INSTITUTE FOR POLITICS AND SOCIETY

POLICY PAPER

November 2025

Strengthening Czech Competitiveness in the European Union: Pathways for Growth and Partnership

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Summary

This paper explores strategies for strengthening the competitiveness of the Czech Republic within the European Union (EU), focusing on structural reforms, innovation, digitalization, and sustainable transition. It argues that the Czech economy should evolve from an efficiency-driven to an innovation-driven model to align with EU strategic objectives. The analysis also highlights the importance of European partnerships as a vehicle for technological diffusion and institutional learning. Drawing on EU and OECD frameworks, the paper proposes a multi-level policy approach to foster sustainable economic growth and resilience within the European single market.

Key Takeaways

- The Czech Republic must shift from an efficiency-driven to an innovation-driven economy. Strengthening R&D, digital transformation, and technological capacity is essential for long-term competitiveness amid geopolitical tensions and rapid technological change.
- The green transition requires a realistic social approach. Energy reforms must account for their impact on households and regions; otherwise, they risk undermining social cohesion and public support for climate policies.
- European partnerships—especially with the Netherlands—can accelerate innovation. Deepening cooperation in high-tech sectors, research, and digitalization will enhance knowledge transfer and reinforce the Czech Republic's role within EU value chains.

Introduction

Since joining the European Union in 2004, the Czech Republic has become one of Central Europe's most industrialized and export-oriented economies. Its robust manufacturing sector and fiscal discipline have contributed to stable growth and low unemployment (OECD, 2023). However, the global economy is undergoing a profound transformation driven by digitalization, the green transition, and negative demographic shifts (European Commission, 2024a). These trends are reshaping competitiveness, valorizing innovation capacity, sustainability, and human capital over traditional cost advantages.

Another challenge is the war in Eastern Ukraine, where Russian aggression disrupted the traditional energy supply system on the East-West axis and forced the Czech Republic to diversify its sources, at the cost of increasing prices for end customers and companies, which ultimately had a major impact on the competitiveness of the domestic industry and the entire economic model built after 1989.

The objective of this paper is to assess the Czech Republic's competitive position within the EU and propose strategic pathways to strengthen innovation systems, accelerate digital transformation, and enhance institutional efficiency. The paper also identifies Czech-Dutch collaboration as a model for cross-border innovation partnerships consistent with the EU's policy orientation toward resilience and smart growth.

The Czech Economy in the EU Context

The Czech Republic's economy is deeply embedded in European value chains, particularly in the automotive, machinery, and electronics industries, which account for approximately 80% of exports to EU markets (Eurostat, 2024). Another important market is the USA, where the Czech Republic exports machinery (e.g., engine parts, pumps, and aircraft engines), as well as car tires, medicines, and other industrial products. While this integration facilitates stability and scale, it also creates dependence on low and medium-tech segments and on external innovation sources (OECD, 2023).

Compared with the EU average, Czech R&D expenditure remains moderate—around 1.99% of GDP in 2022, below the EU target of 2.5% (European Commission, 2024b). The Czech Republic's problem lies in its long-term approach to funding research and development. For example, the outgoing government of Petr Fiala has created a clear discrepancy in the 2027 budget for research, development, and innovation, with a deficit of CZK 2 billion, by secretly transferring part of the funds to the Ministry of Transport for infrastructure construction. Enhancing research infrastructure and technology transfer mechanisms is, therefore, critical. Effective innovation ecosystems require stronger links between academia, start-ups, and industrial clusters, mirroring systems found in the Netherlands and Germany (Etzkowitz, Leydesdorff, 2000).

The newly emerging government of the ANO, Motorists and SPD movement promises in its government program statement to make tax deductions for research and development more attractive, to extend the period for which deductions can be applied to better reflect the long-term nature of high-tech projects, and to create and support new incentive programs for joint projects with universities and the Academy of Sciences of the Czech Republic (Draft program statement of the government of the Czech Republic, 2025: 36).

Digital transformation, including Industry 4.0 adoption, automation, and data governance, also remains a key driver of competitiveness (Schwab, 2019). Czech industrial policy should thus prioritize digital literacy, cybersecurity, and infrastructure modernization—particularly for small

and medium-sized enterprises (SMEs), which constitute over 99% of Czech firms (Czech Statistical Office, 2023).

Green Transition and Energy Security

The European Green Deal represents both a challenge and an opportunity for the Czech Republic. As a historically coal-dependent economy, the energy transition requires diversification toward renewables (nuclear with wind and solar replenishment) to enhance energy security and align with EU decarbonization targets (European Commission, 2024c).

Strategic investment into clean technologies and the circular economy can foster new growth sectors (Ministry of Industry and Trade, 2024). Public–private partnerships and EU funds, particularly from the Just Transition Fund and the Recovery and Resilience Facility, are vital for financing low-carbon infrastructure. Moreover, eco-innovation—ranging from material recycling to smart urban mobility—can serve as a platform for technological competitiveness (Kemp, Pearson, 2007).

