear fuel supply or plant shutdown, electricity generation would need to be substituted with gas-based production, thereby increasing gas consumption and reinforcing dependence. At the same time, the operational structure of the plant introduces a limited buffer: refueling occurs once per year, providing a short adjustment window in case of disruptions. However, this does not fundamentally alter the long-term lock-in.

Taken together, these dimensions illustrate that energy dependence operates as both a stabilizing mechanism and a source of systemic vulnerability. In analytical terms, energy-related transfers function as a quasi-fiscal mechanism, shaping budget revenues, enterprise performance, and external balances (Dobrinsky et al., 2016). On the one hand, preferential access to Russian energy resources, particularly discounted gas, has historically supported industrial competitiveness, export-oriented refining activity, and household affordability and social stability. On the other hand, this model embeds a high degree of exposure to external shocks and policy decisions originating in Russia.

In the broader framework of Belarus–Russia economic relations, energy subsidies and related mechanisms have functioned as key tools for mitigating output losses and sustaining economic performance in recent years (Kruk, 2026). At the same time, the concentration of supply, combined with infrastructural and technological constraints, implies that any rapid disruption of energy relations would generate immediate and large-scale economic effects. Although technical analyses suggest that alternative supply arrangements can be organized in the long term, the transition would be associated with significant cost increases and adjustment pressures (Makarchuk, 2026). In this sense, energy dependence defines a core trade-off within the Belarusian economic model: it provides short-term stability and cost advantages, but at the expense of long-term flexibility and resilience.

2.2.3 Transport and Logistics

The systemic transport and logistics dependency on Russia is a relatively new but rapidly entrenched phenomenon that emerged from 2022. Prior to the war and sanctions, Belarus exported key strategic goods, most notably potash fertilizers and oil products, and handled a significant share of imports through EU-based transport and logistics infrastructure. The most efficient routes relied on short rail links to Baltic ports (primarily Klaipėda and Ventspils), with Belarusian railways and trucking companies integrated into these corridors. Sanctions effectively closed these routes: fully for strategic exports and to a large extent for imports. As a result, shipments of potash and oil products were redirected almost exclusively through Russian seaports. This reorientation shifted a substantial portion of the transport leg onto Russian territory and services, with rail segments predominantly operated by Russian companies.

The first binding constraint on the new routes is capacity, especially port throughput, and to a lesser extent rail capacity. In 2022, insufficient capacity became an insurmountable barrier for potash exports, which fell by roughly 60% year-on-year. Oil product exports also declined, due both to capacity limits and financial frictions. In 2023, Belarus secured higher transshipment volumes—around 14 million tons (about 96% comprising potash and oil products), but this still fell short of desired levels (approximately 17–18 million tons). Developments in 2024 suggest a partial operational stabilization of these routes without eliminating structural constraints. Freight volumes on the Belarusian railway recovered compared to 2023, with a further shift in geography toward eastern corridors. The share of shipments routed via Russia increased, and the composition of rail cargo reflected a higher weight of bulk commodities and export-oriented flows tied to Russian ports (BELZHD_Live, 2025). At the same time, capacity utilization on key corridors remained high, indicating that the system operates close to its limits and remains sensitive to congestion and scheduling constraints.

The second constraint is cost. The main ports used by Belarus - St. Petersburg, Bronka, and Ust-Luga (handling over 80% of cargo) – imply a longer transport leg and thus higher rail costs. Given the de facto monopolistic position of Russian railways for these routes, tariffs can be adjusted in ways that directly affect Belarusian exporters. Port fees add an additional layer of pricing pressure. Evidence from 2023–2024 suggests that elevated logistics costs materially weakened the financial positions of Belaruskali and oil refining companies, even amid otherwise favorable external conditions (high potash prices and strong energy-related advantages in oil products).

As these favorable conditions normalize, the capacity of exporters to absorb elevated logistics costs becomes increasingly uncertain. The same constraints extend beyond strategic exports to other export categories and to imports, where routing via Russia has become, in practice, the dominant option. This results in structurally higher trade costs across the board.

In aggregate, logistics dependence amplifies external trade dependence by constraining not just market choice but market access itself. Accounting for direct trade with Russia and the effective control over transport corridors, Russia exerts de facto influence over roughly 85-90% of Belarusian exports and about 75-80% of imports. This configuration embeds a persistent cost pressure on firms and introduces an additional channel of leverage through control over transit conditions.

Overall, transport and logistics have evolved from a neutral service layer into a critical control point within Belarus's external economic relations. This form of dependence is particularly binding, as it limits the feasibility of diversification even when alternative markets exist, and ties trade performance to infrastructure and pricing decisions largely outside Belarus's control.

2.2.4 Foreign Trade

Production dependence on Russia translates into a high degree of reliance on imports from this country. As shown in Table 1a, even before the war and sanctions, Russia consistently accounted for more than half of Belarus's total imports, with a strong dominance of intermediate goods. Energy imports play a particularly critical role within this structure, effectively anchoring the entire system of industrial production. Consumer imports from Russia are also non-negligible, further reinforcing the breadth of this dependence.

Table 1. The role and structure of exports/imports to/from Russia for Belarus before war and sanctions shocks

Table 1a. Imports

	% of imports from Russia in total imports of the group	% of imports from Russia
Total	56.8	100.0
Intermediary goods	67.6	78.3
Incl. energy goods	98.8	45.3
Consumer goods	39.7	16.5
Capital goods	27.6	5.2

Table 1b. Exports

	% of imports from Russia in total imports of the group	% of imports from Russia
Total	42.9	100.0
Intermediary goods	26.2	38.9
Incl. energy goods	0.8	0.4
Consumer goods	76.3	44.4
Capital goods	64.8	16.6

Note: The data in Table 1a and 1b are simple averages of corresponding indicators in 2019 and 2021, i.e. two last 'normal' years, for which the detailed statistics is available. 2020 was an 'abnormal' year because of COVID. The data since 2022 has been classified.

Source: Own computations based on Belstat data.

Despite fluctuations in production and exports in 2022–2025, the overall share of Russian imports has remained broadly stable. This stability underscores the rigidity of input structures described in Section 2.2.1: import dependence is not cyclical but structural. On the export side, the Russian market has historically been the primary destination for Belarusian goods. As illustrated in Table 1b, dependence is especially pronounced for consumer and capital goods, where a dominant share of exports is directed to Russia. This reflects both historical specialization and preferential market access conditions. Since 2022, this structure has shifted toward even greater concentration. The dynamics are clearly visible in Figure 1, which shows the evolution of export destinations over time. Following the loss of access to traditional Western markets and the disruption of potash exports, Belarusian exports were rapidly redirected toward Russia. This reorientation was driven by a combination of factors: the opening of market niches in Russia after the withdrawal of Western suppliers, temporary gains in price competitiveness, and improved access conditions to the Russian market. As a result, the share of exports to Russia increased sharply and has since stabilized at an elevated level. While the initial shock-driven expansion has moderated, the data suggest the emergence of a new equilibrium characterized by significantly higher dependence on the Russian market compared to the pre-2022 period.

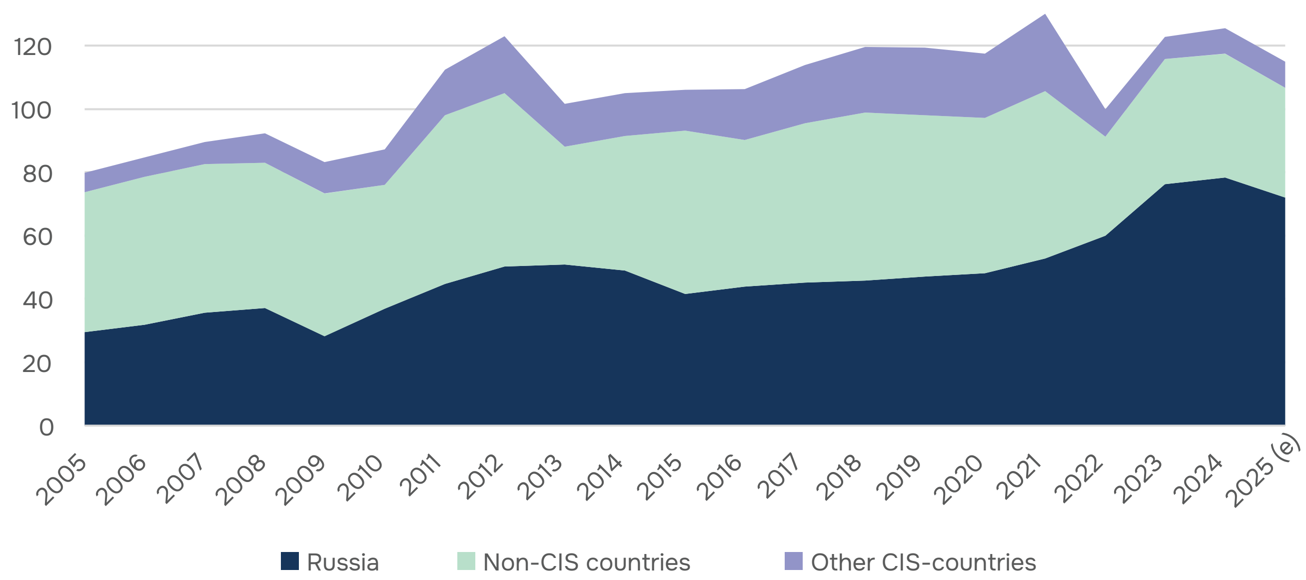

Figure 1. The Dynamics of Physical Volume of Belarusian Exports by Geographical Destinations, total exports 2022=100

Source: Own computations and estimations based on data by Belstat and the National Bank of Belarus.

The bilateral trade balance with Russia has traditionally been negative, largely reflecting energy imports. However, this imbalance is partly offset by surpluses in trade with third countries in products derived from these inputs (notably refined petroleum products). Therefore, the geographical trade balance alone does not fully capture the economic role of these flows. In combination with the logistics constraints outlined in Section 2.2.3, trade dependence acquires an additional dimension. With routing of exports and imports increasingly mediated through Russian infrastructure, Russia influences not only trade volumes and composition but also the conditions under which trade is executed. This effectively increases the share of trade flows subject to Russian control beyond direct bilateral exchanges.

However, this shift should not be interpreted solely as a quantitative reorientation of trade flows. A growing body of evidence suggests that the increasing concentration of exports on the Russian market has important qualitative implications for the structure of Belarusian exports. In particular, it is associated with a gradual deterioration in the complexity and technological content of the export basket (BEROC, 2023). Over the past two decades, Belarus has experienced a decline in the share of more complex products in its exports, alongside a reduction in the average complexity of goods with revealed comparative advantages. At the same time, newly emerging export positions tend to be concentrated in products with relatively low levels of technological sophistication.

This pattern reflects not only internal structural constraints but also the nature of market integration with Russia. Preferential access and the opening of market niches, especially after 2022, facilitate short-term export expansion, but do not necessarily incentivize upgrading toward more complex or competitive products. In some cases, the emergence of new export specializations appears to be driven less by underlying competitiveness than by exogenous factors such as sanctions-induced market distortions or privileged access conditions (BEROC, 2023). As a result, the apparent diversification of exports may, in part, reflect a statistical or short-term adjustment effect rather than a genuine structural transformation.

In this context, a self-reinforcing dynamic emerges. In order to stabilize output and maintain external balance in the short term, Belarus increasingly deepens its integration into the orbit of Russian trade. However, this very process reduces incentives and opportunities for upgrading the export basket, limiting the potential for diversification into more complex and higher value-added products. Over time, this contributes to a weakening of long-term growth prospects and increases structural dependence on a single market. Thus, trade dependence is not only a matter of concentration or exposure but also a mechanism that shapes the trajectory of economic development, potentially locking the economy into a low-upgrading equilibrium.

Overall, external trade dependence both reflects and reinforces deeper structural linkages, but it also shapes their qualitative trajectory. It operates through three channels: (i) concentration of demand (exports) and supply (imports); (ii) the embedding of these flows within logistics and institutional arrangements dominated by Russia; and (iii) the gradual degradation of export complexity associated with this reorientation. Together, these channels not only amplify the costs and complexity of any prospective decoupling, but also weaken the economy's capacity for diversification and upgrading, making future adjustment more difficult even if alternative markets become available.

