

An Integrated Approach to Innovation: the Way of the EU and Poland

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Abstract

Supporting innovation, particularly technological progress, is considered a substantial element of policies towards sustainable development. It is considered that both research and innovation contribute to employment growth, increase prosperity and quality of life. Given the above assumptions and the role of research in the knowledge-based economy, the European Union has decided to create their own innovative policies and instruments of implementation. The paper defines the areas of convergence between cohesion policy and innovation policy implemented by the EU and Polish policy implemented at national and regional level. In Poland, innovation, competitiveness and eco-efficiency play a significant role in the regional disparities and an integrated approach to innovation can provide benefits for both Poland and the EU.

Keywords: EU cohesion policy, regional policy, economic development, innovation

Introduction

The importance of cohesion policy based on sectoral approach and functioning in the background mainstream activity of the European Union after enlargement of its scope (social and economic) of the territorial factor is changing, in accordance with Art. 174 of the Treaty of Lisbon. Moreover, not without significance for the developing foreground and fully converged functionality, in close connection with the perspective of “Europe 2020” are the effects of the European financial crisis (Budd 2013). One of the main objectives of the EU is striving to achieve cohesion in three dimensions.¹ The existing EU financial instruments support this purpose of cohesion policy—i.e., structural funds and all EU actions in other areas (Bachtler and Wren 2006). The cohesion has three dimensions, which is closely related to territorial issues of economic and social policy.²

By adopting the above assumptions, undoubtedly the significant level of existing convergence between cohesion policy and other policies of the European Union and the national level, will soon undergo a clear intensification. In addition, the emphasis on the development paradigm of the European Union will become more apparent in this process. This is consistent with the provisions of Art. 14 the Treaty on the Functioning of the European Union (TFEU),³ which designate cohesion a key value of the EU. From the point of view of the individual, various EU policies, the three aspects of cohesion are not only described by the goal of their functioning, but also often legitimize their pro-development shape (Mendez 2011).

1. See: Preamble to the Treaty of Rome; Title V of the Single European Act; Art. 130a of the Maastricht Treaty; Art. 158 Treaty of Amsterdam; Art. 14, 174–175 Treaty on the Functioning of the European Union; Protocol on economic and social cohesion to the Treaty on European Union.

2. See: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Europe 2020 Flagship Initiative. Innovation Union. SEC(2010) 1161, Brussels, 6.10.2010, COM(2010) 546 final; See: Investing in Europe’s Future. Fifth report on economic, social and territorial cohesion, edited by Eric von Breska, Luxembourg 2010, [[:] http://ec.europa.eu/regional_policy/sources/docoffic/official/reports/cohesion5/pdf/5cr_en.pdf.

3. See: Consolidated version of the Treaty on the Functioning of the European Union. OJ C 326, 26.10.2012, p. 47–390.

Supporting innovation, particularly technological progress, is considered a substantial element of policies towards sustainable development (Nill and Kemp 2009). It is considered that both research and innovation contribute to employment growth, increased prosperity and quality of life (Ramstad 2009). Given the above assumptions and the role of research in the knowledge-based economy, the European Union has decided to create their own innovative policies and instruments of implementation (Kaufmann and Wagner 2005).

The paper defines the areas of convergence between cohesion policy and innovation policy of the European Union and the Polish policy implemented at national and regional level. The research included studies of source materials (mainly policy-making documents, ex post reports) and comparative legal studies.

1 EU cohesion policy and the stimulation of innovation

Cohesion policy is the main instrument of EU development. Its effects directly support the objectives and principles of the EU (TFEU, 2007, art. 3), are the basis for its operation and creation of prosperity, security and justice. It is also a fundamental requirement of establishing a foundation for sustainable development and social inclusion.⁴ Since the beginning of the 2007–2013 programming period, cohesion policy was aimed at three priorities. One of them was to promote innovation, entrepreneurship and the development of a knowledge-based economy by enhancing research and innovation (Koschatzky and Stahlecker 2010).

The aim of the R+D+I is to contribute to the economic growth of the European Union. For this reason, cohesion policy is also focused on long-term investments that strengthen the competitiveness of the EU (e.g., entrepreneurship, access to finance for SMEs, human capital, ICT, green technology and energy efficiency).

