

BUILDING A MORE COMPETITIVE AND SMARTER EUROPE AS A GOAL OF THE COHESION POLICY OF THE EUROPEAN UNION – THE PERSPECTIVE OF THE POLISH ECONOMY

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Purpose: The primary objective of this article is to illustrate the strategic goals outlined in the European Union's cohesion policy PO1, "A more competitive and smarter Europe" in the context of Poland for the period 2021-2027, and provide an overview of the initial experiences of Poland in implementing these goals. A secondary objective is to present the features and evaluate the European Union's cohesion policy concerning support for research and innovation (R&I), particularly within the programming period of 2021-2027.

Design/methodology/approach: The research employed various methods, including a literature analysis focusing on EU funds, cohesion policy and innovation, an analysis of EU strategic and programming documents for the period 2021-2027, as well as analysis of the financial data contained therein, mainly relating to the area of "A more competitive and smarter Europe". This specific area, constituting a key aspect of the EU cohesion policy, serves as the primary focus of the study, with particular attention given to its application in Poland. The deductive method was employed for reasoning, and the research findings were presented using graphical methods.

Findings: The funding allocated to R&I in the EU has been progressively increasing. In the period from 2000 to 2006, the allocation was approximately EUR 26 billion, and for the years 2021-2027, there is a planned investment of EUR 137.5 billion in this area. These funds are designated to be utilized under one of the five objectives of the EU cohesion policy for 2021-2027, specifically PO1, known as "A more competitive and smarter Europe". The implementation of the PO1 objective aims to bridge the innovation and digital divide across the EU. In Poland, a substantial investment of EUR 16,046 billion is earmarked to achieve this goal. The initial competition organized in Poland under the SMART path has demonstrated significant interest in these funds, presenting an opportunity to enhance the country's innovativeness.

Research limitations/implications: The research faced limitations, particularly in maintaining the consistency of homogeneous financial data. The primary source utilized was the Cohesion Data Platform, chosen for its up-to-date information. Another constraint was the nascent stage

of competitions for EU funding under SMART paths, which significantly restricted the availability of research material.

Practical implications: The research can be used by potential beneficiaries of EU funds to create innovative projects that can be submitted to subsequent SMART competitions in the future.

Originality/value: Considering that the topic revolves around a relatively recent subject, namely Smarter Europe in the 2021-2027 perspective, and is grounded in the most current data available as of the end of 2023, the article contributes to both domestic and foreign literature on the subject of subsidy support instruments directed towards enterprises through state institutions.

Keywords: a more competitive and smarter Europe, Cohesion Policy, EU funds, competition SMART in Poland.

Category of the paper: research paper.

1. Introduction

The trend accompanying shifts in European Commission policies in recent years clearly reflects a strong commitment to enhancing support for EU Member States in developing sustainable and competitive economies. International competitiveness for the European economy is defined by its capacity to leverage participation in the global division of labor, foster wealth and prosperity, and increase productivity.

Research on the competitiveness of the European economy, conducted over several years, indicates that Europe is facing challenges in the competition for global markets, not only against the United States and Japan. Over the last two decades, East Asian countries, including China and India, have emerged as some of the most competitive economies globally (Dicken, 2012).

Enhancing the competitiveness of the European economy has been a key objective of successive strategies implemented within the EU, including the Lisbon Strategy and Europe 2020. These strategies have been accompanied by adjustments in cohesion policy, which, through its initiatives, aimed to foster the development of a dynamic and competitive economy.

The new financial perspective for 2021-2027 encompasses a range of programs implemented with funds from the European Union (EU). It primarily centers on economic, social, and territorial cohesion, as well as natural resources and the environment. The key elements are:

- greater European cohesion with a larger budget,
- synergy and unification of programs under uniform regulations,
- efficiency and more targeted use of EU funds,
- strong emphasis on the topics of sustainable development, environment and climate, and digitalization.

In Poland, EU programs encompass the European Funds for the Modern Economy, Infrastructure, Climate and Environment, Digital Development, Eastern Poland, Social Development, as well as Technical Assistance and the Just Transition Fund (Małek et al., 2021, pp. 29-30; Sapała, 2021, pp. 27-35). The budget allocated for Poland in the 2021-2027 programming period is approximately EUR 76 billion. Notably, a significant portion of this budget is designated for the development of the Modern Economy (FENG, 2022). This priority involves earmarking PLN 36 billion for research and development, innovative projects, and initiatives aimed at enhancing the competitiveness of the Polish economy. The FENG program is anticipated to benefit around 17.6 thousand enterprises, potentially leading to the creation of over 14.5 thousand new jobs.

