

Absorptive Capacity of European Funds in the Czech Republic, the Slovak Republic, and Portugal: A Comparison of Participation in the Horizon Europe Programme

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Abstract: The article compares the participation of the Czech Republic, Slovakia, and Portugal in Horizon Europe (HE), the EU's main funding program for research and innovation. While the Czech Republic and Slovakia share a common historical and institutional background, Portugal serves as a comparable yet distinct reference case. Based on 2021–2024 data, the article assesses funding uptake, engagement capacity, and territorial imbalances. It highlights low absorption rates and failure to meet the 3% GDP target for R&D. Reflecting on warnings from the Draghi report about structural weaknesses in the EU's innovation framework, it proposes reforms to enhance efficiency and support place-based excellence.

Keywords: innovation, competitiveness, Horizon Europe, Czech Republic, Slovakia, Portugal, EU research and development policy, regional disparities.

JEL Classification: O38, H52, O52, R58.

1 Introduction

Over the past three decades, global economic and political power has shifted toward Southeast Asian countries, particularly China and India, as well as parts of Latin America. This raises the question of whether their growth is driven by innovation and research or merely by convergence through cheap labor and low initial GDP levels.

Europe is responding to these shifts by redefining its geopolitical role. As Nye (2004) argues, *soft power* a country's ability to attract others culturally, technologically, and institutionally is becoming increasingly important. Wallerstein (2005), however, warns that the world is entering a phase of systemic instability, where Europe no longer plays a dominant role.

Against this backdrop, the article analyses the Czech Republic and Slovakia two countries with a shared history and compares them with Portugal. It focuses on their ability to draw funding from *Horizon 2020* and HE, key EU programs for supporting research excellence and knowledge transfer. As the European Research Council (ERC, 2022) notes: “*Science knows no borders, but national systems are limited by borders.*” The success of small and medium-sized states thus depends primarily on their domestic institutional capacity.

In this context, absorptive capacity refers to the ability of a country not only to access EU research funding, but also to effectively implement projects, build institutional partnerships, and align outcomes with strategic innovation goals.

2 Objectives and Methods

2.1 Main Research Objective

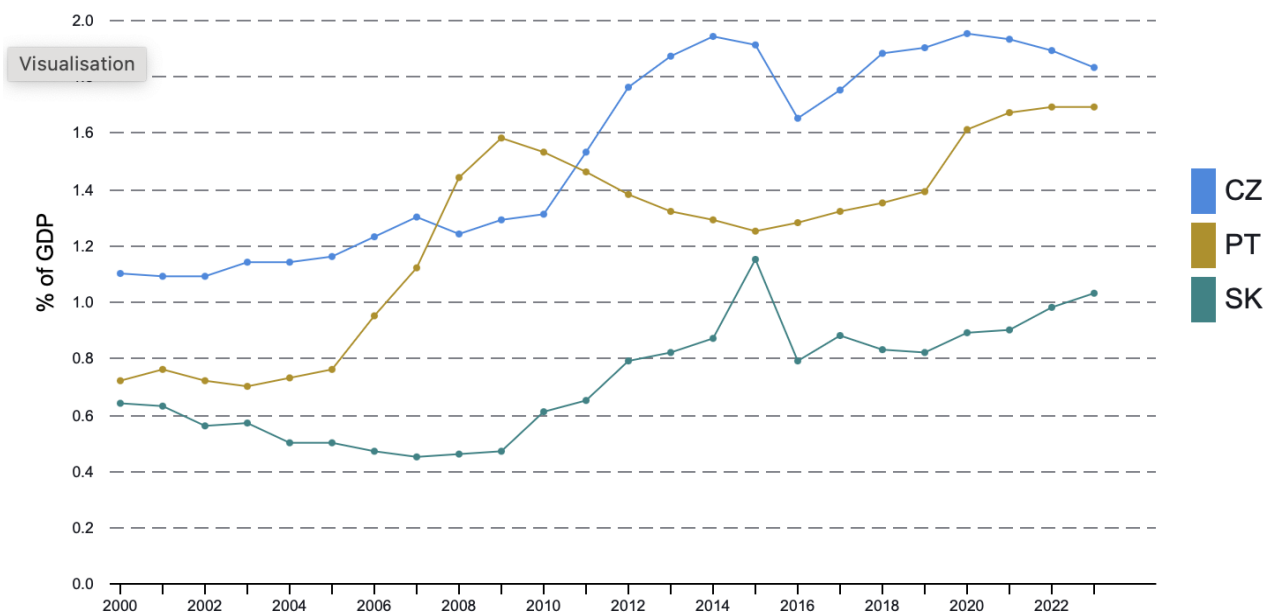
The article compares the ability of the Czech Republic, Slovakia, and Portugal to absorb funding from HE. While Czechia and Slovakia share institutional roots, Portugal serves as a similarly sized comparator with a different EU trajectory.