Taken together, these structural domains define a mutually reinforcing system of dependence. Production linkages create rigid supply and output structures; energy dependence provides both a cost advantage and a channel of macroeconomic stabilization; logistics dependence constrains physical access to alternative markets; and trade dependence amplifies these effects through concentration of flows. Combined with institutional embedding discussed in Section 2.1, this configuration significantly limits the reversibility of dependence in the short to medium term.

2.3. Macro-financial Domains of Dependency on Russia

2.3.1 Fiscal Dependence

In the period 2011–2019, Belarus appeared fiscally robust at first glance, consistently recording surpluses of the consolidated budget. This outcome was driven by three factors. First, a substantial share of government interventions was shifted into the quasi-fiscal sphere, meaning that expenditure figures did not fully reflect centralized financial redistribution (Dobrinsky et al., 2016). Second, energy-related preferences from Russia (see Section 2.2.2) generated significant financial gains—often not fully recorded as budget revenues but partially reflected in foreign-trade-related income—thus supporting the fiscal balance. Third, following accession to the EAEU, Belarus benefited from the internal distribution of customs duties, providing a stable inflow of approximately 0.5–1.0% of GDP annually.

The fiscal position of Belarus began to deteriorate visibly from 2019. Central government tax revenues declined from a level of roughly 14–15% of GDP toward a new, lower plateau of about 12-13% of GDP. The primary driver of this shift was the Russian tax maneuver in the oil sector, which eliminated Belarus's ability to collect export duties on crude oil and petroleum products and reduced foreign-trade-related fiscal revenues by around 2% of GDP. At the same time, several domestic revenue sources weakened, reflecting slower growth, declining profitability in key state-owned sectors, and broader structural rigidities of the economy.

This created a strategic policy dilemma. The authorities faced three options: identify new revenue sources (which appeared limited given weak private sector expansion), cut expenditures (politically sensitive, especially in the social sphere), or accept persistent budget deficits (risking macroeconomic instability). In 2020, the Ministry of Finance outlined a medium-term strategy implying a temporary move into a deficit zone of around 1.5–2% of GDP. This was explicitly framed as an interim solution, with no clear long-term adjustment mechanism identified. In both 2020 and 2021, fiscal outcomes broadly followed this trajectory.

A notable reversal occurred in 2022–2023. Despite plans for deficits, the budget was executed with a surplus in 2022 and remained strong in 2023 without major expenditure compression. According to available fiscal assessments, this shift cannot be explained by structural improvements in revenue collection or expenditure discipline. Rather, it reflects a temporary strengthening of revenue inflows associated with external conditions and, critically, an expansion of Russia-related fiscal revenues (BEROC, 2024).

These revenues include a combination of direct and indirect channels. The most visible component is the reverse excise mechanism linked to oil refining, formalized within the framework of agreements on indirect taxation. In addition, budget plans for 2023–2024 include a substantial increase in gratuitous revenues, a prevailing portion of which is explicitly linked to transfers from Russia. Beyond formally recorded items, a significant share of these resources is embedded in less transparent channels, including the monetization of energy-related preferences and integration-related arrangements. Customs duties redistributed within the Eurasian Economic Union framework—largely originating from Russia—also contribute to this category.

Taken together, Russia-related fiscal revenues reached approximately 2–4% of GDP in recent years, accounting for up to 15–20% of total central government revenues. Importantly, this is not a marginal supplement but a systemic component of the fiscal framework. Moreover, the structure of revenues has shifted accordingly: the role of non-tax revenues has increased, partly reflecting these external inflows (BEROC, 2026). This indicates that fiscal dependence is embedded not only in headline transfers but also in the composition of public revenues.

At the same time, this configuration has not eliminated underlying vulnerabilities. More recent fiscal projections suggest a return to moderate deficits—on the order of 1–1.5% of GDP—as the temporary boost from favorable external conditions fades and expenditure pressures remain elevated (BEROC, 2026). Public spending has increased to historically high levels relative to GDP, while revenue growth remains constrained. This implies a structural gap that cannot be closed through domestic sources alone.

As a result, fiscal stability in Belarus should be interpreted as conditional. It is sustained not by structural improvements in the domestic fiscal base, but by continued access to Russia-related revenues. Absent these inflows, the budget would likely revert to deficit, or require politically costly expenditure reductions, including in the social sphere. The system therefore operates in a regime where external support compensates for structural weaknesses.

In this sense, fiscal dependence constitutes a systemic constraint. It reduces the autonomy of fiscal policy, limits the scope for independent macroeconomic adjustment, and reinforces the broader pattern of economic dependence. Any reduction or disruption of Russia-related fiscal revenues would have immediate and significant consequences for budgetary stability, highlighting the central role of this channel within the overall architecture of dependence.

2.3.2 Debt and Russia as lender of last resort

Prior to 2020, public debt functioned primarily as a stabilization instrument, albeit with the gradual accumulation of vulnerabilities. At the early stages, external public debt clearly dominated the overall debt structure, accounting for the bulk of total government obligations. Official data (last fully disclosed before sanctions) show total public debt increasing from roughly USD 3.1–3.2bn in 2007 to about USD 16.7bn in 2014 and further to USD 20.6–21.3bn by 2019–early 2020 (around 21–33% of GDP). Over the same period, external debt constituted the dominant component, rising from about USD 0.8–0.9bn in 2007 to USD 12.6bn in 2014 and further to USD 16.6–17.1bn by 2019–early 2020. In early 2020, bilateral loans were the key part of the external public debt (around USD 7.8bn in 2014 increasing to about USD 11.6bn in 2019), and Russia was already the largest single creditor (the growth from roughly USD 5.2 bn up to USD 7.9–8.1 bn over the same period), complemented by additional exposure through the EFSD (around USD 2.2–2.4bn), exceeding any other bilateral lender by a wide margin.

In quantitative terms, the scale of indebtedness in terms of % of GDP increased markedly over time. Total public debt (in the extended definition, i.e. including guarantees, and other domestic instruments, as authorities from around 2015 began to more actively rely on domestic instruments, partly as a way to contain or obscure the expansion of external debt) rose from around 20–25% of GDP in the early 2010s to over 50% of GDP at its peak in 2016–2017, before gradually declining toward 40–45% of GDP by 2019–2020. Throughout most of this period, external debt remained the dominant component, typically accounting for around 60–70% of total public debt, which underscores the central role of foreign borrowing in the Belarusian macro-financial model.

External borrowing was used to smooth balance-of-payments pressures, support the exchange rate, and recapitalize the financial sector and state-owned enterprises. This strategy helped contain short-term shocks but entrenched a dependence on continuous refinancing and favorable borrowing conditions. The structure of debt further amplified risks: a dominant share was denominated in foreign currency, making debt sustainability highly sensitive to exchange rate movements and external liquidity conditions. By the late 2010s, a self-reinforcing dynamic had emerged in which new borrowing was required not only to finance deficits but also to service existing obligations, while the domestic foreign-currency cash flow of the budget remained insufficient to cover scheduled repayments. In this context, access to external financing, and the terms on which it could be obtained, became a central determinant of overall financial stability.

By 2021, this model had evolved into a self-sustaining debt dynamic. The burden of external debt servicing – both interest and principal repayments – reached levels that could not be covered by the government's own foreign-currency revenues. As a result, the fiscal system developed a structural "cash gap" in foreign currency, where scheduled external payments systematically exceeded available inflows. This made continuous refinancing a necessity rather than a policy choice. In this context, debt sustainability became tightly linked to the availability of new external financing and the level of international reserves. Borrowing was increasingly used not only to finance current needs, but also to roll over existing obligations and maintain reserve adequacy. This created a fragile equilibrium: any disruption in access to external financing or deterioration in reserve buffers could immediately translate into liquidity stress. As a result, by the eve of 2022, Belarus's debt position was formally manageable, but highly vulnerable to shocks in external financing conditions and political constraints affecting access to international capital markets.

After 2022, the standard mechanism of rolling over debt through market-based refinancing was no longer viable, as sanctions cut off access to international capital markets and alternative bilateral sources had already been declining. In this environment, the logic of debt management shifted fundamentally: the priority became minimizing immediate foreign-currency outflows. This was achieved mainly through deferrals on obligations to Russia and selective modification or suspension of payments to other creditors.

This shift is reflected in the divergence between planned and actual debt service payments, indicating a systematic compression of debt service through administrative and political mechanisms rather than an improvement in underlying debt sustainability. Budget data reveal a persistent and sizable gap between projected and executed debt servicing flows. For example, in 2023 the financing plan envisaged external repayments of roughly USD 3.3 billion, while the actual outflow was closer to USD 0.3–0.4 billion. A similar pattern is observed in 2024: external financing needs exceeded USD 1.2 billion, whereas actual net outflows remained limited, reflecting the combined effect of deferrals, restructuring, and selective non-payment. On accumulated basis in 2022-2025, the difference between planned and realized external payments reaches several billion USD.

These measures have provided short-term financial relief by reducing immediate external payments and easing pressure on reserves and the fiscal balance. However, this has come at the cost of reduced transparency and undermined Belarus's credibility as a sovereign borrower, while shifting repayment burdens into uncertain future. As a result, conventional indicators of debt sustainability have become less informative. The relevant question is whether Belarus retains access to channels, primarily through Russia, that enable it to defer and manage obligations. This reflects a shift from fundamentals-based sustainability to politically conditioned support and entrenches dependence on Russia. Russia has become not only the dominant creditor of Belarus, but effectively its lender of last resort. As of early 2024, Belarus's external public debt amounted to approximately USD 17 billion, of which around USD 8.2 billion was owed directly to Russia and an additional USD 2.3 billion to the EFSD (an institution whose resources are largely controlled by Russia). Taken together, this implies that roughly two-thirds of Belarus's external debt is directly or indirectly held by Russia. This share has been increasing over time, as Belarus continues to repay obligations to other creditors (including China) without securing new financing from them, while benefiting from repayment deferrals from Russia.

Taken together, Belarus's debt sustainability is no longer anchored in market-based metrics but in politically mediated support, i.e., it is constructed rather than achieved. Headline indicators reflect compressed payments and deferred obligations rather than durable improvements in fundamentals. This creates a conditional and fragile equilibrium: as long as Russia provides deferrals and refinancing, stability can be maintained; any tightening would quickly translate into liquidity stress. In this sense, Russia not only dominates the creditor structure but effectively determines the timing and feasibility of debt servicing, acting as the de facto lender and gatekeeper of last resort.

2.3.3 Monetary and exchange rate alignment, financial industry dependence

Belarus's monetary and exchange rate dynamics are deeply shaped by its economic integration with Russia, resulting in convergence of monetary conditions rather than independent policy determination. This dependence operates through several reinforcing channels, including trade integration, currency usage, and financial sector linkages.

First, the high degree of trade integration between Belarus and Russia creates a strong transmission mechanism for inflation and price dynamics. Given the scale of bilateral trade, changes in Russian inflation, whether driven by domestic policy or external shocks, are transmitted to Belarus through import prices and competitive pressures. As a result, inflation trajectories in Belarus tend to converge toward those in Russia, with only temporary deviations, limiting the scope for independent monetary policy. This external constraint is reinforced by domestic institutional factors. In practice, the National Bank operates in a subordinate position relative to the executive branch, with limited capacity to counteract fiscal-driven monetary expansion. Its use of key policy instruments, such as refinancing rates and liquidity sterilization operations, is constrained, and policy responses to inflationary risks tend to be delayed and inertial (MACROBY, 2025). Taken together, external transmission from Russia and internal institutional constraints interact to structurally weaken the conduct of monetary policy.

Second, exchange rate alignment is primarily driven by the need to maintain price competitiveness on the Russian market, which dominates Belarusian external trade. Given this structure, significant deviations of the Belarusian ruble from the Russian ruble would quickly either undermine export positions or lead to corrective price adjustments. This has effectively created a quasi-peg of the Belarusian ruble to the Russian ruble: while the exchange rate is formally flexible, in practice it closely mirrors RUB dynamics against major global currencies, allowing only short-lived deviations. This structural alignment is reflected in the composition of the real effective exchange rate, where the Russian ruble accounts for the dominant share, mechanically transmitting its fluctuations into Belarusian exchange rate dynamics (MACROBY, 2026).