The primary objective of this article is to illustrate the strategic goals outlined in the European Union's cohesion policy PO1, "A more competitive and smarter Europe" in the context of Poland for the period 2021-2027, and provide an overview of the initial experiences of Poland in implementing these goals. The first competition in the new perspective was the SMART competition, hence the article presents the first Polish statistics and experiences. Additionally, the article aims to outline and assess the characteristics of the European Union's cohesion policy, with a specific emphasis on its role in supporting research and innovation, particularly pertinent within the context of the 2021-2027 programming period. The topics addressed pertain to a relatively novel subject, denoted as "Smarter Europe" within the 2021-2027 timeframe, and draw upon the latest data available as of the conclusion of 2023. Consequently, this article serves as a supplementary contribution to the existing literature concerning subsidy support mechanisms aimed at businesses through governmental entities.

2. Literature review

The European Union stands out as the most significant and influential among all international economic integration schemes (El-Agraa, 2015). This prominence is attributed to several distinctive features of the group. Facilitated by the Single European Market (SEM), the EU enables the unrestricted movement of people, goods, services, and capital (both monetary and establishment rights) across its member states. Moreover, the European Union allocates funds and resources through a variety of channels, including funds, programs, and financial instruments.

EU funds play a pivotal role in bolstering development in Member States, exerting direct and indirect influence on various facets of society. Their impact on development is substantial, encompassing diverse aspects of social, economic, and environmental well-being. Moreover, these funds play a crucial role in supporting the endeavors of Member States towards attaining a more sustainable and prosperous future (Šostar et al., 2023).

It is indicated that co-financing projects supported by EU funds significantly influences the ongoing development of specific regions, facilitating the realization of numerous development initiatives (Florkowski, Rakowska, 2022). European Union funds serve as an accessible financing source for a range of project ideas, playing a role in fostering sustainable socio-economic development at the local, regional, and national levels. The literature provides evidence suggesting that financial disbursements from EU funds correlate with reduced Eurosceptic sentiments (Crescenzi et al., 2020).

The heightened focus on innovation development within the EU in recent years stems not only from a shared understanding of the pivotal role innovation plays in economic advancement but is also substantiated by macroeconomic data indicating that Europe lags behind its principal global competitors in research and development expenditure. An additional rationale is grounded in the knowledge that innovations can contribute up to 80% of economic growth in developed countries, with investments in innovation in less developed countries seen as enhancing export outcomes in sectors crucial for bolstering enterprise competitiveness and domestic demand (Mendez et al., 2013). It was evident that the future of the EU was intricately linked to the support and cultivation of innovation. Thus, the amount of financial resources allocated to research and innovation in the European Union is gradually increasing. Since 2000, the investments in research and innovation (R&I) under Cohesion Policy have grown exponentially: from €26 billion in the 2000-2006 period to over €86 billion (about 25 percent of the ESIF) in 2007-2013, to €121 billion in the 2014-2020 period (about 30 percent of the ESIF) (Polverari, Dozhdeva, 2018). In turn, in the EU Multiannual Financial Framework for 2021-2027, EUR 137.5 billion was planned for the priority of innovation and digital economy alone (Council of the European Union, 2021).

Despite changes in Poland's approach to EU funds over the years, the combination of institutional potential and efficient management has been crucial in achieving a high level of utilization of funds from EU sources (Bachtler, McMaster, 2008). Research indicates that all regions in Poland have prioritized the development of human capital and innovation, resulting in a substantial increase in the effectiveness of EU funds (Jagódka, Snarska, 2021). Additionally, Murzyn (Murzyn, 2020) demonstrated that the intelligent development of regions in Poland experienced a substantial boost through the utilization of EU funds.

The predominant share of EU funds is allocated in the form of non-repayable support, i.e. subsidies. The amount of these subsidies is primarily contingent on various factors: the type of beneficiary, the nature of the project, and, for entrepreneurs, the size of the entity and the region where the project is executed, along with the specific support instrument employed. A beneficiary whose project has received a positive assessment of the application and who is granted funds may, by implementing the project, count on co-financing of part of the costs considered eligible for a given support instrument. Consequently, subsidies are regarded as a viable option for companies to finance investments characterized by a specific cost structure.

It is important to note that only costs meeting specific criteria and features are eligible for co-financing (Ministerstwo Funduszy i Polityki Regionalnej, 2022).

The primary motivation behind providing subsidies is to alleviate the financial constraints faced by enterprises, particularly small and medium-sized enterprises, and assist them in making impactful investments that enhance their technologies (Muraközy, Telegdy, 2023), thereby supporting and promoting economic growth.

3. Materials and Methods

The article delves into the topic of European Union funds, with a particular emphasis on EU cohesion policy. It provides an overview of the essence and general characteristics of the cohesion policy, considering both strategic and specific goals within the 2021-2027 timeframe. The first strategic objective, PO1 "A more competitive and smarter Europe", undergoes a detailed analysis. Subsequently, the article illustrates the assumptions of the PO1 strategic goal for Poland, offering the initial Polish statistics and experiences related to the implementation of this goal, with a specific focus on R&I.

The research aligns with the programming period of EU funds for 2021-2027, with the initial statistics from the SMART competition for Poland available for the year 2023. The territorial scope of the research encompasses the entire European Union, with a more in-depth description of the PO1 goal specifically provided for Poland.