The main research question is: To what extent does the participation of these countries in HE reflect their declared innovation policy priorities and strategic competitiveness goals?

The study focuses on three core aspects: the amount of EU funding received, the number of supported projects and participating entities, and the role of institutional structures, including the business sector.

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Figure1 Share GDP of R&D



Source: Eurostat (2025)

2.2 Specific Research Objectives

In line with the central aim, the study focuses on the following concrete research questions: it assesses the national level absorption of HE funds (2021–2024), compares the volume and scope of project involvement, identifies regional disparities in funding distribution, examines structural conditions such as research infrastructure and institutional readiness, and interprets the results in the context of long-term EU innovation policy goals, including RIS3 strategies (national or subnational policy documents developed under the EU smart specialisation framework, identifying priority areas for targeted R&D and innovation investment) and the 2024 Draghi report.

2.3 Methodology

The study applies a comparative and descriptive approach, combining quantitative indicators with contextual institutional analysis. It focuses on national and area-level data related to HE participation in the Czech Republic, Slovakia, and Portugal.

Key sources include the official HE portals (for instance TC AV ČR, CVTI SR, ANI), Eurostat, the European Commission, and OECD datasets, particularly R&D expenditure as a share of GDP, as well as national strategy documents such as RIS3 strategies and the 2024 Draghi report.

The analysis uses basic indicators such as EU contribution, number of participations, and institutional typ alongside visual comparisons (graphs and maps) and policy frameworks such as the European Research Area (ERA), the Lisbon Strategy, HE, Missions, and Smart Specialisation policies (RIS3). Special attention is given to how institutional settings and regional disparities influence each country's ability to utilize EU research programmes effectively.

In addition to descriptive comparison, selected performance indicators (e.g. EU contribution per capita, business participation rates) were normalized and benchmarked against the EU average. A simple composite index of absorptive capacity was created by combining funding, participation counts, and institutional diversity. Exploratory correlation between national R&D investment (% of GDP) and Horizon Europe engagement was also analyzed to support contextual interpretation.

3 Comparative Results: Participation in Horizon Europe

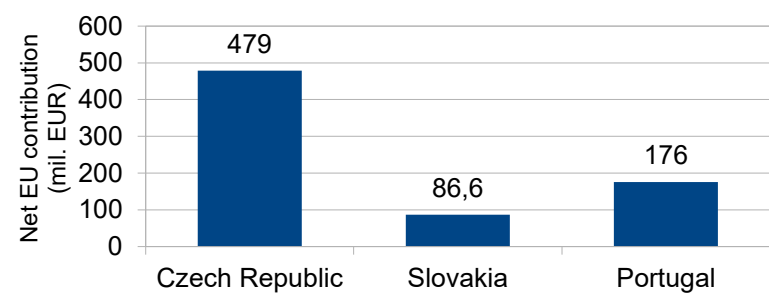
This section summarizes the participation of the Czech Republic, Slovakia, and Portugal in HE (2021–2024), focusing on funding volume, project numbers, institutional/subnational structure, and business sector involvement.

3.1 EU Contribution and Absorptive Capacity

As of August 2024, the Czech Republic received €479 million, Slovakia €86.6 million (PEDAL Consulting, 2024), and Portugal €176 million (EFMC, 2022; data as of October 2022), see Figure 2. Project participations: Czech Republic 1,361; Slovakia 291 (PEDAL Consulting, 2024); Portugal 551 (FCT Portugal, 2022), see Figure 3.

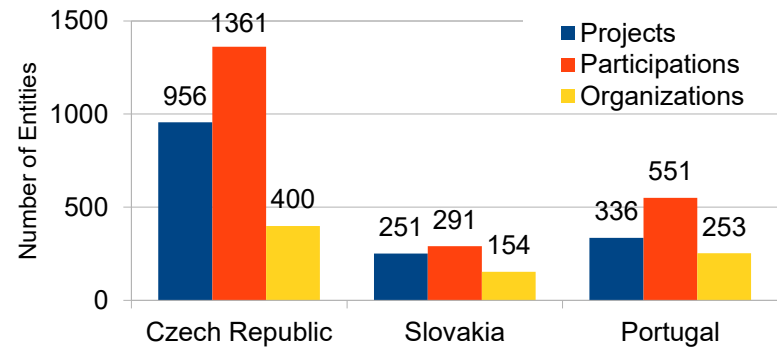
- Data represent cumulative figures since 2021.
- By August 2024, the program recorded over 102,000 participations in 15,600 projects, with a total EU contribution of €43.5 billion (TC AV ČR, 2024).