This quasi-peg generates important policy constraints. Exchange rate adjustments have limited and short-lived effects on competitiveness, as any nominal depreciation quickly feeds into domestic prices and erodes gains. Conversely, appreciation is similarly constrained by external price dynamics. In this environment, the Belarusian National Bank has limited capacity to influence real exchange rate conditions and is effectively forced to accommodate monetary impulses originating in Russia. Independent monetary cycles are difficult to sustain, and policy choices are largely restricted to managing short-term deviations or accepting periods of inflationary pressure. This alignment also extends to interest rate formation: in recent years, changes in lending and deposit rates in Belarus have been largely driven by shifts in monetary conditions in Russia rather than autonomous policy decisions. Increases in Russian interest rates have been transmitted into the Belarusian financial system, forcing domestic adjustment to maintain the attractiveness of ruble-denominated instruments (MACROBY, 2025).

The loss of access to global financial markets and the reorientation of trade toward Russia have increased the role of the Russian ruble in both external and domestic transactions. This has reinforced tendencies toward currency substitution, as economic agents increasingly view the Russian ruble as a more liquid and, in some respects, less risky instrument. While the use of other foreign currencies has declined, this reflects less genuine de-dollarization than a reorientation toward the Russian ruble as an alternative anchor (MACROBY, 2025). As a result, the Belarusian monetary space has become more closely integrated with, and dependent on the Russian one.

Dependence is further amplified through the financial sector. Banks with Russian capital account for approximately 25% of the Belarusian banking system by assets and regulatory capital. While this share has remained relatively stable, their functional role within the sector has expanded. In particular, these institutions have become key intermediaries for settlements in Russian rubles, major providers of RUB liquidity, and important channels for financial flows between the two economies.

Amid the isolation of the Belarusian financial system from global markets, Russian banks increasingly set operational standards, technological benchmarks, and business practices within the sector. Their systemic importance is further reinforced by their functional role in liquidity provision: they act as key intermediaries for RUB transactions and as primary providers of ruble liquidity, giving them disproportionate influence over short-term financial conditions (MACROBY, 2026). This reflects not only ownership structures but also the broader shift in financial connectivity: as links to Western financial systems weaken, Russian institutions and infrastructures effectively substitute for them.

Taken together, monetary and financial dependencies form an integrated system. Exchange rate alignment, inflation transmission, and financial sector linkages reinforce each other, limiting policy autonomy and embedding Belarus within the Russian monetary and financial orbit. An additional dimension of dependence, further reinforcing monetary constraints, arises through the interaction between fiscal and monetary policy. In recent years, broad money growth has significantly outpaced real economic dynamics, reflecting expansionary fiscal policy and limited monetary restraint. This has resulted in a growing monetary overhang, with inflationary pressures accumulating beneath administratively controlled price dynamics. In this context, the National Bank has partially accommodated fiscal expansion, including through indirect financing channels such as purchases of government securities, further blurring the boundary between monetary and fiscal policy (MACROBY, 2025; 2026).

This configuration complements fiscal and debt-related dependencies described above, creating a multi-layered structure in which macroeconomic stability is increasingly conditioned by developments in Russia. In such a setting, Belarus's ability to conduct independent monetary policy and manage financial risks is structurally constrained, and any decoupling would require not only policy adjustments but also a fundamental reconfiguration of trade, currency, and financial linkages.

3. Decoupling Scenarios and Constraints

3.1. Necessity of Withdrawal from Russia-led Integration Frameworks for EU Accession

Belarus's potential accession to the European Union is functionally incompatible with continued membership in Russia-led integration frameworks, in particular the Eurasian Economic Union (EAEU) and the Union State (US). This incompatibility arises not from political considerations, but from the structural features of economic integration regimes and the legal requirements of EU membership. While, in theory, transitional arrangements or partial coexistence could be imagined, in practice they are not sustainable given the logic of a customs union and a single market.

From a legal perspective, EU accession requires full alignment with the acquis communautaire, including the transfer of competences in key areas such as trade policy, customs regulation, and competition policy to supranational EU institutions (Kruk & Makarchuk, 2026). In particular, the EU's Common Commercial Policy establishes exclusive competence over external trade, implying that a member state cannot maintain independent tariff schedules or external trade agreements. This directly conflicts with the obligations embedded in the EAEU, which is itself a customs union with a common external tariff and coordinated trade policy. Simultaneous participation in two such frameworks would create incompatible legal obligations, particularly in the areas of tariff-setting, external trade negotiations, and technical regulation. While the Union State is formally distinct from the EAEU, it reinforces similar constraints by deepening bilateral institutional integration with Russia in areas that overlap with EU competences.

However, legal incompatibility is only one dimension of the problem. Even abstracting from formal obligations, the underlying economic logic of integration makes dual participation infeasible. Both the EU and the EAEU are based on the creation of a unified economic space characterized by the free movement of goods, services, capital, and labor within a common customs territory. Membership in such a framework requires the elimination of internal barriers and the establishment of a common external border. Participation in two different customs unions would generate systemic inconsistencies: goods imported through one external tariff regime could be re-exported into the other, creating opportunities for trade deflection and regulatory arbitrage. A similar issue may arise for certain factors of production, particularly capital, through financial and regulatory arbitrage channels. In effect, the two systems would become "communicating vessels," undermining the integrity of both. This is not merely a legal inconsistency but a fundamental contradiction in the economic architecture of integration.

Moreover, the incompatibility is reinforced by substantive differences in the underlying principles of integration. The EU's economic model is built around competition, strict state aid control, and the primacy of supranational rules with direct effect. In contrast, the EAEU places greater emphasis on coordinated industrial policy, energy arrangements, and the preservation of national policy space, with competition policy playing a more limited role. In areas such as state aid, Belarus's current model—characterized by extensive support for state-owned enterprises and widespread quasi-fiscal mechanisms—has no direct analogue within the EU framework. Similarly, the energy dimension plays a fundamentally different role: while EU integration presupposes market-based pricing and competitive energy markets, the EAEU framework relies heavily on preferential pricing arrangements and politically mediated access to resources (Kruk & Makarchuk, 2026). These divergences imply that even if dual membership were legally conceivable, it would remain economically and institutionally incoherent.

Beyond its supportive role vis-à-vis the EAEU, the Union State entails commitments that are likewise incompatible with EU membership. As discussed in Section 2.1, Union State arrangements underpin preferential energy pricing and coordinated policy frameworks, and envisage harmonisation across areas such as taxation, customs administration, financial regulation, and industrial policy. These mechanisms imply a degree of bilateral policy coordination and de facto transfer of decision-making to joint structures with Russia that would conflict with EU exclusive competences and the primacy of the acquis. In particular, Union State-based energy pricing and fiscal arrangements would be incompatible with EU state aid and energy market rules, while regulatory alignment with Russia would contradict the requirement of full alignment with EU technical, competition, and governance frameworks. Consequently, continued participation in the Union State would constrain policy autonomy in domains that must be transferred to EU institutions upon accession.

Taken together, these considerations imply that the question of whether Belarus should withdraw from the EAEU and the Union State in the context of EU accession is largely settled: such withdrawal is a necessary precondition rather than a policy choice. The relevant policy question, therefore, is not whether to exit, but how and at what pace this exit should be implemented. Different exit trajectories imply different distributions of costs and benefits over time. A rapid withdrawal may accelerate access to EU integration benefits but entail significant short-term economic disruption, while a more gradual approach may smooth adjustment but prolong exposure to existing dependencies and delay the realization of productivity gains associated with EU integration.

At the same time, the feasibility and sequencing of withdrawal cannot be assessed purely in legal or economic terms, as these frameworks are highly politicized and subject to external constraints. For Russia, Belarus's potential reorientation toward the EU is likely to be perceived as a fundamental geopolitical challenge that it would seek to prevent or constrain. The intensity of this response may vary depending on broader political and economic conditions and Russia's relative strength. For Belarus, therefore, the question is not whether Russia will attempt to impede EU integration, but to what extent it will be able to do so and how Belarus can pursue its policy choice despite such opposition. As a result, the process of withdrawal cannot be reduced to a mechanical application of legal procedures; it is inherently contingent and uncertain, requiring a scenario-based approach.

In the following subsections, we therefore move beyond formal legal considerations and analyze possible pathways of withdrawal under different behavioral scenarios of Russia. While legal provisions provide a reference framework, they may become secondary in situations of rapid political change. Importantly, such scenarios are not limited to varying degrees of Russian resistance. Under conditions of weakening or internal destabilization in Russia, it is plausible that Russia-centered integration frameworks themselves may begin to erode or collapse, reducing the relevance of formal exit procedures altogether. Historical precedents—most notably the rapid disintegration of organizations such as the Council for Mutual Economic Assistance (CMEA) following the collapse of the Soviet bloc—suggest that integration arrangements can unravel quickly and non-linearly when their political foundation weakens. This possibility further reinforces the need to consider a range of scenarios rather than a single deterministic pathway.

3.2. Legal procedure for withdrawal from the EAEU and the Union State

The legal procedure for withdrawal from the Eurasian Economic Union (EAEU) is defined by Article 118 of the Treaty on the EAEU and further specified in the Decision of the Supreme Eurasian Economic Council No. 25 (2015), which establishes the "Procedure for accession to the Union and termination of membership." The combined reading of these instruments suggests that the exit mechanism is formally clear, time-bound, and largely unilateral in its initiation, but involves a number of institutional steps during the transition period.

First, withdrawal is initiated by a sovereign decision of the member state, which is formalized through a written notification submitted to the Eurasian Economic Commission via diplomatic channels. From the moment of notification, the process becomes institutionalized: the Commission is required to inform all member states, as well as relevant international partners of the Union, within a short procedural timeframe.

Second, the notification triggers a transition period of 12 months, after which membership is formally terminated. This fixed time horizon is a key feature of the EAEU framework: it provides predictability and avoids indefinite negotiations over exit conditions. At the same time, the exiting state retains a limited and evolving role in the Union's decision-making during this period. In particular, it may be excluded from decisions affecting the post-exit functioning of the Union, while retaining participation rights in decisions directly concerning its own withdrawal. The precise format of such participation is determined by the Supreme Council.

Third, the procedure establishes mechanisms to manage institutional and legal disentanglement. From the moment of notification, specific adjustments occur in representation within Union bodies: mandates of officials from the exiting state in the Commission and the Court of the EAEU are subject to termination or early recall. In parallel, the Union initiates a process of settling financial obligations arising from membership. Importantly, such obligations remain binding even after exit until they are fully discharged, implying that withdrawal does not eliminate previously accumulated fiscal commitments.

Fourth, the legal consequences of withdrawal are comprehensive. Upon completion of the 12-month period, membership in the EAEU is terminated automatically, and this entails simultaneous withdrawal from all international treaties concluded within the framework of the Union. This “bundled exit” significantly amplifies the scope of legal disengagement, as it affects not only the founding treaty but also the broader body of Union law and agreements.

Finally, the procedure allows for a limited degree of reversibility: the notifying state may withdraw its notification before the expiration of the transition period. However, beyond this point, the exit becomes definitive.

Overall, the EAEU legal framework provides a relatively streamlined and formalized exit mechanism. It is characterized by a unilateral trigger, a fixed transition period, and automatic legal consequences. At the same time, it leaves open important practical questions related to the management of economic, financial, and regulatory adjustments, which are not fully specified in the legal texts and therefore depend on political negotiation and implementation practice.

The procedure for withdrawal from the Union State differs substantially from the EAEU mechanism. The key provision is Article 67 of the Treaty on the Creation of the Union State. It establishes that a participating state may decide to withdraw from the US in accordance with its constitutional procedures and on the basis of a nationwide referendum. This is a materially important difference from the EAEU: withdrawal from the US is not framed merely as an executive decision followed by diplomatic notification, but as a domestically constitutionalized act requiring direct popular authorization.

Once such a decision is taken, the state wishing to withdraw must notify three addressees in writing: the Supreme State Council, the Parliament of the Union State, and the other participating state. The treaty then provides a fixed exit horizon: it ceases to apply to the withdrawing state after 18 months from the date of the referendum. Therefore, unlike in the EAEU, the relevant starting point for the transition period is not the receipt of notification by an institutional body, but the domestic referendum itself. This makes the legal sequence somewhat less institutionally managed at the Union State level and more dependent on the prior completion of domestic constitutional procedures.