The research material primarily relied on factual data sourced from the EU Cohesion Open Data Platform database and information extracted from EU strategic and program documents. Additionally, public statistics from Eurostat and Statistics Poland were incorporated. The research employed various methods, including a literature analysis focused on EU funds, cohesion policy, and innovation, an analysis of EU strategic and programming documents for the period 2021-2027, involving an examination of the data included in them, particularly financial information, predominantly related to the domain of "A more competitive and smarter Europe". This specific area, integral to the EU cohesion policy, served as the primary focus of the study, with a distinct emphasis on Poland. The deduction method was additionally employed for reasoning, and the research findings were communicated through graphical methods.

The research encountered limitations, primarily stemming from challenges in ensuring the consistency of homogeneous financial data. The primary reliance on the Cohesion Data Platform was due to its regular updates. The data in this database is frequently updated, and thus may not always align with previously published program documents. Another limitation was the fact that competitions for EU funding under SMART paths started in 2023, which significantly limited the research material. Therefore, this is an argument for continuing research in the future.

4. Results

4.1. Goals and essence of the European Union's Cohesion Policy for the period 2021-2027

In the new perspective, the European Union's cohesion policy outlines five overarching goals: (1) A more competitive and smarter Europe; (2) A greener and lower-carbon transition to a net-zero carbon economy; (3) A more connected Europe through increased mobility; (4) A more social and inclusive Europe; (5) Europe closer to citizens by supporting the sustainable and integrated development of all types of territories (European Parliamentary, 2023, p. 7). These goals are formulated in a concise, contemporary, and broad manner, emphasizing support for growth and addressing the developmental needs of Member States and their regions, irrespective of their socio-economic status. The first four goals are sectoral in nature, while the last goal is territorial (see table 1).

Table 1.

The objectives of the EU cohesion policy in the period 2021-2027

No.	Strategic objectives	Specific objectives	Nature of the objectives
PO1	A more competitive and smarter Europe	1.1. developing and enhancing research and innovation capacities and the uptake of advanced technologies; 1.2. reaping the benefits of digitisation for citizens, companies, research organisations and public authorities; 1.3. enhancing sustainable growth and competitiveness of SMEs and job creation in SMEs, including by productive investments; 1.4. developing skills for smart specialisation, industrial transition and entrepreneurship; 1.5. enhancing digital connectivity;	sectoral
PO2	A Greener, carbon free Europe	2.1. promoting energy efficiency and reducing greenhouse gas emissions; 2.2. promoting renewable energy (...); 2.3. developing smart energy systems, grids and storage outside the Trans-European Energy Network (TEN-E); 2.4. promoting climate change adaptation and disaster risk prevention and resilience, taking into account eco-system based approaches; 2.5. promoting access to water and sustainable water management; 2.6. promoting the transition to a circular and resource efficient economy; 2.7. enhancing protection and preservation of nature, biodiversity and green infrastructure, including in urban areas, and reducing all forms of pollution; 2.8. promoting sustainable multimodal urban mobility, as part of transition to a net zero carbon economy;	sectoral
PO3	A more Connected Europe	3.1. developing a climate resilient, intelligent, secure, sustainable and intermodal TEN-T; 3.2. developing and enhancing sustainable, climate resilient, intelligent and intermodal national, regional and local mobility, including improved access to TEN-T and cross-border mobility;	sectoral

Cont. table 1.

PO4	A more Social Europe	<p>4.1. enhancing the effectiveness and inclusiveness of labour markets and access to quality employment through developing social infrastructure and promoting social economy;</p> <p>4.2. improving equal access to inclusive and quality services in education, training and lifelong learning through developing accessible infrastructure, including by fostering resilience for distance and on-line education and training;</p> <p>4.3. promoting the socioeconomic inclusion of marginalised communities, low income households and disadvantaged groups, including people with special needs, through integrated actions, including housing and social services;</p> <p>4.4. promoting the socio-economic integration of third country nationals, including migrants through integrated actions, including housing and social services;</p> <p>4.5. ensuring equal access to health care and fostering resilience of health systems, including primary care, and promoting the transition from institutional to family-based and community-based care;</p> <p>4.6. enhancing the role of culture and sustainable tourism in economic development, social inclusion and social innovation;</p>	sectoral
PO5.	A Europe closer to citizens	<p>5.1. fostering the integrated and inclusive social, economic and environmental development, culture, natural heritage, sustainable tourism and security in urban areas;</p> <p>5.2. fostering the integrated and inclusive social, economic and environmental local development, culture, natural heritage, sustainable tourism and security in areas other than urban areas.</p>	territorial

Source: own work based on: Regulation (EU) 2021/1060 of the European Parliament and of the Council, of 24 June 2021 (art.5); Regulation (EU) 2021/1058 of the European Parliament and of the Council, also of 24 June 2021 (art. 3).

In the 2021-2027 perspective, the European Union has earmarked EUR 378 billion for cohesion policy. When combined with national co-financing from both public and private sources, the total budget reaches EUR 545 billion (European Commission, 2023a).