European regions apart from the European Commission and the Member States fulfil an increasingly important role in the development and implementation of regional policy. This is the result of an evolutionary approach to innovation, which designated the need to transfer mechanisms of influence on the formation of innovation at the regional level. This was due to emphasis on the role of SMEs, as creators of technological progress and innovation, who use the powers of these processes located in the immediate vicinity. The transition to the regional level is the result of spatial relationships between businesses and their surroundings (Lewandowska, Stopa, and Humenny 2015). On the one hand it is proximity, on the other hand it is a fact of greater confidence to the partners coming from the region. This process strengthened the adoption of the “Europe 2020” strategy, in which the important issue is the reference to the objectives implemented at the regional level. The regional innovation policy aspect means the fact that the regions are gaining more freedom in creating their development strategies, involving actively academics, entrepreneurs and the wider environment of innovative business. The necessity of making—both at Union level, member states and regions—intelligent, wise choices, called *smart specializations*, is a very important fundamental issue, repeatedly raised in that strategy.

The *Guide on Research and Innovation Strategies for Smart Specialisation (RIS 3)*⁵ emphasizes the many shortcomings of earlier regional development strategies, which include: the lack of international and trans-regional perspective; the lack of industrial and economic strength of the region; the lack of a robust analysis of the strengths of the region; a syndrome of “select the winners;” blind imitation of the most prosperous regions, without taking into account the local context. Noted has been the lack of prioritization, or lack of an intelligent, wise choice to support the previous programming period (2007–2013) in virtually every sector. There has been the concentration

4. See: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Europe 2020 Flagship Initiative..., op. cit., p. 2; Communication from the Commission. Europe 2020. A strategy for smart, sustainable and inclusive growth. Brussels, 3.3.2010, COM(2010) 2020.

5. See: Guide to Research and Innovation Strategies for Smart Specialisations (RIS 3), by Dominique Foray, John Goddard, Xabier Goenaga Beldarrain, Mikel Landabaso, Philip McCann, Kevin Morgan, Claire Nauwelaers, Raquel Ortega-Argilés, May 2012, [@:] <http://s3platform.jrc.ec.europa.eu/documents/20182/84453/RIS3+Guide.pdf/fceb8c58-73a9-4863-8107-752aef77e7b4>.

of resources on activities and sectors that may give the best results. Thus, a substantial part of the funds has been wasted. The overriding objective should be clear, but very often there was no increase in the efficiency of spending public money.

The above mentioned document also shows the official definition of the RIS 3 strategy, according to which: “National/regional research and innovation strategies for smart specialization (RIS 3) is an integrated, locally defined economic transformation program.” The concept of smart specialization implies that not every region has the potential and capacity to conduct cutting-edge research at the European or global level, but anyone can develop a business strategy which assumes the effective absorption of the inventions of science into the economy.

1.1 Innovation in European Union documents

As mentioned above, the basic document upon which the European Union has stated its vision, new priorities and development objectives for 2010–2020 is the “Europe 2020” strategy for smart, sustainable and inclusive growth. The aim of this initiative is to help the EU to recover from the economic and financial crisis and make the economy smart, sustainable and conducive to social cohesion. This is to deliver high levels of employment, productivity and social cohesion. This strategy includes three interdependent and complementary to each other priorities:

- smart growth—through more effective investments in education, research and innovation
- sustainable growth—thanks to a decisive move towards a low-carbon economy
- inclusive growth—with a strong emphasis on job creation and poverty reduction⁶

Their achievement is to take place as a result of the activities carried out at national, EU and international level. As already pointed out, smart growth—an economy based on knowledge and innovation—will be supported in the EU including through completion of three flagship initiatives: “Innovation Union,” “Youth on the move,” and “Digital Agenda for Europe.” The priority of sustainable development will be supported by two flagship projects: “Resource efficient Europe,” and “An industrial policy for the globalization era.” Implementing the priority for inclusive growth are dedicated two flagship projects: “An agenda for new skills and jobs,” and “European platform against poverty.” These projects are interlinked to a greater or lesser extent and contribute to the development of innovation. In this context, the EU project “Innovation Union” has a particular importance. This is a project to improve the framework conditions and access to finance for research and innovation, so as to ensure that innovative ideas can be turned into new products and services, which in turn contribute to economic growth and job creation.