Article 67 also contains a savings clause: withdrawal does not affect the fulfilment of obligations already undertaken by the participating states under the treaty where their implementation was linked to a specified time period. This means that the end of participation in the US does not automatically extinguish all obligations arising under the treaty. Some obligations may continue to operate after formal withdrawal if they were designed to be implemented over a defined period. At the same time, the Treaty of the US does not establish a detailed procedure for identifying, classifying, or settling such obligations. Overall, the US framework is both more demanding domestically and less operationally codified at the international level.

This distinction is particularly important because the Union State is not limited to the founding treaty alone. As discussed in Section 2.1, a significant share of integration has been developed through subsequent agreements, sectoral programs, and regulatory arrangements, including energy pricing mechanisms, fiscal and customs coordination, financial regulation, and industrial policy. Formal withdrawal under Article 67 would terminate the treaty's application to Belarus after the 18-month period, but it would not necessarily resolve the entire network of related bilateral commitments. Many of these would need to be reviewed separately, terminated, renegotiated, or replaced by transitional arrangements.

This asymmetry between withdrawal from the EAEU and the US is critical for understanding the sequencing and complexity of a broader decoupling strategy.

Beyond the specific provisions of the EAEU Treaty and the Union State Treaty, the general principles of international treaty law—as codified in the Vienna Convention on the Law of Treaties—provide an additional legal framework for interpreting and, in certain circumstances, supplementing withdrawal procedures. As a rule, the lex specialis established in the founding treaties prevails, meaning that Article 118 of the EAEU Treaty and Article 67 of the Union State Treaty define the primary legal pathways for exit. However, where these provisions are incomplete, ambiguous, or difficult to operationalize in practice, the Vienna Convention offers a set of fallback principles governing notification, termination, and the legal consequences of withdrawal.

In particular, the Convention is relevant for clarifying the treatment of obligations that extend beyond the moment of formal withdrawal. The termination of participation in a treaty does not automatically extinguish all rights and obligations arising from it, especially where such obligations are linked to specific time horizons or financial commitments. This reinforces the conclusion that both in the EAEU and, even more so, in the Union State, legal exit does not coincide with full economic and institutional disengagement.

More importantly, the Vienna Convention becomes particularly relevant in non-standard scenarios, including accelerated withdrawal, disputes over the interpretation of exit provisions, or situations of systemic political disruption. In such cases, principles such as fundamental change of circumstances or material breach may be invoked to justify modification or termination of treaty obligations. While these doctrines are applied restrictively in international law, their relevance increases in contexts where the underlying political and economic foundations of integration arrangements weaken or collapse. This further supports the need to complement formal legal analysis with a scenario-based approach in assessing the feasibility and pathways of withdrawal.

Based on the formal provisions of the EAEU Treaty and the Union State Treaty, a baseline legal scenario suggests that withdrawal from these frameworks would require approximately 1–2 years from the initiation of the relevant procedures. This timeframe reflects the combination of notification requirements, fixed transition periods (12 months in the EAEU and 18 months in the Union State), and the need to complete core procedural steps.

At the same time, this legalistic baseline should be interpreted as a reference point rather than a binding constraint. On the one hand, international treaty law allows for the possibility of accelerated withdrawal under conditions of a fundamental change of circumstances or systemic disruption. In such scenarios, the timeline could be compressed to within a year, particularly if exit is accompanied by a broader breakdown of the underlying integration framework or a unilateral suspension of key obligations.

On the other hand, the formal legal timelines capture only the initial phase of withdrawal. The actual process of disentanglement—especially in the case of the Union State and, to a lesser extent, the EAEU—extends beyond treaty termination and involves the unwinding of secondary agreements, sectoral arrangements, and embedded regulatory practices. These elements are not fully governed by the founding treaties and may significantly prolong the effective exit horizon. As a result, while the legal framework defines the starting conditions and minimum timelines, the overall duration of exit is likely to be shaped by the complexity of underlying economic linkages and the political context in which withdrawal takes place.

3.3. Decoupling Strategy from the Belarusian Perspective

A useful starting point for assessing feasible exit strategies is to outline the set of key economic, institutional, and coordination challenges associated with withdrawal from the EAEU and the Union State. From an economic perspective, the central issues include the conditions of access to the Russian market during the transition period, the redesign of tariff policy and customs administration, the restructuring of energy contracts and pricing regimes, and the management of short-term price and inflation shocks. At the institutional level, withdrawal implies the restoration of autonomy in trade and regulatory policy, the establishment of national regulatory bodies in areas previously governed by supranational arrangements, and the prevention of legal and administrative vacuums during the transition. Finally, the process requires careful external coordination, including synchronization with CEPA and Association Agreement (AA) preparation, the mobilization of technical and financial support from the EU, and clear communication with economic agents and markets.

Taken together, these dimensions highlight that withdrawal is not a single legal act but a multidimensional transition process that requires coordination across economic adjustment, institutional rebuilding, and external integration. The central policy challenge lies in coordinating economic adjustment, institutional rebuilding, and external integration in a way that minimizes disruption while enabling a rapid shift toward a new development model anchored in EU integration.

Against this background, an “ideal” decoupling scenario can be defined as a first-best benchmark under conditions of full coordination between Belarus, the EU, and (implicitly) Russia. In such a scenario, the process of withdrawal from the EAEU and the Union State would be closely synchronized with the launch and sequencing of EU integration instruments, in particular CEPA and the AA, such that the gradual dismantling of existing obligations and benefits within Russia-led frameworks would be immediately offset by the emergence of new opportunities within the EU integration process (Kruk & Karaitis, 2026; Kruk & Makarchuk, 2026). Crucially, this would imply the absence of institutional or regulatory gaps: tariff regimes, technical standards, and key regulatory frameworks would be transitioned in a coordinated manner, ensuring continuity for economic agents.

At the same time, the ideal scenario would entail smoothing short-term economic shocks, particularly in energy and trade. This would require either the temporary preservation of certain preferential arrangements or their functional replacement through external support mechanisms, allowing Belarus to avoid abrupt price adjustments and supply disruptions. In parallel, access to the Russian market during the transition period would be maintained under stable and predictable conditions, reducing the risk of trade dislocation. In essence, the ideal scenario combines rapid progress toward EU integration with a gradual adjustment of the most sensitive economic linkages.

However, such a configuration is unlikely to be realized in practice due to a combination of structural and political constraints. First, it is fundamentally inconsistent with Russia's incentives. From the perspective of Russia, facilitating a smooth and low-cost exit for Belarus would reduce the barriers to geopolitical and economic reorientation, thereby weakening Russia's influence. As a result, rather than mitigating adjustment costs, Russia is more likely to use its leverage in trade, energy, and regulatory domains to increase the costs of exit.

Second, even abstracting from geopolitical considerations, the institutional logics of the two processes are difficult to reconcile. Withdrawal from the EAEU and the Union State is, to a significant extent, a politically driven and discretionary process, while EU integration is rule-based, sequential, and conditional on the fulfilment of detailed acquis requirements. This asymmetry implies that a perfect synchronization of exit procedures with EU integration milestones is structurally unlikely, even under favorable political conditions.

Given these constraints, the ideal scenario should be treated as an analytical benchmark (first-best under full coordination), rather than a realistic policy pathway. In practice, Belarus is more likely to face a trade-off between the speed of exit and the magnitude of short-term economic disruption. This trade-off can be framed as an intertemporal choice between minimizing transitional losses and accelerating the realization of long-term convergence gains associated with EU integration (Kruk & Karaitis, 2026).

A gradual exit strategy would aim to smooth adjustment by preserving selected elements of existing economic linkages for a longer period. This approach could mitigate immediate shocks in trade and energy, reduce inflationary pressures, and allow more time for institutional adaptation. However, gradualism entails significant costs: it delays the full implementation of EU-compatible institutions and policies, postpones the onset of convergence dynamics, preserves structural dependencies, and increases the likelihood of policy reversals or external interference, particularly in a context where the process of EU integration remains politically contested (Kruk & Makarchuk, 2026).

An accelerated exit strategy would involve the rapid dismantling of key obligations within the EAEU and the Union State and a swift transition to autonomous trade and regulatory policies aligned with EU requirements. Such an approach is likely to generate a deeper short-term contraction, reflecting disruptions in energy supply, trade flows, and production linkages. Estimates in Kruk & Karaitis (2026) suggest that this transitional recession could be substantial, while other studies (e.g., Hartwell et al., 2022) indicate that downside risks may be even larger under adverse conditions.

Despite these costs, an accelerated exit strategy may be preferable from a medium- to long-term perspective. First, the mechanisms of convergence associated with EU integration—through productivity gains, institutional improvements, and access to larger markets—are likely to compensate for initial losses within a relatively short timeframe (Kruk & Karaitis, 2026). Second, delaying exit effectively postpones these gains, implying a cumulative cost over time. Third, and most importantly, a prolonged transition increases the risk of dynamic inconsistency: the longer the process remains incomplete, the higher the probability of policy reversal, institutional stagnation, or external disruption, potentially undermining the entire trajectory of integration (Kruk & Makarchuk, 2026).

Therefore, while the ideal scenario of fully coordinated and shock-free decoupling is unlikely to materialize, the analysis suggests that, if faced with a choice between gradualism and accelerated exit, priority should be given to the latter. This conclusion follows not from a preference for rapid adjustment per se, but from the asymmetric structure of costs and benefits over time: while the short-term losses of accelerated exit are significant but temporary, the costs of delay—through forgone convergence, persistent dependencies, and increased reversibility risks—are cumulative and potentially more damaging for long-term economic development.

The specific trajectory of withdrawal cannot be fully predefined ex ante. The actual pathway will depend on a wide range of interrelated economic, institutional, and political factors, many of which are inherently uncertain. Among these, the most critical determinant is the reaction of Russia and the scope of instruments it is willing and able to deploy to influence the process. The degree of resistance, the use of trade and energy levers, and the broader geopolitical context will play a decisive role in shaping both the timing and the costs of exit.

Accordingly, the framework outlines boundary scenarios rather than a single predictable path. While a first-best, fully coordinated exit remains theoretically desirable, it is unlikely to materialize under realistic conditions. Therefore, if such a scenario is not attainable, the strategic priority should shift toward minimizing long-term costs rather than short-term disruption. In this context, the case for a more rapid and decisive withdrawal from the EAEU and the Union State becomes stronger, even at the expense of a deeper transitional adjustment.

3.4. Russia's Behavioral Scenarios and Implications for Decoupling

The trajectory and costs of Belarus's exit from the EAEU and the Union State depend critically on Russia's response. Russia's behavior should be treated as a central parameter shaping both the magnitude of transition shocks and the feasibility of different sequencing options (Kruk & Makarchuk, 2026). For analytical clarity, three stylized scenarios can be distinguished.

Neutral (low-intervention) scenario. Russia is constrained—politically or economically—and applies limited active pressure. Adjustment proceeds largely through market mechanisms, with no deliberate disruption of trade or energy flows. From today's perspective, it might be interpreted as a lower-probability benchmark rather than a baseline. Under this scenario, transition costs are driven primarily by internal rigidities and the speed of institutional reconfiguration.

Restrictive (market-compatible pressure) scenario. Russia resists decoupling within economically bounded instruments: energy prices move toward (or above) market levels; access to the Russian market tightens via tariffs and non-tariff measures; contractual terms are revised. This resembles earlier Russia–Belarus energy disputes, where pressure was exerted through pricing and conditions rather than outright supply interruption. The key feature is that pressure remains broadly compatible with market/logistical continuity. This type of pressure is already embedded in baseline estimates in Kruk & Karaitis (2026).

Openly hostile (non-market disruption) scenario. Russia deploys the full set of coercive tools, including physical interruption of energy supplies, closure of market access, and disruption of logistics. Analogues include Russia–Ukraine relations post-2014/2022. Here, shocks are driven not only by structural adjustment but by deliberate supply disruption.

These scenarios map directly into the dispersion of estimated transition costs. Differences between Hartwell et al. (2022) and Kruk & Karaitis (2026) largely reflect implicit assumptions about Russia's response. The latter, using more recent data and refined modeling, provides more reliable estimates under baseline (neutral/restrictive) conditions. However, under an openly hostile scenario, the upper-bound losses—and the corresponding need for financial support—reported in Hartwell et al. (2022) remain relevant, with estimated financial support requirements of around EUR 8 billion annually for three years.