On the other hand, we must not forget the dark side of the energy transition, which can have major impacts on the social cohesion of the Czech Republic. The transition mainly affects the population of peripheral parts of the Czech Republic, who use relatively energy-intensive heating systems in their homes, own an older car, which they absolutely need for their income, and whose savings are currently almost exhausted due to high inflation and high energy prices. The long-term benefits of the transition from emission-based to emission-free energy sources should be considered as potential, while the direct costs of the Green Deal will fall on the population much earlier. The entire debate should therefore be conducted with an eye to the social reality of the Czech Republic and regarding what the economies of Central and Eastern Europe can afford.

We must realize that the perception of the green transition is diametrically different in countries with experience with undemocratic regimes and those without. Forty years of building a centrally controlled economy, which brought only economic backwardness and poverty to all countries of the Eastern Bloc, have sown a deep distrust of the citizens of these countries towards centrally planned and centrally enforced policies. The current Green Deal is therefore too reminiscent of times long gone in many nations of Central and Eastern Europe.

The Czech Republic's ability to merge green policy objectives with industrial competitiveness and assessment of the impacts of the Green Deal will determine its long-term resilience within the EU's sustainability agenda.

Education Reform, Business Environment, and Governance

Capital emerges as a decisive factor in innovation performance (World Bank, 2022). The Czech education system must therefore evolve toward flexibility, creativity, and digital competence. Vocational education should adapt to the technological demands of modern industry, while tertiary institutions must embed research collaboration and entrepreneurship within their curricula (OECD, 2023).

Promoting higher participation of women in STEM fields can expand the national talent base. Additionally, targeted immigration policies to attract skilled labor from other EU and third countries could offset demographic decline (European Commission, 2024a). The alignment between education outcomes and labor market demands will define the Czech Republic's capacity to sustain growth amid structural transitions.

Modern governance is central to competitiveness. Administrative burden and regulatory complexity have historically constrained investment in the Czech private sector (European Commission, 2024b). Simplification through digital public administration, transparent procurement processes, and predictable legal frameworks would strengthen investor confidence and SME scalability (Transparency International, 2023).

The newly formed government should also avoid excessive interference in the free competition of individual economic entities. The current form of the Wind Fall Tax, introduced by the outgoing government of Petr Fiala in 2022, unfortunately, instead of truly effective taxation of excessive profits, meant secret taxation of energy companies and especially the semi-state company ČEZ, which was not tolerated by other shareholders. Such a move undermines investor confidence in the business environment in the Czech Republic and reduces investment commitment throughout the country.

Another problem in the Czech Republic is incomplete digitalization. The digitalization of government services, inspired by models such as the Dutch "Digital Government Agenda," could increase efficiency while fostering citizen trust. These reforms also align with EU priorities in the Digital Decade 2030 strategy (European Commission, 2021).

Czech-Dutch Relations as a Partnership Model

The Czech Republic and the Netherlands have a strong record of economic cooperation. The Netherlands is among the top five foreign investors, particularly in logistics, sustainable industry, and high-tech sectors (Czech Statistical Office, 2023)

Joint innovation ecosystems (such as linkages between Brno Technology Park and Brainport Eindhoven) exemplify the potential of cross-border collaboration. These partnerships facilitate technology diffusion, research cooperation, and access to EU programs like Horizon Europe. Moreover, shared policy interests in circular economy practices and green innovation make Czech-Dutch cooperation a valuable prototype for deeper EU integration (European Investment Bank, 2023).

The Czech Republic's competitiveness in the European Union depends on its capacity for transformation—not only technologically, but institutionally and educationally. A shift from efficiency-based to innovation-based growth requires cohesive national strategies aligned with EU initiatives in sustainability, digitalization, and resilience. By reinforcing R&D systems, modernizing governance, and deepening European partnerships, particularly with the Netherlands, the Czech Republic can evolve into a forward-looking, innovation-driven economy contributing to the shared prosperity of the EU.

To strengthen long-term economic resilience and innovation capacity, the Czech Republic should increase its investment in research and development by raising gross domestic expenditure on R&D to 2.5% of GDP by 2030. This objective can be achieved through a combination of public–private partnerships, targeted fiscal incentives, and efficient use of EU funding mechanisms. In parallel, integrating green growth principles into industrial modernization will be essential for maintaining competitiveness within the evolving EU climate policy framework. These efforts should ensure that technological progress and environmental sustainability reinforce one another, supporting a balanced and future-oriented industrial strategy, and will not jeopardize the social status of middle and low-income groups in the Czech Republic.

Complementary to these structural reforms is the need to invest in human capital through comprehensive education and vocational training reforms that reflect the skill requirements of digitalization. Building an adaptable and innovation-driven workforce will enhance national

productivity and innovation potential. At the same time, streamlining governance (particularly by expanding digital infrastructure and improving regulatory transparency) can create a more conducive environment for entrepreneurship and foreign direct investment. Finally, deepening European partnerships, exemplified by the Czech-Dutch cooperation model, should serve as a blueprint for fostering broader EU innovation networks and strategic alliances.

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