During the reviewed period, expenditure on cohesion policy averages around 0.2% of the EU GDP per year, exhibiting notable national variations. The average annual aid intensity for the discussed financial perspective is estimated to range from EUR 10 per person in Luxembourg to EUR 366 per person in Estonia. The EU-27 average stands at EUR 118 per person, while for Poland, this indicator is EUR 280 per person. Once again, the funding from cohesion policy is notably concentrated on less developed regions and EU Member States. In less developed regions (where GDP per capita is less than 75% of the EU average), the average support intensity per capita is approximately EUR 207 per year. In more developed regions (where GDP per capita is above 100% of the EU average), this amount is EUR 21 per person. This substantial difference serves to mitigate disparities in the development of EU regions (Christou et al., 2023).

In the period 2021-2027, the allocated funds are designed to contribute to: making Europe more competitive and smarter through innovation and support for small and medium-sized enterprises, as well as digitization and digital connectivity, developing and improving research and innovation, capabilities and the use of advanced technologies, seeking to leverage digitalization for the benefit of citizens, businesses, research organizations and public authorities, strengthening the sustainable growth and competitiveness of SMEs and creating

jobs in SMEs, including through productive investment, developing skills for smart specialization, industrial transformation and entrepreneurship, and improving digital connectivity (CESIE, 2021).

The simulations conducted suggest that the invested funds under the EU cohesion policy for the period 2021-2027 are anticipated to yield the following effects in the future (Christou et al., 2023):

- Cohesion policy interventions would increase the EU's GDP by 0.5% by the end of the implementation period in 2029 (versus a no-cohesion policy scenario);
- Their structural effect on the target economies means that their impact will continue long after the programmes have been terminated, with GDP remaining at 0.3% above its initial level in 2050;
- 25 years after the beginning of the programming period, each euro spent on the policy will have generated EUR 2.8 of additional GDP in the EU, which corresponds to an annual rate of return of around 3.4%;
- The policy will also boost the labour market, with an increase in employment of 0.64% in 2027, which corresponds to about 1.3 million additional jobs.

4.2. A more competitive and smarter Europe

As part of the implementation of the P01 goal "A more competitive and smarter Europe", support will be provided for scientific research and innovation aimed at eliminating the innovation and digital divide throughout the EU. A total of over EUR 117.2 billion has been allocated for this purpose, with EU funding amounting to over EUR 75.7 billion. The co-financing structure for individual specific objectives under P01 is as follows: Enhancing research and innovation – 48.1%; Growth and competitiveness of SMEs – 32.1%; Reaping the benefits of digitisation – 14.5%; Digital connectivity – 3.0% and Skills for smart specialisation and transition – 2.3% (see fig. 1).

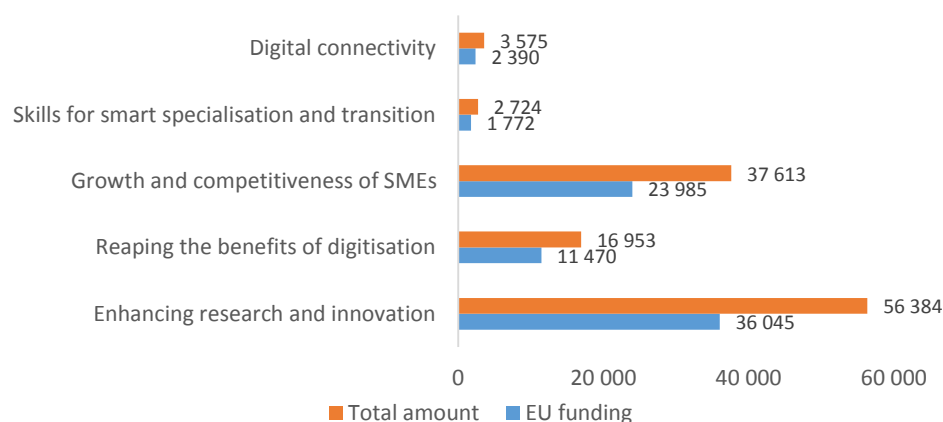


Figure 1. The budget P01 A more competitive and smarter Europe divided into specific objectives, including EU funding (in euro).

Source: own study based on: Cohesion Policy 2021-2027 outcome of programming.

It is estimated that under the Smart Europe strategic goal, financial support will be extended to approximately 725,000 enterprises engaged in activities aimed at fostering smart growth. The program beneficiaries will also include researchers who will gain access to enhanced facilities and new equipment for research and innovation. The direct advantages of the P01 implementation will also extend to the residents of the European Union, who will benefit from a fast mobile network and fixed digital infrastructure. Furthermore, selected public administration entities will undergo digitization (see Fig. 2).