A critical implication is preparedness for extreme contingencies, particularly a physical interruption of energy supplies. Evidence summarized in iSANS (2025) indicates that a complete cut-off does not imply systemic collapse, but entails a sharp short-term imbalance (roughly 10–14 days) before alternative supply chains stabilize. Continuity can be supported by reserves and fuel substitution, followed by EU-linked inflows and reoriented oil imports. The trade-off is a substantial increase in costs – gas prices may rise multiple times, feeding into electricity and heat tariffs – and reduced refinery export capacity.

In adverse scenarios, the role of the EU becomes decisive. Beyond political and bureaucratic support, financial assistance is required to absorb transition losses and maintain reform credibility. Under openly hostile conditions, required support may approach upper-bound estimates (Hartwell et al., 2022), complemented by medium-term investment in energy, logistics, and industrial restructuring.

Overall, Russia's response introduces substantial uncertainty. Belarus must therefore adopt a flexible, contingency-based policy framework that is robust across scenarios. At the same time, even under the most adverse conditions, the strategic case for EU integration remains intact: while short-term losses may increase, the alternative—prolonged dependence—carries cumulative costs, higher reversibility risks, and weaker long-term growth prospects (Kruk & Makarchuk, 2026).

3.5. Selected Domains and Residual Risks of Decoupling

While the macroeconomic adjustment associated with Belarus's exit from the EAEU and the Union State is broadly captured in model-based estimates (Kruk & Karaitis, 2026), a number of sectoral, institutional, and financial issues remain outside this analytical framework. These domains are less amenable to formal modelling but may play a critical role in shaping the depth, distribution, and persistence of transition costs. Their evolution will depend heavily on the specific exit scenario (see Section 3.4).

At the same time, it is important to emphasize that the most significant systemic shock—energy—requires separate consideration and is addressed in detail in Section 4. The present subsection focuses on other domains where risks are more granular, less predictable, and not fully internalized in baseline quantitative estimates.

A first critical area concerns debt relations with Russia. As discussed in Section 2.3.2, Belarus's external public debt is highly concentrated vis-à-vis Russian creditors. In this context, the management of debt obligations becomes not only a financial, but also a strategic and political issue. A minimum approach would involve full compliance with existing repayment schedules, ensuring financial continuity but limiting fiscal space. A more expansive approach could include negotiated deferrals, restructuring, or partial write-offs, potentially linked to broader economic or political settlements. In addition, the possibility of international legal recourse—through arbitration or litigation—may serve as a negotiation tool, although its effectiveness would depend on the broader geopolitical environment. Precedents from Ukraine's disputes with Russia indicate that sovereign debt claims can be contested on grounds of duress and framed as politically motivated (often discussed under the "odious debt" doctrine), with courts allowing such defenses to be examined. While these cases do not establish a general doctrine, they expand the feasible set of legal and negotiating strategies. Importantly, no single approach can be predefined ex ante, as outcomes will depend on bargaining dynamics and the willingness of Russia to engage in cooperative or confrontational strategies.

A second domain relates to value chains and production linkages tied to Russia. As shown in Section 2.2.1, Belarusian industry is deeply embedded in cross-border production networks, particularly in sectors such as machinery, chemicals, and refining. EU integration will inevitably weaken or disrupt these linkages, leading to output losses, increased production costs, and the reconfiguration of supply chains. These effects are captured in aggregate estimates of transitional recession (Kruk & Karaitis, 2026), but their sectoral and regional distribution remains highly uncertain. A key policy challenge lies in balancing the speed of decoupling with the capacity of firms and sectors to reorient toward alternative markets and suppliers. In practice, this may require a differentiated, sector-specific approach rather than a uniform strategy.

A third area concerns the presence of Russian capital and financial exposure. Russian-owned or affiliated entities play a significant role in the Belarusian banking sector and in selected industries. Decoupling may therefore trigger a range of financial and ownership-related adjustments, including capital withdrawal, restructuring of liabilities, or changes in corporate control. These processes may affect financial stability, access to liquidity, and the functioning of payment systems. Possible policy responses range from negotiated restructuring to more interventionist measures, including temporary controls or ownership changes. However, the feasibility and desirability of such measures depend on the broader scenario and cannot be determined in advance.

A fourth domain involves institutional and regulatory continuity. Withdrawal from EAEU and Union State frameworks implies the restoration of national competences in areas such as trade policy, technical regulation, and competition policy. This creates a risk of transitional legal and administrative gaps, particularly where domestic institutions have been partially supplanted by supranational mechanisms. Ensuring continuity requires the rapid establishment or reinforcement of national regulatory bodies, as well as the timely adoption of interim rules compatible with future EU alignment. Failure to manage this transition effectively may result in regulatory uncertainty, increased transaction costs, and disruptions for economic agents.

A fifth area relates to the coordination of exit with EU integration instruments, in particular CEPA and the Association Agreement. As emphasized in Kruk & Makarchuk (2026), the effectiveness of the transition critically depends on the sequencing between disengagement from Russia-oriented frameworks and the gradual adoption of EU-compatible rules and institutions. Ideally, the dismantling of existing arrangements should be synchronized with the emergence of new regulatory, trade, and financial linkages with the EU. In practice, however, such synchronization is difficult to achieve due to the fundamentally different logics of the two processes: exit is politically contingent and potentially abrupt, while EU integration is rule-based, sequential, and conditional. This asymmetry implies that temporary mismatches are likely, reinforcing the importance of external support—both technical and financial—in bridging transitional gaps.

Taken together, these domains illustrate that, beyond macroeconomic adjustment, decoupling involves a set of interrelated and highly contingent challenges that cannot be fully specified ex ante. Their resolution will depend on the interaction between domestic policy choices, external support, and the behavior of Russia. This reinforces the broader conclusion of the section: rather than relying on a predetermined blueprint, Belarus must adopt a flexible and adaptive approach to managing the transition, with a focus on preparedness across a range of possible scenarios.

4. Energy Tariff Adjustment and Support Mechanisms under Decoupling

The disruption of Belarus's energy relations with Russia can be analyzed along two interrelated dimensions. First, it entails the physical replacement of energy supplies and the restructuring of logistics chains. As shown in iSANS (2025), even a complete cutoff of Russian supplies would not lead to systemic collapse but rather to a short-term imbalance lasting approximately 10–14 days, after which alternative supply routes could be stabilized. Short-term continuity could be ensured through existing reserves and fuel substitution (e.g., increased use of mazut in power generation), while medium-term stabilization would rely on rerouting oil imports via seaborne and rail channels and accessing EU-linked gas supplies, including LNG. However, such a transition would come at the cost of significantly higher import prices and reduced export capacity in refining. Second, beyond the physical dimension, it is crucial to assess how changes in supply conditions and pricing structures would translate into tariffs for final consumers, and to what extent these effects can be mitigated through policy support. This section focuses on this second dimension.

4.1. Starting Terms and Conditions of Energy Supply to Belarus

Gas supplies to Belarus up to 2026 have been priced at $128.5 per thousand cubic meters. While prices for 2026 have not been officially disclosed, they are unlikely to differ significantly. For the purposes of this analysis, we rely on 2025 price data. However, gas prices on the global market are substantially higher. Figure 2 illustrates the dynamics of gas prices at the European TTF hub.

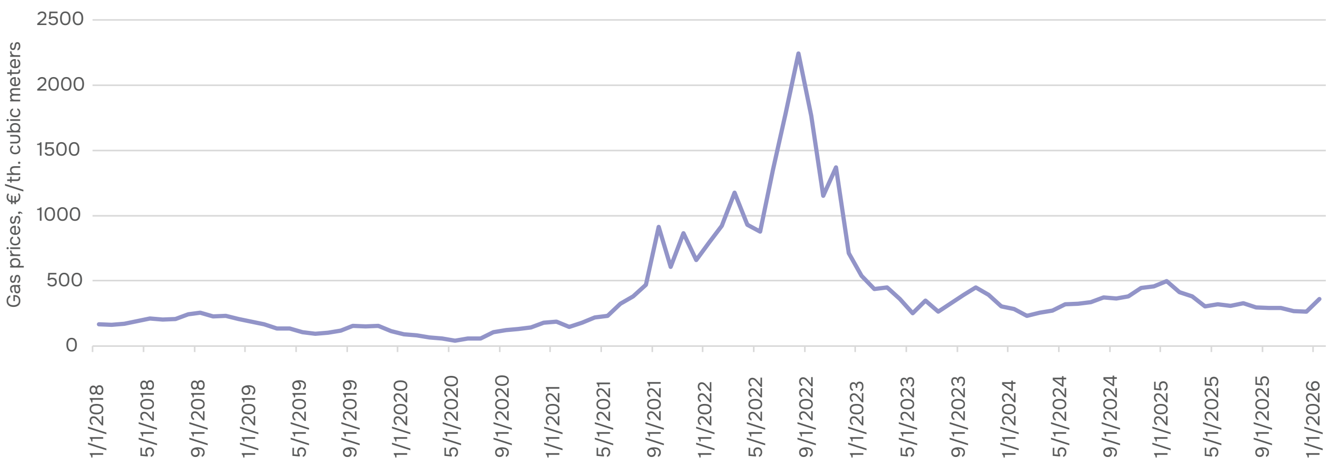

Figure 2. Gas prices at the European TTF hub

Source: Own computations and estimations based on data by investing.com.

During the 2022–2023 crisis, gas prices in Europe exceeded €2,000 per thousand cubic meters. However, under normal conditions, European gas prices are significantly lower. Figure 3 illustrates the distribution of monthly gas price levels in Europe over the period 2018–2025.

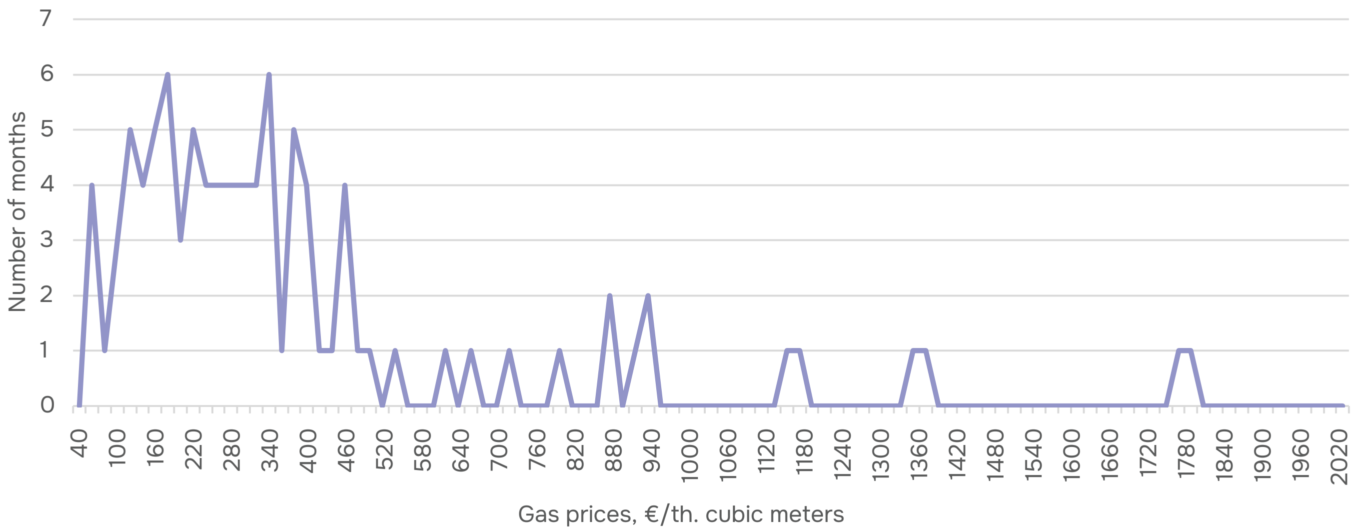

Figure 3. Distribution of Gas Prices

Source: Own computations and estimations based on data by investing.com.

Figure 3 indicates that the most likely price range lies between €120 and €320 per thousand cubic meters. It is important to note that the lower bound of this range is close to current gas prices in Belarus. This may suggest the existence of mechanisms for a relatively smooth transition from Russian to European gas pricing. In fact, Europe appears to have undergone such a transition between 2020 and 2022, after which prices increased further. However, these figures do not include the cost of transporting gas to Belarus. According to estimates, transportation costs could add up to €87 per thousand cubic meters. Thus, the upper bound of gas prices for Belarus can be estimated at approximately €400 per thousand cubic meters.