Figure 2 Net financial contribution for the given country



Source: Own processing

Figure 3 Number of projects, participations, and organizations²



Source: Own processing³

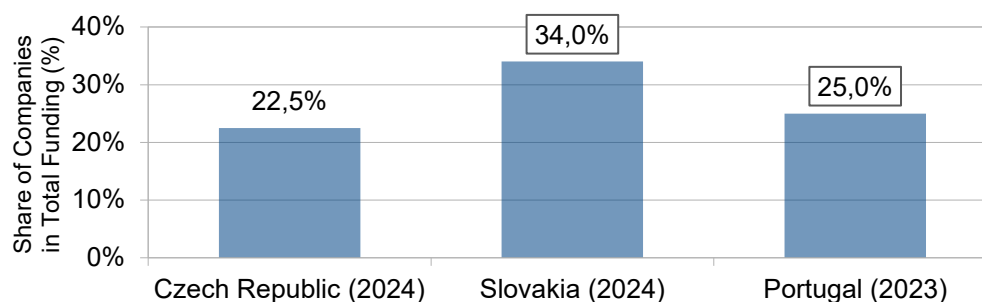
3.2 Institutional Involvement and Sectoral Structure

In the Czech Republic, HE funding is primarily absorbed by universities and research institutes main recipients include Masaryk University, Charles University, and CTU (European Commission, n.d.). A similar pattern is observed in Slovakia, led by STU Bratislava and TU Košice, though with significantly lower participation and funding levels (SLORD, 2024). The business sector’s share differs: about 20–25 % in the Czech Republic and approximately 34 % in Slovakia, see Figure 4. These variations may relate to SME participation, project office quality, or the focus of specific calls. Portugal, detailed sectoral data is limited, but most funding goes to a few research centers, mainly in the Lisbon area indicating a similar concentration model as in Czechia and Slovakia, with academic dominance and limited regional diversification.

² Participation refers to each individual involvement of an organization in a project (an organization may participate in multiple projects); organization is counted only once, regardless of the number of participations

³ Data for Portugal are from 2022, while data for the other countries are from 2024.

Figure 4 Estimated share of businesses in total funding



Source: Own processing⁴

3.3 Regional Disparities in Fund Allocation

In the Czech Republic, over 70 % of HE funding goes to Prague (€249 million) and Brno (€105 million), while regions like Olomouc (€22 million) and České Budějovice (€11 million) lag behind (TC AV ČR, 2024).

A similar pattern appears in Slovakia, where most funds are concentrated in Bratislava, with minimal involvement from eastern and rural areas (SLORD, 2024; STU, n.d.).

In Portugal, funding is heavily centered in Lisbon, with limited participation from other regions reflecting a *rural–urban divide* linked to institutional capacity (Santos & Conte, 2023).

The *European Commission* (2023) calls for stronger RIS3 strategies and capacity-building in less-developed regions, but implementation remains limited in all three countries.

3.4 Context and Structural Barriers – Draghi’s Warning

In his report on European competitiveness, Mario Draghi (2024) highlights persistent structural weaknesses lack of cohesion, underfunding, and the absence of global tech leaders. He notes that no European company has reached a market capitalization of €100 billion in the past 50 years (p. 3).

His call for reform stands in sharp contrast to the continued disintegration of innovation policies and the lack of strategic coordination across EU member states.

Given his former roles as President of the ECB and Prime Minister of Italy, it is legitimate to ask why such reforms were not initiated earlier at a time when the problems were already visible but arguably more manageable.

4 Discussion and Recommendations

Differences in HE success depend less on country size and more on institutional readiness, project capacity, international partnerships, and motivated teams.

4.1 Barriers to Effective Participation

Participation in Horizon Europe is hindered by several interrelated barriers: concentration of funding in capital regions, low engagement from peripheral areas, and uneven business involvement. These are not isolated problems. They reflect a deeper misalignment between national strategies and implementation capacity. Despite rhetorical commitments to innovation (e.g., RIS3), actual investments remain insufficient, regional capacities weak, and internationalization superficial. As Draghi (2024) notes, Europe's innovation ambitions suffer from lack of leadership and operational follow-through.

⁴ The estimated 25% business share in Portugal is based on ANI (2023), referencing a broader funding volume of €500M. This figure is not directly comparable to the €176M reported in the *Horizon Dashboard* (Oct 2022, see Figure 1), which reflects the net EU contribution from approved grants. Portuguese data refer to 2023; Czech and Slovak figures are from 2024.

4.2 Recommendations

The results show that improving participation in Horizon Europe requires a combination of national and EU-level measures aimed at strengthening institutional capacity, regional balance, and business engagement. To ensure the recommendations move beyond general analysis, this section outlines practical steps and mechanisms that can be applied by national authorities and relevant institutions.