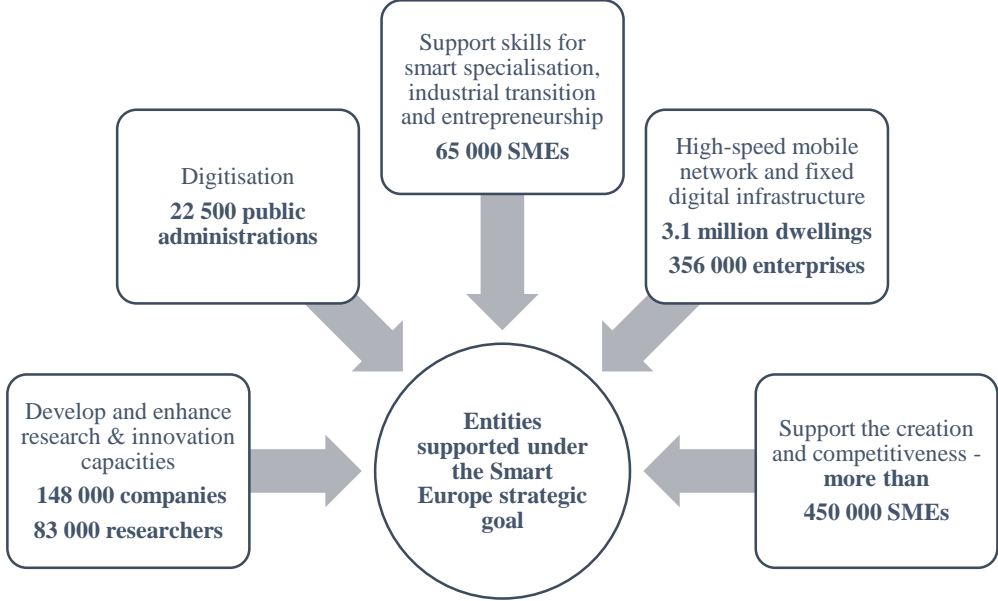


Figure 2. Entities supported under the Smart Europe strategic goal

Source: own study based on: Cohesion Policy 2021-2027 outcome of programming.

The budget value of PO1 Smarter Europe ranks third, following PO4 Social Europe (EUR 167.1 billion) and PO2 Greener Europe (EUR 128.9 billion), underscoring the significance of this area for the future of the EU.

4.3. Smart Poland

Poland is set to receive the largest budget for the implementation of cohesion policy in the period 2021-2027 among all EU member states, with a total amount exceeding EUR 92 billion. For comparison, Italy follows with €74.1 billion, and Spain with €52.6 billion (European Commission, 2023b).

To achieve the goals under P01 Smart Europe, Poland will receive EU funding of EUR 16,046 billion in the 2021-2027 perspective. Only Spain will receive more in this area, i.e., EUR 16,689 billion. Financial resources under the PO1 objective will be invested in Poland across four specific objectives, with as much as 55.1% allocated to Enhancing research and innovation (see Fig. 3).

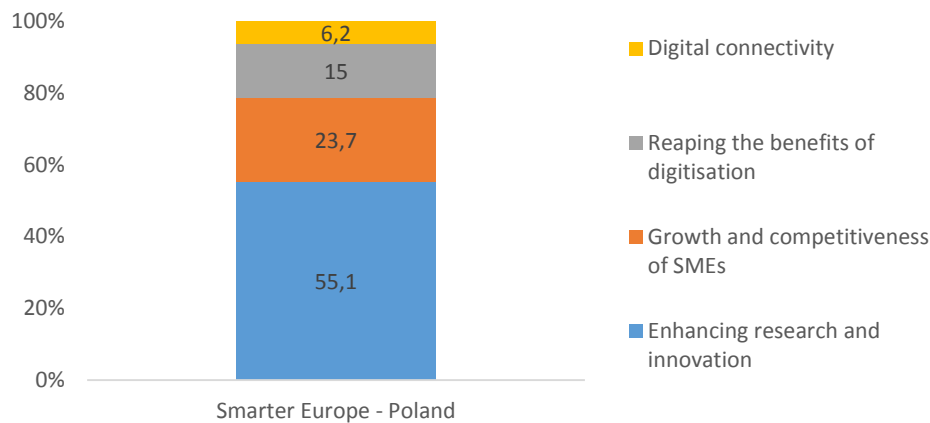


Figure 3. The structure of the Smart Europe budget in Poland (%).

Source: own study based on: Cohesion Open Data Platform (2023).

The primary program for Poland implementing the PO1 "More Competitive and Smarter Europe" goal is the European Funds for Smart Economy 2021-2027 (FENG, 2022). These initiatives will facilitate the execution of innovative research and development projects aimed at enhancing the competitiveness of the Polish economy. The program primarily targets entrepreneurs, the science sector, consortia of entrepreneurs, and consortia of entrepreneurs collaborating with research organizations and business environment institutions (such as entrepreneurship centers, innovation centers, and financial institutions). FENG's total budget is PLN 37.1 billion (EUR 7.9 billion).