It should be noted that the €87 estimate reflects transportation via Poland and Germany. This is due to the high utilization of the LNG terminal in Świnoujście, which constrains the capacity to route all gas supplies through it. A similar constraint applies to the terminal in Klaipėda. The development of a new LNG terminal in the Baltic region (in Poland or Lithuania), or the expansion of existing facilities, could reduce transportation costs to Belarus by approximately €65–70 per thousand cubic meters. For reference, the Świnoujście LNG terminal cost around €1 billion and has a capacity of approximately 5 bcm. Excluding operating costs (which are already reflected in European hub prices), such an investment could pay for itself within approximately three years.

The price of oil for Belarus may differ slightly from global benchmarks. During the 2020 negotiations, Belarus sought supply conditions no less favorable than those offered to other countries. As Russian Deputy Prime Minister Dmitry Kozak stated at the time, “oil supplies to Belarus will continue on commercial terms; discounts will not be provided.”

According to MACROBY (2024), the oil price in 2023 was approximately $60.5 per barrel, while average spot market quotations were around $64 per barrel. The small difference between Urals and Brent suggests that no additional Belarus-specific discount was applied. Thus, the estimates by MACROBY (2024) and OPEC are broadly consistent and indicate that Belarus effectively pays the Urals spot price, with a modest discount of around $5 per barrel associated with long-term contracts. By late 2025, this corresponded to approximately $55 per barrel, or around $400 per ton.

This suggests that Belarus purchases oil at near-global market prices but benefits from lower transportation costs. A shift to alternative suppliers would likely increase transportation costs by $20–25 per ton, raising the total cost to approximately $425 per ton.

Relatively low import prices translate into comparatively low domestic energy tariffs. At the same time, these tariffs are characterized by a low cost-recovery ratio (see Table 2).

Table 2. Actual Domestic Tariffs and Cost-Recovery Rates

		Population	Industry	Services	Budgetary Organizations	Transport	Cost (Cost-Recovery Level)
Electricity	Tariffs	0.24	0.36	0.46	0.41	0.36	0.30
	Cost recovery	81%	123%	154%	138%	123%	100%
Heat Energy	Tariffs	27.23	199.38	199.38	189.88	148.34	134.94
	Cost recovery	20%	148%	148%	141%	110%	100%
Natural Gas	Tariffs	212.50	484.73	707.64	655.30		491.50
	Cost recovery	43%	99%	144%	133%		100%

Source: Own computations based on MinEnergo.

4.2. The Impact of New Price Conditions on Domestic Energy Tariffs

The main types of fuel in Belarus are electricity and heat, as well as natural gas. Among petroleum products, the primary fuels are diesel and gasoline. According to estimates by iSANS (2025), a transition to global gas prices would increase the cost of gas for consumers by 3.29 times. The cost of producing petroleum products would rise by 2.5%, electricity by 33%, and heat by 2.7 times.

Prices for petroleum products would not change significantly, and adapting to global prices would not require additional mechanisms. Although the increase in electricity prices would be substantial, it could potentially be managed through gradual tariff adjustments, especially if spread over several years. Therefore, gas and heat tariffs should be considered as directly derived from gas prices.

Based on the estimates in Table 2, the most sensitive changes would affect tariffs for heat and natural gas. Moreover, the transition to global prices would be compounded by the very low cost-recovery rate for heat energy. Households currently pay only 20% of the actual cost of heat production. Furthermore, heat is the primary form of energy consumed by households. The expected tariff changes are reported in Table 3.

Table 3. Domestic Tariffs and Cost-Recovery Rates

	Population	Industry	Services	Budgetary Organizations	Transport	Cost (Cost-Recovery Level)	Increase
Electricity	0.24	0.36	0.46	0.41	0.36	0.30	133%
	0.32	0.48	0.61	0.54	0.48	0.39	
Heat Energy	27.23	199.38	199.38	189.88	148.34	134.94	270%
	73.53	538.32	538.32	512.68	400.50	364.34	
Natural Gas	212.50	484.73	707.64	655.30		491.50	329%
	699.13	1594.76	2328.14	2155.94	0.00	1617.04	

Note: 1 – indicates the actual tariff (i.e., before the price increase; see Table 2); 2 – indicates the estimated tariff after the price increase.

Source: Own computations based on MinEnergo.

In other words, tariffs might rise significantly, particularly for natural gas and heat energy, a large portion of whose cost structure is directly tied to the price of gas as a commodity. At the same time, maintaining the current level of subsidies would substantially increase the burden on the state budget. The budget is unlikely to have such capacity, meaning that tariff increases would result not only from higher energy prices but also from a reduction in subsidy levels. This would constitute a double shock to the existing support and tariff-setting system.

For example, with household heat consumption at around 23 million Gcal (2020 data), the volume of subsidies amounted to approximately 2.4 billion rubles. If the current subsidy structure were maintained (around 80% of the cost subsidized), the required support would increase to 6.7 billion rubles per year. If the level of support remained unchanged at 2.4 billion rubles, the household tariff would reach 260 rubles per Gcal—almost a tenfold increase.

4.3. Foreign Experience in Overcoming Tariff Shocks

From the perspective of mechanisms for overcoming a price shock, the situation is similar to the removal of tariff subsidies. In both cases, the core problem is a sharp increase in energy costs for households and organizations. This leads to a rapid deterioration in the economic situation of households and a qualitative change in the structure of their expenditures. A different situation may arise when tariff subsidies are removed by government decision: in that case, the reduction of subsidies can be planned and spread over time, which makes the process easier to manage. IMF (2013) provides data on the scale of subsidies for various energy resources across countries. Some fossil fuel subsidies exist in almost every country. At the same time, many countries, including those in our region, have implemented reforms to eliminate tariff subsidies.

The global consensus on energy subsidy reform is based on the principle: "support people, not energy." In practice, this approach is implemented through support for specific individuals or families for whom tariff increases would significantly worsen their financial situation. Under such a system, energy tariffs are set at cost-recovery levels, ensuring that all expenses of the energy supplier are covered. If these tariffs create financial hardship for certain segments of the population, support is provided directly to those people. This form of support is known as targeted or means-tested subsidies.

One of the closest examples is Ukraine. In 2016, the Ukrainian government decided to raise natural gas tariffs to a cost-recovery level. This led to a substantial reduction in fossil fuel subsidies in the country and contributed to reducing the state budget deficit. At the same time, part of the savings was redirected to targeted subsidies for low-income households and to energy-efficiency programs in the residential sector .

At the time tariff increases began in Ukraine, a system of targeted support was already in place. Based on data on household income and utility expenditures, as well as citizens' applications, this system allowed for direct assistance to specific families or individuals, either through transfers to personal accounts or by directly covering their utility bills. Targeted subsidies were used to support households, and their volume increased significantly in 2016. However, this increase was offset by a reduction in tariff subsidy expenditures.

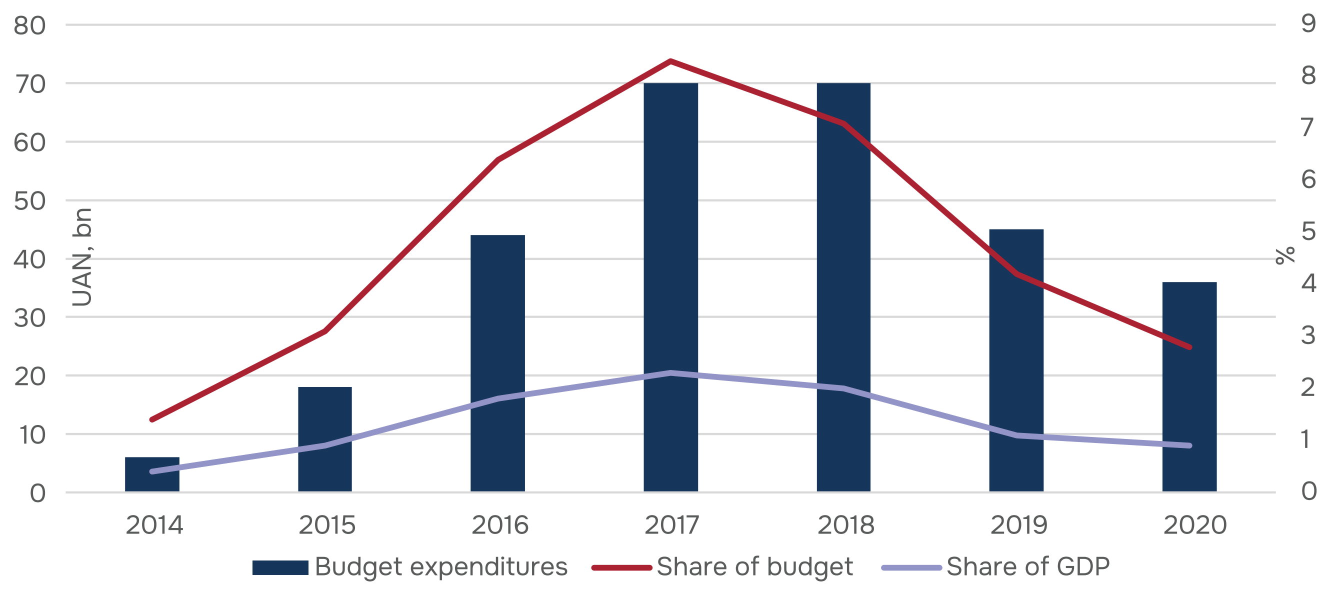

Figure 4. Volume of Payments Under the Targeted Subsidy Program in Ukraine

Source: Own computations and estimations based on data by Ukrstat, and Ministry of Social Policy of Ukraine.

Figure 4 shows the volume of payments under the targeted subsidy program. It is evident that after the peak levels of the first years, payments began to decline. This indicates that household welfare improved and fewer people fell into categories requiring support. This may serve as indirect evidence that moving away from tariff subsidies can contribute to economic growth and rising incomes.

A similar system operates in the Czech Republic, where citizens can receive a subsidy if their housing and utility costs (including rent) exceed 30% of household income (Need, n.d.). An additional condition is that household income must not exceed a certain baseline expenditure level. This requirement prevents situations where above-average-income households rent expensive housing and then receive budget-funded rent subsidies.

In general, targeted subsidies are a fairly widespread form of support for low-income populations. Among OECD countries, 29 have such support mechanisms. They are also used in highly developed countries; for example, the largest shares of budget expenditures on such support are observed in the United Kingdom, Finland, and Germany. In many countries, the acceptable energy expenditure threshold is set at 10–20% of household income. For example, in the United Kingdom, individuals receiving other forms of social support (low-income, unemployed, etc.) may receive £150 for heating (Features, 2025). A household is considered energy-poor if fuel expenditures exceed 10% of total income. The European Union also defines energy poverty as spending more than 10% of income on energy, and spending over 20% is considered “severe energy poverty.” (OECD, 2018).

However, implementing such a system requires the development of an appropriate legal framework, administrative procedures, and a system for collecting data on household incomes and expenditures. In Belarus, there is no system for direct cash transfers to households apart from social benefits, pensions, and similar payments. Any support is structured around compensating losses of energy-supplying companies rather than transferring funds directly to households. Therefore, such a social support system must be established before raising tariffs for the population.

The situation in Belarus is further complicated by the fact that the government is not preparing any mechanisms to smooth energy price shocks and openly takes pride in the current level of support. Interestingly, one of the main mechanisms for mitigating the effects of a price shock is tariff subsidies. This mechanism was used by the European Union during the 2021–2023 crisis (see Figure 5).