1.2. Instruments to support innovation in the European Union

The European Union has a whole range of different tools to support efforts to increase innovation at the EU, national and regional level, as well as at the international level (cooperation partners from the EU and other countries of the world). The main instruments of innovation policy are:

- financial instruments for SMEs and innovation
- Enterprise Europe Network, which aims to combine national and regional companies and providers of support for innovation in the EU (and beyond) and the development and expansion of their support transnational perspective
- platforms and networks for decision-makers in the field of innovation policy (PRO INNO Europe)⁷, agencies (Europe INNOVA)⁸, policy development and statistical analysis in the field of innovation (e.g., Regional Scoreboard in the field of Innovation) and the European Cluster Observatory, subsidies for eco-innovation market replication projects and pilot programs related to ICT

The mission of the Joint Research Centre (JRC) is to provide scientific and technical support for the conception, development, implementation and monitoring of EU policies. The European Institute of Innovation and Technology (EIT) is a European scientific organization, which was created

6. See: Communication from the Commission. Europe 2020. A strategy..., op. cit.

7. PRO INNO Europe has become the central place of analysis and cooperation in the field of innovation policy. Its aim is to learn from the best and contributing to the development of new policies in the field of innovation.

8. Europe INNOVA is a European initiative which has become a laboratory of development, testing and promotion of new actions to stimulate innovation.

on the model of the Massachusetts Institute of Technology (MIT) and a counterbalance to it. EIT was created to promote education (higher education), research and innovation. Another example is the European Research Area (ERA), which is the main area of policy research in the European Union. The creation of the ERA was to stop the fragmentation of research activities conducted in the EU, and thus strengthen its competitiveness. Of particular importance are the European Technology Platforms (ETPs), which go up against many challenges by adapting innovative research priorities of the European Union to the needs of industry; research results are likely to be commercialized, which in turn enables Europe to increase its innovation capacity within. The European Commission, on the basis of the “Europe 2020” strategy and the initiative “Innovation Union,” in Horizon 2020 recognized the EPT as a significant part of the external consulting and social commitment needed for the implementation of Horizon 2020. EPT will be a key factor in the European innovation ecosystem and help turn Europe into the “Innovation Union.”

1.3. Funding for the development of innovation in the European Union

The European Union provides extensive financial support for activities leading to an increase in innovation. The main instruments of this support include: the Framework Programme for Research and Technological Development and the Structural Funds.

1.3.1. Horizon 2020

In the 2014–2020 financial perspective the EU Horizon 2020 Framework Programme for Research and Innovation has been implemented. This program brings together all existing EU funds for research and innovation, including the Framework Programme for research, innovation-related activities under the Competitiveness and Innovation Framework Programme and the European Institute of Innovation and Technology (EIT).⁹ These measures mainly will finance the projects linked to the three main pillars of Horizon 2020:

- Excellent science—including grants of the European Council for Scientific Research for the best researchers and scholarships for young researchers within the Marie Curie Program
- Industrial Leadership—strengthen Europe’s leading position in the industries such as ICT, nanotechnology, advanced manufacturing, robotics, biotechnology and aerospace
- Societal Challenges—innovative projects in response to the seven societal challenges set out in Horizon 2020, in the area of health, agriculture, marine and bio-economy; energy, transport, climate action, environment, resource efficiency and raw materials; self-conscious societies and security¹⁰

These priorities are consistent with the priorities of the “Europe 2020” Strategy and the initiative “Innovation Union” (European Commission, 2011). A key task of the Programme is to create a coherent system of financing of innovation: from scientific concepts through research stage through to implementation of new solutions, products and technologies. The above assumptions the EU Horizon 2020 Framework Programme for Research and Innovation fully correspond the logic of smart specialization. They assume a wide and coherent approach to innovation, which should be based on the indicated unique set of values, characteristic of individual countries and regions. This approach is fully consistent with the priorities of the *Europe 2020* Strategy.

1.3.2. Structural Funds

The main source of support for innovation in enterprises from the European Union at the national level are the Structural Funds. In Poland in 2014–2020 this is mainly the operational program “Intelligent Development.” This program focuses on projects related to the construction of a knowledge-based economy, science sector competitiveness and efficient business environment institutions enabling smart economic development of the country (PO IR, 2014). It is directed primarily to entrepreneurs who intend to implement innovative projects, as well as the business environment institutions and research units. It is expected to provide systemic support for the development of

9. See: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Horizon 2020—The Framework Programme for Research and Innovation. Brussels, 30.11.2011, COM(2011) 808 final.

10. Ibidem.

the institutional environment of innovative enterprises. Access to EU structural funds has become an important factor in the economic development of Poland, still significantly different from the level of economic development of the “old” European Union (EU-15).