The inaugural competition announced under the Smarter Europe Priority was the SMART competition, jointly organized by the Polish Agency for Enterprise Development (PARP) and the National Center for Research and Development (NCBiR). The SMART's objective is to develop and reinforce the research and innovation capabilities of enterprises, aimed at implementing product or process innovations, fostering the digitization and transformation of enterprises toward sustainable development, promoting the internationalization of enterprises, and enhancing the competences of staff (Ścieżka SMART, 2023). With a multi-modular approach, the competition aims to provide support to enterprises across various areas of activity. Assistance under the SMART Path may be granted for the implementation of projects such as conducting research and development work, implementing the results of R&D work, expanding research infrastructure, facilitating the digital or green transformation of enterprises, supporting internationalization efforts, and improving staff competences.

In 2023, PARP announced the first competitive call for applications for funding from the SMART Path under the European Funds for a Modern Economy Program (FENG), ending the recruitment of applications in May 2023. The competition enjoyed considerable interest among entrepreneurs, as shown by its statistics. Entrepreneurs submitted 1,540 applications for a total amount of PLN 15,189,712,000.43. Moreover, when the SMART Path was announced, by the end of the recruitment process, hotline consultants and PARP experts served almost 11,000 consultations regarding the competition. Subsequently, the projects were subjected to a multi-

faceted assessment by expert teams. The projects submitted in the call for proposals were assessed substantively in accordance with the project selection criteria. 198 projects received a positive assessment.

5. Discussion

The productivity and innovativeness of the Polish economy are crucial factors in narrowing the gap in GDP per capita compared to the EU-28 countries. In 2018, labor productivity reached 63% of the EU average, a notable improvement from the 50% recorded in 2010. However, despite significant growth over the past decade, it still falls below the EU average (*Założenia Do Umowy Partnerstwa Na Lata 2021 -2027*, 2019, p. 4). Strengthening support in this priority is essential for the continued development of the Polish economy.

According to the latest (Eurostat, 2023) research and development expenditure in 2021 for EU Member States increased by 6% compared to 2020, reaching a total of EUR 328 billion. Poland is among the five countries that have experienced a notable rise in the intensity of research and development expenditure over the last decade. However, in Poland, these expenditures remain below the EU average.

Research serves as a pivotal catalyst for innovation, and the monitoring of research and development spending, along with its intensity (R&D expenditure as a percentage of GDP), serves as two essential indicators for comparing countries based on their commitment to development. In 2021, Poland witnessed an increase in expenditure on research and development (GERD) in relation to GDP, reaching 1.44% of GDP, and enterprise expenditure (BERD) rose to 0.91% of GDP. In terms of R&D expenditure intensity, Poland is approaching levels comparable to Spain – 1.43% of GDP, Italy – 1.49% of GDP, and Greece – 1.44% of GDP. However, these figures still lag behind the most innovative EU countries, such as Sweden – 3.35% of GDP, Austria – 3.32% of GDP, Belgium – 3.19% of GDP, and Germany – 3.13% of GDP (Eurostat, 2023).

In recent years, the number of individuals engaged in R&D activities in Poland has experienced significant growth. In 2021, compared to the previous year, it rose by 7.8% to reach 305.6 thousand people, marking a nearly 28% increase over the past five years. Notably, in 2021, for the first time, over half of the R&D staff were employed in enterprises (GUS, 2022). This shift signifies that enterprises will become the primary source of innovation in the Polish economy in the coming years. Given the strong correlation between innovation and competitiveness, the ability to generate competitive products and services is directly linked to an innovative advantage.

The Global Innovation Index (GII), which categorizes world economies based on their innovation capabilities, positioned Poland at the 41st place among the 132 economies included in the Global Innovation Index 2023 ranking. Additionally, Poland holds the 36th position among the 50 economies in the high-income group. Within the European context, Poland is ranked 26th among the 39 European economies (Dutta et al., 2023).

Table 2.
Poland GII Ranking (2020-2023)

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	38th	38th	40th
2021	40th	37th	42nd
2022	38th	41st	36th
2023	41st	50th	36th

Source: Global Innovation Index 2023.

The statistical confidence interval for Poland's ranking in GII 2023 falls within the range of 39-42. In 2023, Poland exhibits stronger performance in terms of innovation outcomes compared to innovation expenditures. Specifically, Poland is ranked 50th in terms of expenditure on innovation, a position lower than the previous year. However, in terms of innovative results, Poland maintains its 36th position, consistent with the previous year (Dutta et al., 2023). This state of affairs certainly justifies allocating significant financial resources to the goal of supporting innovation in the Polish economy. Therefore, if Poland hopes to continue to grow or even accelerate its pace of development, it should now strive to improve its levels of productivity and innovation. Poland's potential for further growth is significant (Waląg, 2023). However, it depends on many factors, including: the level of investment, innovation, human capital and the country's resilience to external factors. The incoming funds from the European Union provide an opportunity for dynamic development, provided they are properly used.