National level:

- Invest in research infrastructure outside capitals
 - Identifying regional centres of excellence within existing RIS3 priorities and supporting their project offices
 - Developing shared research infrastructure accessible to universities, firms, and public institutions
 - Establishing national co-funding schemes for Horizon Europe projects in regions with weaker absorptive capacity
- Support project preparation (training, mentoring, co-financing)
 - Expanding training and mentoring programmes focused on consortium building and administrative requirements
 - Providing small preparatory grants (seed funding) for concept development, partnership building, and pilot activities
 - Strengthening the role of national contact points and regional innovation centres in project support
- Boost business involvement through targeted incentives and R&D links
 - Introducing fiscal or financial incentives for firms participating in Horizon Europe consortia
 - Supporting joint research teams linking academic laboratories with private companies
 - Establishing sector-specific platforms that identify business needs and connect them with relevant Horizon Europe calls
- Ensure consistent monitoring of the effectiveness of support measures. To guarantee that public support leads to measurable improvements in research capacity, and does not merely reward administrative proficiency, it is essential to systematically evaluate outcomes achieved with allocated resources. This may include:
 - Monitoring project outputs such as publications, patents, partnerships, and regional impact
 - Providing structured feedback loops between funding authorities and project Teams
 - Promoting evaluation models that distinguish genuine scientific or innovation impact from activities focused primarily on proposal administration

EU level:

- Simplify administrative burden of Horizon Europe
 - Further standardisation of reporting tools, closer alignment with national information systems, and broader use of uniform contractual templates
- Target calls to less developed regions
 - Reserving specific calls or introducing preferential conditions such as higher funding rates or additional evaluation points for applicants from structurally weaker areas
- Promote know-how transfer (mentoring, twinning)
 - Strengthening institutional capacity by linking less experienced organisations with leading counterparts through twinning and related instruments

If implemented consistently, these measures can contribute to greater regional balance, more effective use of resources, and stronger national capacity to meet the EU's strategic objectives in research and innovation.

4.3 The Question of Strategic Governance

Low participation efficiency reflects a deeper failure of strategic governance fragmentation, poor coordination, and administrative overload remain unresolved.

Draghi (2024) clearly identifies these issues, but the EU needs more than strategy it needs the will to act. Without accountability and regional inclusion beyond capital hubs, the EU's ambition to be a tech leader will remain rhetorical, not real.

5 Limitations

This study is based on secondary data and a comparative approach, which come with inherent constraints.

5.1 Methodological Limitations

Data are not fully synchronized, Czech and Slovak figures are from 2024, Portuguese only up to 2022/2023. Subnational data vary in detail, limiting comparability.

The quantitative focus cannot capture project quality or long-term impact. Some indicators such as business share are estimates; this reduces precision. A simple descriptive approach was deliberately chosen with regard to the format of the conference paper and the purpose of the comparative analysis.

5.2 Content Limitations

The study focuses solely on HE, excluding other instruments (for instance ERDF, Digital Europe), which narrows the view of national innovation systems.

Strategic documents, including RIS3 and the Draghi report, are used as interpretive frameworks, their actual policy impact may be limited.

Geopolitical aspects (e.g., technological sovereignty, research security) are not addressed; the focus remains on structural and institutional participation in HE.

6 Conclusion

The comparative analysis of the participation of the Czech Republic, Slovakia, and Portugal in the HE program confirmed significant differences in engagement levels, institutional readiness, and the ability to utilize EU instruments for supporting research and innovation. Among the three, the Czech Republic shows the strongest performance, especially in terms of total funding received and the number of participating organizations. Slovakia and Portugal lag behind, each facing different types of structural limitations.

However, the differences are not purely quantitative. The findings emphasize that the ability to benefit from EU framework programs depends less on formal access and more on internal capacity both institutional and human. Successful participation is not merely a result of technical expertise but also of long-term strategy, effective management, and coordination across actors. This interpretation is derived from comparative patterns in funding distribution, institutional structures, and national performance rather than from direct evaluation of project-level practices.

A critical observation is the uneven geographical distribution of research activity. All three countries show a strong concentration of funding in a few metropolitan areas, while regions outside the main centers remain marginal to the innovation system. This imbalance challenges the practical fulfillment of the principles of regional cohesion and smart specialization, frequently emphasized in EU strategies.

Mario Draghi's 2024 report aptly identifies the structural problems of the European innovation framework: fragmentation, slow decision-making, and weak strategic governance. However, it is also worth noting that Draghi, as a long-serving governor of the European Central Bank and briefly as Italian Prime Minister of a founding EU member state, had opportunities to address these systemic weaknesses at a time when they were less acute than today.

If the European Union is to remain competitive with global leaders in research and innovation, it must move from analysis to implementation. This requires strengthening national support structures and deeper reform of the EU framework itself simplifying rules, supporting less-developed regions, and firmly linking strategic goals with concrete actions.

The future of European competitiveness will not be decided solely by the amount of money spent, but by how effectively these resources are managed, shared, and targeted. That is the real test of European innovation policy.

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