2 Innovation policy in Poland

Germany, Switzerland, Brazil, the United Kingdom and the United States are the countries with innovation policy decentralized to the highest degree. Poland, Sweden, South Korea and Norway have transferred some competencies in innovation policy to regions. Innovation policy only at the central level is carried out in the smallest countries, sometimes with a population less than some Polish voivodships (e.g., in Finland, the Czech Republic, Hungary and Luxembourg, but also in one of the larger countries in the world—in Japan).¹¹ In recent years regional policy has become more and more concerned with the improvement of the innovation capacity and performance of firms. Many regional development strategies have as key elements the support of their regional innovation systems and innovative clusters of firms (Caloffi and Mariani 2011). Thus, the regional level is crucial for development supporting the creation of conditions for innovation. At this level it enables creation of a strategic approach to innovation and the development of Regional Innovation Strategies.

2.1 Instruments to support innovation in Poland

These original strategies must be built in order to cope with the various problems of regional innovation policy. Such specific strategies require a detailed knowledge of the local features and benchmarking of the region in relation to others. Improving data and indicators to diagnose and monitor regional innovation is therefore a key issue for the policy makers (Autant-Bernard, Faidairo, and Massard 2013). Regional Innovation Strategy (RIS) is a key tool of policy innovation at the regional level. This strategy aims to assist regional authorities and other regional development organizations in defining and implementing an effective system to support innovation in the region.

The Research and Innovation Strategies for Smart Specialisation (RIS 3) can be seen as an economic transformation program based on four principles: a limited number of priorities based on their own strengths and international specialization; competitive advantage; communication and clusters; collective leadership. Under the new Cohesion Policy smart specialization has been proposed as an ex-ante condition. It is a normative condition, which means that regions must have this type of strategy, before they can receive financial assistance from EU structural funds for its planned innovation activities. Preparation of research and innovation strategy for smart specialization is a major challenge for Member States, especially for those with little experience in development, implementation and evaluation of innovation policy. In order to facilitate the realization of that objective, the European Commission launched in 2011 the S3 platform (*Smart Specialization Platform*)—which assists EU countries and regions to develop, implement and review their *Research and Innovation Strategies for Smart Specialisation* (RIS 3). It should be emphasized that the creation of regional innovation strategies is one of the actions aimed at improving efficiency in the use of structural funds. “The implementation of RIS is of particular importance for the processes of equalization of opportunities for development of regions, which is one of the priorities of the EU (in particular the allocation of aid from the Structural Funds).”¹²

An integrated approach to innovation is most evident, however, in the process of building the RIS and the adoption of appropriate mechanisms (Asheim, Smith, and Oughton 2011). This allows one to define the strategic priorities that reflect such an approach. The next stage is the implementation of RIS, carried out in the markets that are particularly important financial conditions. Insufficient access to financial resources and the limited activity of regional institutions are associated with lower potential and opportunities for innovation support mechanisms and operation of a fully integrated approach.

11. See: Polish Innovation Portal at <http://pi.gov.pl/eng/>.

12. See: Założenia polityki naukowej, naukowo-technicznej i innowacyjnej państwa do 2020 r., Warszawa, grudzień 2004, [@:] <http://www.funduszeuropejskie.gov.pl/informator/npr2/dokumenty%20strategiczne/Zalozenia%20polityki%20naukowej,%20naukowo-technicznej%20i....pdf>, p. 3.

2.2 Regional funds for the development of innovation

Creation in the regions of a strategic approach to improving innovation in the economy indicates the growing importance of a regional approach in the formulation of innovation policy instruments. Analysis of the relationship between innovation policy and regional innovation strategies is defined by the framework for pro-innovation activities in the regions. Whether the innovation policy will be permanently inscribed in regional policy depends on the effective implementation of regional innovation strategies. Necessary for this purpose are the right instruments. These instruments are defined in policies, and part of their funding is saved and guaranteed by European funds. The condition is a well-defined relationship and their use in practice. In the case of divergence of the regional innovation strategy, these instruments have not attained the greatest impact on policy and show the difficulty of long-term development of innovation policies at regional level. For example, consider the Regional Operational Programme, which is the most important instrument of the development of each voivodship in Poland. The Regional Operational Programme is an instrument which provides a framework for conducting operational intervention projects in the three main priorities set out in the guidance document for cohesion policy, which is the “Europe 2020” strategy.

The regional dimension of innovation policies has expanded in recent years, with support from the European Regional Development Fund (ERDF). While the more developed Member States shall concentrate more resources on innovation and gain significant benefits from the multiplier effect that impacts private investment, the convergence regions create the preconditions for innovation in the form of institutions, the absorption capacity, collective action and the development of human resources. The Structural Funds are necessary in this case, as the driving force of this process.