6. Conclusions

The limited innovativeness of the Polish economy compared to other developed nations underscores the pressing need for immediate action to rectify this unfavorable situation. For years, the insufficient allocation of funds from the national budget to R&D development has hindered efforts to enhance the competitiveness of the Polish economy. The increase in production costs, including primarily wages and energy costs, means that the offer of Polish producers and service providers is no longer as price competitive as in previous years. Competitiveness predicated on low prices is now the purview of developing countries, posing a challenge for Polish entrepreneurs attempting to stay competitive. Consequently, it is imperative to explore alternative strategies to foster the long-term competitiveness of the

Polish economy. Similar challenges confront the entire European economy, which is gradually losing competitiveness in comparison to the economies of the USA, Japan, China, and India.

This challenge is to be addressed by promoting innovation in the European economy using cohesion funds in the 2021-2027 perspective. The advancement of a smart economy is also viewed as a means to equalize the level of socio-economic development among regions in the EU. It aims to leverage endogenous potentials, supported by the outcomes of R&D efforts, to expedite the development of regions with significantly lower GDP per capita than the EU average.

In 2023, political issues constrained Polish entrepreneurs from fully capitalizing on support for projects enhancing their innovation and competitiveness. Towards the end of 2023, Poland was on the verge of initiating the utilization of EU funds under the 2021-2027 financial perspective, marking the commencement of various competitions for project co-financing, calls for applications, expert evaluations, and subsequent project implementations co-financed from EU funds. The substantial interest in the competition organized by PARP suggests a high level of interest from the enterprise sector in securing funds for the commercialization of R&D initiatives.

The anticipation is that in the upcoming years, the funds allocated to Poland under SMART will be invested in employment, economic growth, and European territorial cooperation, aligning with the five primary objectives of cohesion policy. These objectives aspire to foster a more competitive, smarter, greener, better-connected, and socially inclusive Europe. Continuous monitoring of the progress toward achieving these goals is of utmost importance.

Hence, it is imperative to persist in future research efforts. Subsequent research endeavors should encompass a comprehensive examination of implemented EU projects, an assessment of the efficacy and efficiency of both EU and national funds (both public and private) expended, and an evaluation of the extent to which the designated objectives of EU cohesion policy, particularly the strategic goal "A more competitive and smarter Europe", have been achieved. Prioritizing research and innovation across EU member states remains pivotal in the pursuit of constructing a smart and competitive economy.

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References

1. Bachtler, J., McMaster, I. (2008). EU Cohesion Policy and the Role of the Regions: Investigating the Influence of Structural Funds in the New Member States. *Environment and Planning C: Government and Policy*, 26(2), 398–427. <https://doi.org/10.1068/c0662>
2. CESIE. (2021). *Funding Opportunities 2021-2027*. CESIE. <https://cesie.org/en/funding-opportunities-2021-2027/>
3. Christou, T., Crucitti, F., Garcia, R.A., Lazarou, N., Monfort, P., Salotti, S. (2023, May 25). *The RHOMOLO ex-ante impact assessment of 2021-2027 cohesion policy*. JRC Publications Repository. <https://publications.jrc.ec.europa.eu/repository/handle/JRC133844>
4. *Cohesion Open Data Platform, European Commission* (2023). Retrieved from: <https://cohesiondata.ec.europa.eu/>, 10.12.2023
5. *Cohesion Policy 2021-2027 outcome of programming*. Retrieved from: <https://cohesiondata.ec.europa.eu/stories/s/Outcome-of-2021-2027-programming-cohesion-policy/d6tf-zqvc/>, 15.11.2023.
6. Council of the European Union (2021). *Multiannual financial framework 2021-2027 and Next Generation EU*. <https://www.consilium.europa.eu/en/infographics/mff2021-2027-ngeu-final>
7. Crescenzi, R., Di Cataldo, M., Giua, M. (2020). It's not about the money. EU funds, local opportunities, and Euroscepticism. *Regional Science and Urban Economics*, 84, 103556. <https://doi.org/10.1016/j.regsciurbeco.2020.103556>
8. Dicken, P. (2012). *Global Shift: Mapping the Changing Contours of the World Economy*. *Economic Geography*. https://www.academia.edu/15244764/Global_Shift_Mapping_the_Changing_Contours_of_the_World_Economy_6th_ed_By_Peter_Dicken
9. Dutta, S., Lanvin, B., Rivera León, L., Wunsch-Vincent, S., Organization, W.I.P. (2023). *Global Innovation Index 2023: Innovation in the face of uncertainty*. WIPO Knowledge Repository; World Intellectual Property Organization, <https://doi.org/10.34667/tind.48220>
10. El-Agraa, A.M. (2015). The Importance of the EU. In: A. M. El-Agraa (Ed.), *The European Union Illuminated: Its Nature, Importance and Future* (pp. 231-241). UK: Palgrave Macmillan. https://doi.org/10.1057/9781137533654_8
11. European Commission (2023a). *Commission staff working document, Cohesion 2021-2027: Forging an ever stronger Union, Report on the outcome of 2021-2027 cohesion policy programming*. Brussels, 28.4.2023, SWD(2023) 134 final, part 1/2, https://ec.europa.eu/regional_policy/sources/reports/2021-2027-programming-outcome/report-outcome-2021-2027-cohesion-policy-programming-part1.pdf