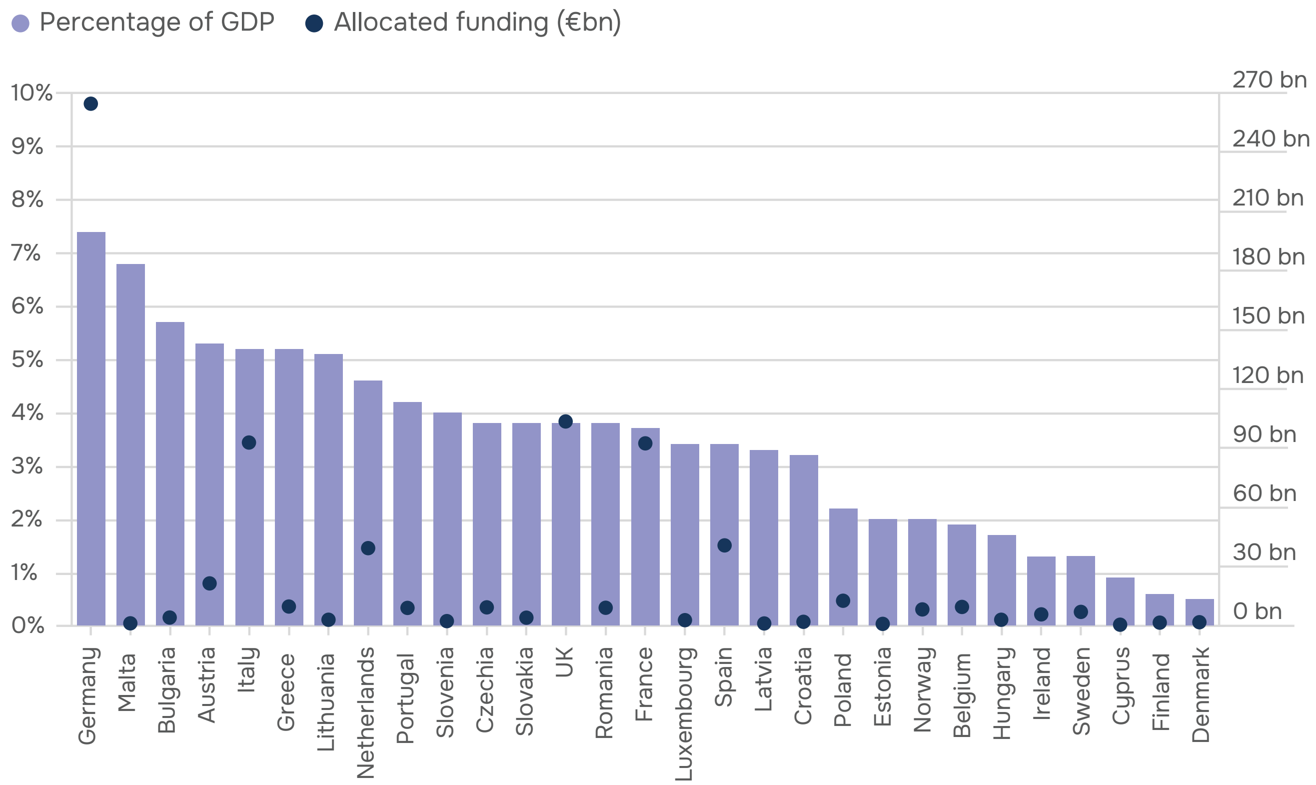

Figure 5. Level of Support through Energy Subsidies in the European Union in 2022–2023

Source: https://www.researchgate.net/publication/379494538_Spending_response_to_cash_transfers_to_shield_households_from_inflation_Evidence_from_bank_accounts.

A second measure involves various types of compensation through tax policy. Governments may introduce tax relief for certain goods or services, or for specific companies supplying energy to consumers. On the other hand, countries may impose windfall profit taxes, allowing part of the excess profits of private energy companies to be redirected to support households. .

Summarizing, during the 2021–2023 crisis, different countries introduced the following measures:

- Reduction of energy taxes/VAT
- Regulation of retail prices
- Regulation of wholesale prices
- Transfers to vulnerable population groups

- Obligations imposed on state-owned enterprises
- Windfall profit taxes
- Business support measures

For Belarus, many of these options may be unattainable, since customs and tax regulation there is a routine practice rather than an anti-crisis instrument.

4.4. Household Tariffs and Support Measures

In terms of expenditure structure, housing and utility services account for 7.6% nationwide and nearly the same share for urban residents. The share is slightly higher for rural residents at 7.9%. For low-income households, this indicator reaches 12%.

With a transition to cost-recovery tariffs (covering all production costs), the share of housing and utility expenditures would increase to 11% on average nationwide and to 21% for low-income households (see Table 4).

Table 4. Domestic Tariffs and Cost-Recovery Rates

		Current Gas Prices		Global Gas Prices	
Parameter	Unit	Average	Low-Income	Average	Low-Income
Heating payment	rubles	24	17	64,8	45,9
Hot water supply	rubles	14	14	37,8	37,8
Total housing & utilities payment	rubles	89	54	153,6	106,7
Share of total expenditures	%	11%	21%	19%	30,50%

Source: Own computations and estimations based on data by MinEnergo and Belstat.

Under current gas prices, the total payment amounts to 54 rubles for low-income households and 89 rubles per person on average nationwide. Eliminating tariff subsidies while simultaneously transitioning to global gas prices would further increase utility payments. Heating and hot water payments would rise by 2.7 times. The total housing and utility payment would reach approximately 153.6 rubles on average and more than 106.7 rubles for low-income households. As a result, housing and utility expenditures would rise to 30.5% of total income for low-income households and exceed 19% on average nationwide.

A negative feature of subsidized tariffs is that households with higher incomes receive more support, since they consume larger volumes of housing and communal services. Targeted support primarily focuses not on energy prices but on the level of household expenses on utilities. Therefore, for the question of forming a mechanism of targeted subsidies, it is important to use the distribution of income among different groups of people. Based on this data, we estimate payments for utilities for all income levels and tariffs under various scenarios. Under the existing (subsidized) tariffs, payments for the entire population remain below 15%. As tariffs increase, the share of the population whose utility expenses exceed this threshold will begin to rise. Under real tariffs, about 52% of the population will spend more than 15% of their income on utilities and will start receiving compensation. With the simultaneous transition to real tariffs and world market prices, practically the entire population will receive support. The payments to be made to different income groups are reported in Figure 6.

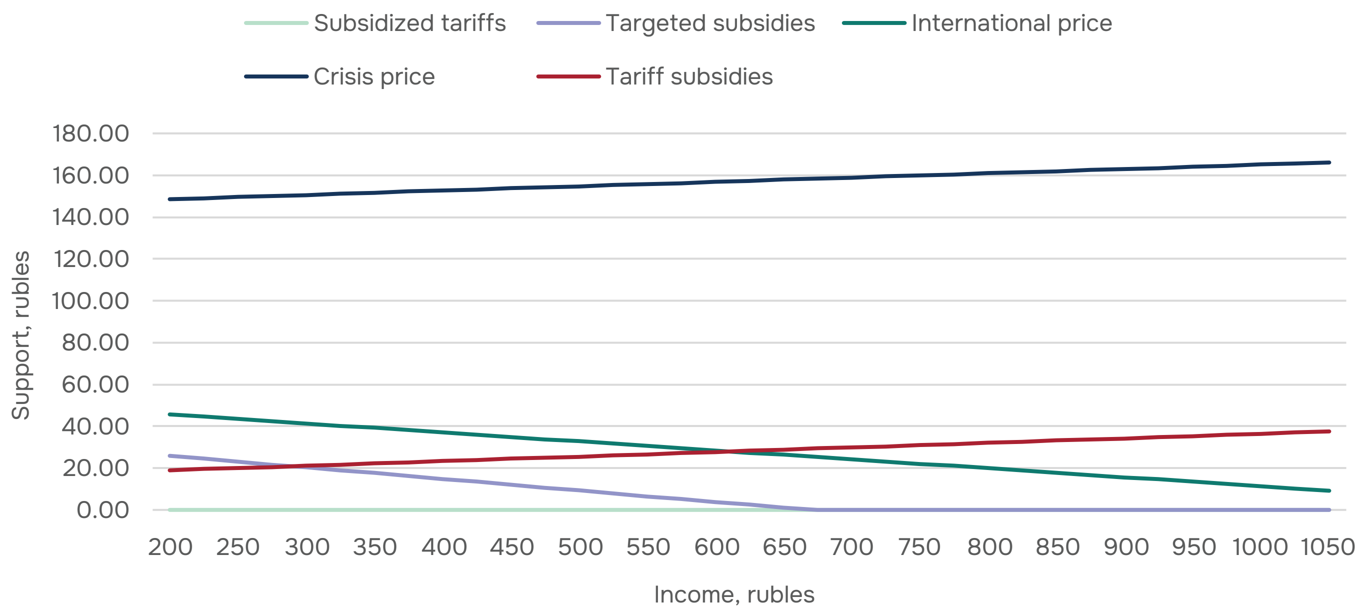

Figure 6. The Level of Subsidies to Households in Belarus Under Different Scenarios

Source: Own computations and estimations based on data by Belstat.

The current situation (subsidized tariffs) shows that additional support is not required for any income level. Under the transition to real tariffs (blue line), all citizens with incomes below 550 rubles per person (in 2020 prices) will receive support. With the simultaneous transition to real tariffs and world market prices, support will be extended to practically all citizens. However, payments to low-income households will be significantly higher than payments to the wealthiest part of the population.

At the same time, during crisis price periods (2022–2023, gas prices around $1500 per 1,000 m³) and using the mechanism of targeted support, payments to wealthier households increase. This is because heating payments significantly exceed the threshold value (15% of income) for the entire population. This is another qualitative difference in the crisis price regime and confirms that using only the targeted subsidy mechanism is insufficient for regulation across all price ranges. Between normal international prices and crisis prices, tariff subsidies must still be maintained.

The current support levels are also shown on this graph. Although the population does not receive direct cash transfers from the budget for heating, the subsidized tariffs themselves are a form of hidden support. The orange line (tariff subsidies) shows the support currently received by the population. It can be seen that under the transition to targeted subsidies, the support for the poorest families almost does not change, meaning their financial situation will not worsen. As incomes rise under targeted support, payments decrease, unlike with tariff subsidies, where support increases with income growth. The total volume of support that will be provided to household is reported in Figure 7.

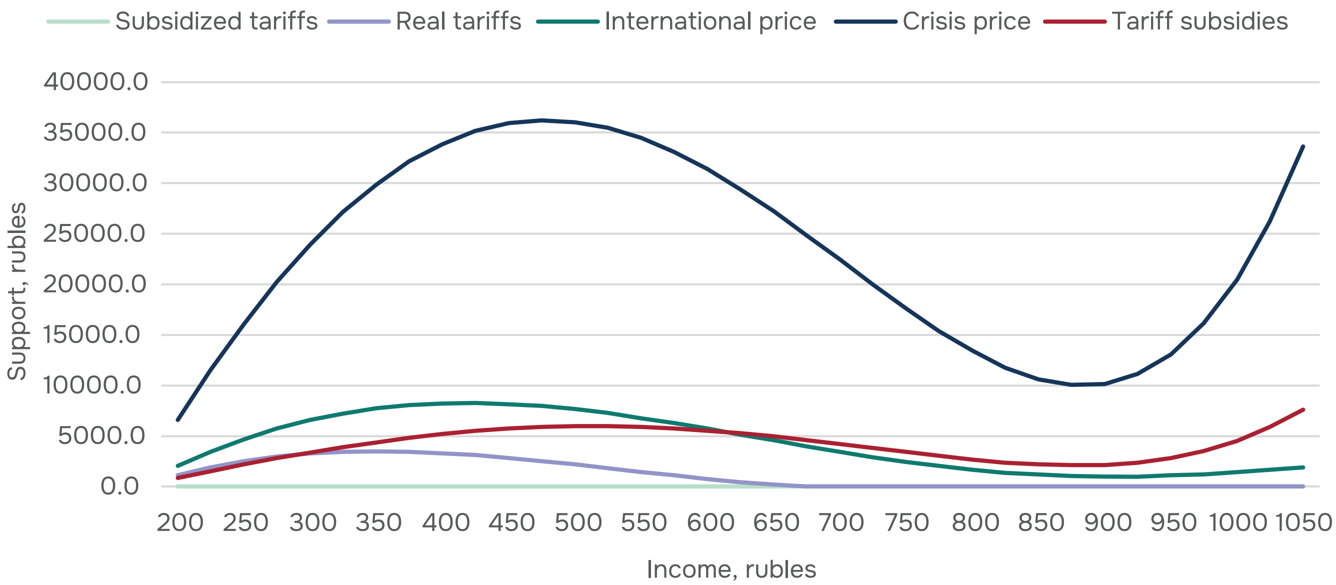

Figure 7. The Aggregate Level of Subsidies in Belarus Under Different Scenarios

Source: Own computations and estimations based on data by Belstat.