Conclusions

Cohesion policy plays a key role in increasing the smart growth in the EU regions, especially in regional modest innovators. Smart growth is necessary for to be able to compete on the global market. Co-financing of investment in innovation and supporting SMEs can improve the competitiveness of the EU and its regions. And although the level of innovation has increased, the innovations are still concentrated spatially.¹³ Some regions are among the world leaders of technology, and their growth is essentially based on research and development and technological innovation, which moves forward the technological frontier. Other regions are catching up regions—the leaders of innovation through the process of assimilation of existing technologies, and their main challenge is to increase the capacity of workers and enterprises, in such a way to make this possible. In general, the regional results are generally cohesive with the national results.

Assessment of National Development Plan 2004–2006 (e.g., Polish Ministry of Regional Development) and National Cohesion Strategy 2007–2013 shows the positive role of EU funds in the socio-economic development in Poland, both at the macro level and micro-level (e.g., increase the competitiveness and innovativeness of Polish enterprises). On the other hand, despite all these activities it has not led to a fundamental change in the situation in the form of a significant increase in the competitiveness and innovativeness of Poland. Although Poland in recent years has shifted to the rank on the Innovation Union Scoreboard 2014⁽¹⁴⁾ from “Innovation follower” to “Innovation moderate,” it still has a very low rate of innovation. It is only in 25th position among the 28 countries of the European Union. Weaker than Poland are only Romania, Latvia and Bulgaria.

Due to the positive impact of the concentration effect of technological innovation in specific places, different levels of innovation are in many ways a desirable state. However, innovation broadly understood as comprising the use of new technologies and know-how produced elsewhere and accepting them, remains crucial to stimulate growth in all regions. Due to the large disparities between EU regions in terms of innovation performance, programs to support innovation, including cohesion policy programs must specify the type of support provided explicitly taking into account

13. See: Investment for jobs and growth. Promoting development and good governance in EU regions and cities. Sixth report on economic, social and territorial cohesion. Brussels, July 2014, [@:] http://ec.europa.eu/regional_policy/sources/docoffic/official/reports/cohesion6/6cr_en.pdf, p. 31.

14. See: Innovation Union Scoreboard 2014, by Hugo Hollanders and Nordine Es-Sadki, [@:] <http://bookshop.europa.eu/en/innovation-union-scoreboard-2014-pbNBAY14001/?CatalogCategoryID=Gj0KABst5F4AAAEjsZAY4e5L>.

the local or regional context. EU innovation policy through a wide range of instruments allows for the participation by the various actors, including national and regional authorities, enterprises, scientific research bodies, financial institutions, or social partners. Their involvement determines active participation in building a more innovative economy in the EU.

EU funding has helped in the creation and dissemination of excellence across Europe, both in the Seventh Framework Programme and cohesion policy funds. The action “Regions of Knowledge” and “Research Potential” in the context of capacity building dedicated to FP7 met with great interest, but studies indicate that would be a more effective implementation of similar activities under the cohesion policy.¹⁵ This is due to the growing awareness of the European Commission on the need to improve the complementarity between framework Programme and cohesion policy.¹⁶

Therefore, the European Commission has been proposing a more transparent division of work between “Horizon 2020” Programme and the Structural Funds, enhancing interaction. In the new EU financial perspective 2014–2020 the support of regions in developing their research and innovation capacity will be provided through cohesion policy, through the implementation of the concept of “smart specialization” and measures to researchers and innovators across Europe to achieve the level of excellence. The strategy of “smart specialization” provides a synergy between cohesion policy and other policies and EU funding instruments, such as the “Horizon 2020” Programme. The RIS 3 approach is consistent with the objectives and instruments of cohesion policy EU25. The concept of smart specialization is also compatible with the main objectives of the reform (EU Cohesion Policy 2014–2020). In fact, smart specialization has a strategic and central role in the new Cohesion Policy, becoming a key tool to ensure the contribution of this policy to the “Europe 2020” growth agenda.

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15. See: Expert group on synergies between FP7, the CIP and the Cohesion Policy Funds: Synergies Expert Group (SEG). Final Report of the Synergies Expert Group. by Frans van Vught (Chair), Manfred Horvat (Rapporteur), Helena Acheson et al., June 2011, [@:] https://wbc-rti.info/object/document/7948/attach/seg_final.pdf.

16. This issue has been analysed in the reports of the European Parliament (2007, 2014), European Affairs Advisory Council research and the Committee Scientific and Technical Research (2007).