12. European Commission (2023b). *Open Data Portal for the European Structural Investment Funds—European Commission | Data | European Structural and Investment Funds*. Tyler Data & Insights. <https://cohesiondata.ec.europa.eu/>
13. European Parliamentary (2023). *Guide to EU Funding—2023 edition | Think Tank | European Parliament*. [https://www.europarl.europa.eu/thinktank/en/document/EPRS_STU\(2023\)747110](https://www.europarl.europa.eu/thinktank/en/document/EPRS_STU(2023)747110)
14. Eurostat (2023). *EU investment in R&D increased to €331 billion in 2021*, <https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20231004-2>.
15. FENG (2022, September 29). *Program Fundusze Europejskie dla Nowoczesnej Gospodarki 2021-2027 (FENG) zatwierdzony przez KE - Ministerstwo Funduszy i Polityki Regionalnej*. <https://funduszeuropejskie.gov.pl/strony/o-funduszach/fundusze-2021-2027/aktualnosci/program-fundusze-europejskie-dla-nowoczesnej-gospodarki-2021-2027-feng-zatwierdzony-przez-ke/>
16. Florkowski, W.J., Rakowska, J. (2022). Review of Regional Renewable Energy Investment Projects: The Example of EU Cohesion Funds Dispersal. *Sustainability*, 14(24), Article 24. <https://doi.org/10.3390/su142417007>
17. GUS (2022). *Działalność badawcza i rozwojowa w Polsce w 2022 roku*. stat.gov.pl. <https://stat.gov.pl/obszary-tematyczne/nauka-i-technika-spoleszenstwo-informacyjne/nauka-i-technika/dzialalnosc-badawcza-i-rozwojowa-w-polsce-w-2022-roku,8,12.html>
18. Jagódka, M., Snarska, M. (2021). The State of Human Capital and Innovativeness of Polish Voivodships in 2004-2018. *Sustainability*, 13(22), Article 22. <https://doi.org/10.3390/su132212620>
19. Małek, M., Kalinowska, A., Korombel, A. (2021). Supralocal development strategy as a development tool for local government units in the European Union financial perspective 2021-2027. *Zeszyty Naukowe Wyższej Szkoły Humanitas Zarządzanie*, 22(3), 29-46. <https://doi.org/10.5604/01.3001.0015.4220>
20. Mendez, C., Wislade, F., Bachtler, J. (2013). *A new dawn for cohesion policy? The emerging budget and policy directions for 2014-20 (Report 4; Vol. 13, Iss. 4)*. University of Strathclyde. <https://strathprints.strath.ac.uk/51522/>
21. Ministerstwo Funduszy i Polityki Regionalnej (2022). *Wytyczne dotyczące kwalifikowalności wydatków na lata 2021-2027*. Minister Funduszy i Polityki Regionalnej.
22. Muraközy, B., Telegdy, Á. (2023). The effects of EU-funded enterprise grants on firms and workers. *Journal of Comparative Economics*, 51(1), 216-234. <https://doi.org/10.1016/j.jce.2022.09.001>
23. Murzyn, D. (2020). Smart growth in less developed regions – the role of EU structural funds on the example of Poland. *Innovation: The European Journal of Social Science Research*, 33(1), 96-113. <https://doi.org/10.1080/13511610.2019.1611418>

24. Regulation (EU) 2021/1060 of the European Parliament and of the Council of 24 June 2021 laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, the Just Transition Fund and the European Maritime, Fisheries and Aquaculture Fund and financial rules for those and for the Asylum, Migration and Integration Fund, the Internal Security Fund and the Instrument for Financial Support for Border Management and Visa Policy, EUR-Lex (2021).
25. Regulation (EU) 2021/1058 of the European Parliament and of the Council of 24 June 2021 on the European Regional Development Fund and on the Cohesion Fund, EUR-Lex (2021).
26. Sapała, M. (2021). Wieloletnie ramy finansowe na lata 2021-2027 i plan na rzecz odbudowy Unii Europejskiej – uwarunkowania negocjacji, przełomowe decyzje i perspektywa zmian. *Studia BAS*, 3(67), 27-44. <https://doi.org/10.31268/StudiaBAS>. 2021.25
27. *Ścieżka SMART* (2023). PARP, <https://www.parp.gov.pl/component/grants/grants/sciezka-smart>.
28. Šostar, M., Ristanović, V., de Alwis, C. (2023). Application of Successful EU Funds Absorption Models to Sustainable Regional Development. *Economies*, 11(9), Article 9. <https://doi.org/10.3390/economies11090220>
29. Waług, P. (2023). Employment growth and innovation in the economy Poland. *Horyzonty Polityki*, 14(47), Article 47. <https://doi.org/10.35765/hp.2295>
30. *Założenia do umowy partnerstwa na lata 2021-2027* (2019). Ministerstwo Inwestycji i Rozwoju Departament Strategii Rozwoju.