As can be seen, under the current situation, no payments are made. The transition to targeted subsidies and real tariffs will require payments to low-income households with incomes up to 550 rubles per person. This form of support will require 300 million rubles annually from the budget.

The abandonment of tariff subsidies simultaneously with the transition to world market prices will result in support being provided to practically all income groups. However, a significant share of the support will go to low-income households.

This graph clearly shows the difference between the proposed system and the existing tariff subsidies (orange curve). The proposed system allows support to be focused more on low-income households (on the left, the green curve is higher than the orange curve), while the existing system provides more support to wealthier households (on the right, the orange curve is higher than the green). The total volume of payments under the proposed system, even with the transition to world market prices, will amount to 1.8 billion rubles per year, whereas the current system requires 1.45 billion rubles per year already today at low gas prices.

Supporting household utility payments not exceeding 15% of income for all households during crisis prices would require more than $4 billion per year.

The upward bend of the curve on the right indicates that a significant portion of the population is in these income groups. In reality, due to the last income category in Belstat “over 1000 rubles,” a substantial number of people fall into this category. As early as 2020, the scale should have been extended to at least 1500 rubles. At the same time, payments to each individual high-income household remain very low.

4.5. Price Smoothing Mechanism

Energy prices on the global market are quite volatile and prone to sudden changes. Directly passing these prices onto consumer tariffs, especially for households, would be inappropriate. There are several reasons for this. In a free natural gas market, businesses can purchase gas under various types of contracts. They can also easily choose different suppliers and use mechanisms to hedge future gas price risks, such as futures or options. Furthermore, in the event of a sharp increase in gas prices, the impact on business is primarily economic, which can be mitigated by reducing production, using reserve funds, etc. Overall, businesses can hedge the risks of rising energy prices, and their survival depends on how effectively they do so.

Households, however, do not have this option. The cost of hedging risks at the household level is too high relative to their consumption and available resources. People generally do not diversify suppliers. Moreover, the costs associated with rising prices are not only economic. Increased tariffs lead to social consequences. In addition to social dissatisfaction, the worsening financial situation of households during significant tariff hikes can result in attempts to save heating energy by lowering indoor temperatures, which increases the risk of illness. Higher heating tariffs also reduce household spending on other items, including food and services. Therefore, supplier diversification, contract type management, and risk hedging for households should be managed by the state.

As described above, for normal prices, the optimal approach is to use real tariffs combined with targeted subsidies. In the event of crisis situations and a sharp rise in resource prices, tariff regulation must be applied. To determine the threshold for this transition, price smoothing mechanisms are used. This mechanism reduces tariff volatility and prevents sudden short-term market price changes from significantly affecting tariffs. The price smoothing mechanism involves setting a tariff for a specific period based on the average resource prices over the previous period, with a limitation on tariff changes for the next period.

Example: If the gas price, including all delivery costs to consumers, remained at \$200/1,000 m³ in January, this price becomes the tariff for February. If the actual gas price in February rises to \$300/1,000 m³, the March tariff should be set at \$300/1,000 m³. However, if a restriction on tariff changes is imposed—for example, no more than 10%—then the March tariff will be \$220/1,000 m³. If the gas price remains at \$300/1,000 m³ in March, the April tariff will be \$242/1,000 m³ (+10% again).

In this system, the key parameters are the duration of the period and the maximum allowable change in the tariff.

Figure 8 shows actual gas price fluctuations at the European TTF hub and different tariff smoothing regimes. The period analyzed was deliberately chosen to exclude the second half of 2021 as well as 2022–2023, avoiding the effects of abnormally high gas prices on financial indicators and tariffs.

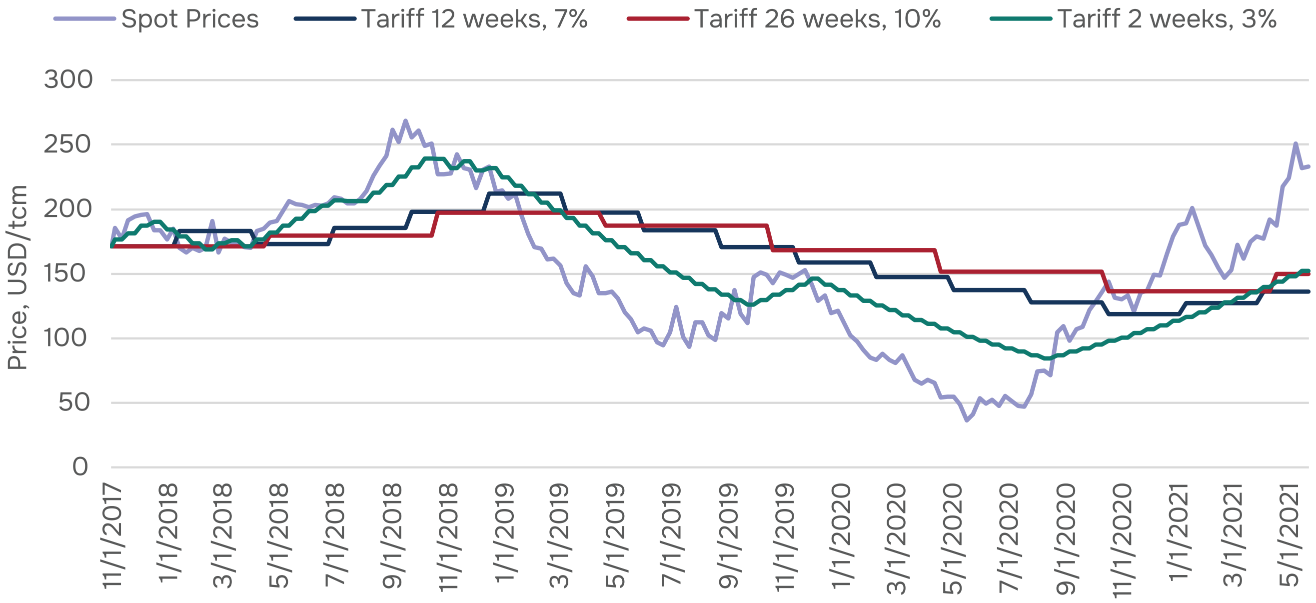

Figure 8. Different Price Smoothing Regimes in the EU in 2017-2021

Source: Own computations and estimations based on data by Investing.com.

The green line shows how tariffs would change if reviewed every two weeks with a maximum change of 3%. This regime preserves excessive volatility and frequent changes (twice a month), which is inconvenient for users. Under this regime, over almost four years, tariffs fluctuated between \$85 and \$240/1,000 m³. The blue line represents quarterly price changes limited to 7%, which significantly reduces volatility. Tariffs under this regime range from \$118 to \$219/1,000 m³, smoothing price spikes without harming consumers. The yellow line shows price adjustments every six months, with a maximum change of 10%. This regime smooths prices even further, reducing the fluctuation range to \$136.4–\$202/1,000 m³. However, a 10% change becomes noticeable for households. Additionally, when tariffs deviate from market prices, a compensation mechanism is required. A separate stabilization fund must be established, which is spent if the market price exceeds the tariff and accumulates if the market price is lower.

For the analyzed period, the two-week/3% regime allows the fund to accumulate around \$123 million, as prices were mostly below the smoothed curve. In other periods, the fund could also lose equivalent amounts. For the 12-week/7% regime, fund accumulation reaches \$450 million. Therefore, as smoothing increases, the size of reserves for compensation should also increase. For the 29-week/10% regime, fund accumulation reaches nearly \$670 million. Operation of the price smoothing system during crisis periods shows that under maximum smoothing, the tariff does not exceed \$219.7. However, the size of the stabilization fund required to compensate the difference between price and tariff would reach \$13.5 billion. Similar costs would occur with quarterly adjustments, while tariffs would remain almost the same. With semi-monthly adjustments, fund requirements would be $10.5 billion, but tariffs could reach $560/1,000 m³, causing issues even with targeted subsidies.

Thus, the price smoothing mechanism should be implemented with sufficiently long review periods while also creating substantial reserves for energy crisis compensation. This mechanism also depoliticizes energy tariffs. If established by law, tariff changes become a technical procedure rather than a political decision, which political forces might otherwise use for their purposes. In Belarus, this mechanism could likely serve two objectives simultaneously: moving to real tariffs and implementing a mechanism to smooth world price volatility. When abandoning tariff subsidies, it is necessary to implement new methods of supporting the population, focused on households in difficult financial situations—low-income households. The best approach is the use of targeted subsidies, which provide support only to those households that are in a vulnerable economic position.

The main task in developing targeted subsidies is to identify the households that need support. This requires knowledge of household incomes. Tools for this already exist; in particular, it has been reported that Belarus has created a tax “super-database”. According to the developers, this database allows tracking all income of the population. On the other hand, data on payments for housing and communal services are collected by utility organizations, which makes it possible to determine each family’s expenses for utilities. If heat is supplied from an industrial boiler house, this information is also provided to the enterprise for reimbursement of losses from providing heat at subsidized tariffs. Thus, it can be concluded that calculating targeted subsidies is a fully feasible task.

Moreover, the targeted subsidy system already exists in Belarus. By Decree No. 322 “On the Provision of Cashless Housing Subsidies,” a system of cashless targeted assistance was introduced. The state compensates household expenses for utilities that exceed 20% of the total family income (or individual income) in cities and 15% in rural areas. This system is fully operational and includes the ability to automatically identify citizens in need of support if they receive only social payments. Individuals can also submit an application and receive a subsidy.

However, an analysis of this system’s performance is necessary. The Ministry of Housing and Utilities calculated that about 400,000 households would qualify for this type of state support. Yet, in 2021, only 30,000 families in Belarus actually received such subsidies for utilities. That is, the effectiveness of this tool is ten times lower than expected. Problems must be identified, and the program needs to be relaunched.

It is also necessary to provide for the creation of a protected tariff stabilization fund. During the transition to real tariffs, this fund will be spent, so sources for replenishing it must be foreseen. After the transition to real tariffs, it is expected that the fund will be replenished during periods of falling resource prices and spent during periods of price increases, thereby stabilizing utility costs for the population.

5. Conclusions

This paper examines the problem of Belarus's potential European integration through the lens of decoupling from Russia and Russia-centered integration frameworks. Building on existing work that establishes the economic rationale for EU integration (Kruk & Karaitis, 2026) and outlines its policy contours (Kruk & Makarchuk, 2026), the analysis focuses on a critical and underexplored dimension: how such a transition can be operationalized under conditions of deep structural and institutional dependence on a dominant partner. The findings suggest that while Belarus's economic ties with Russia – spanning production linkages, energy, trade, and finance – constitute a significant barrier, they do not undermine the fundamental case for European integration. On the contrary, even when accounting for substantial transitional costs, the long-term benefits of convergence with the EU remain decisive. However, the main challenge lies in the policy domain, particularly in managing the process of disengagement from the EAEU and the Union State, where legal constraints intersect with entrenched economic interdependencies.

A key contribution of the paper is the integration of substantive and legal perspectives into a unified analytical framework. This allows for a more realistic assessment of decoupling, emphasizing that legal exit procedures define the formal parameters of transition, but do not determine its economic trajectory. Instead, outcomes depend on the interaction between domestic policy choices, structural constraints, and external factors6 most importantly, Russia's response.

The scenario-based analysis highlights that Russia's behavior is a central source of uncertainty, shaping both the scale and the distribution of transition costs. Under plausible assumptions, a strategy of relatively rapid disengagement appears more consistent with achieving long-term convergence, despite higher short-term adjustment costs. At the same time, the paper underscores that decoupling cannot be fully pre-specified: sector-specific challenges, ranging from debt relations and value chains to financial exposure and institutional continuity, require flexible and adaptive policy responses.

Among these challenges, the energy sector stands out as the most sensitive domain. The transition to alternative energy sources and pricing structures implies significant increases in domestic tariffs and creates substantial social and fiscal pressures. Addressing these effects requires a combination of targeted support mechanisms and price-smoothing instruments, as well as broader institutional capacity to manage volatility and protect vulnerable groups.

Overall, the analysis demonstrates that while the path toward European integration for Belarus is complex and uncertain, it remains both feasible and economically justified. The central policy implication is the need for preparedness: rather than relying on a single predefined pathway, Belarus must develop a strategy capable of adapting to a range of external scenarios while maintaining a consistent orientation toward long-term convergence with the European Union.

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