

REGIONAL POLICIES OF THE EUROPEAN UNION ON RESEARCH AND INNOVATION

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Abstract

Intensification of the capacity of regional economies to innovate and to transform increasingly brings to the forefront the role of policymakers in encouraging innovation, research and development (R&D) and entrepreneurship. For the achievement of this objective, policymakers are trying to develop sustainable policies for a “healthy” economy. This research paper will try to emphasize the main policies on research and development (R&D) using the background offered by literature, the current legal framework and the analysis of official statistical data for empirical evidences. We presume this analysis will provide us with a new point of view on research and development (R&D) dimension with positive aspects, and it will also clear certain aspects that require solutions and policy options to stimulate economic activity and develop products with higher added value, inclusively to create jobs.

Key words: regional policies, European Union, research and innovation

Research and innovation are considered “engines of our future growth” (European Commission, 2010, p. 11). The attainment of the “healthy economy” goal needs improvement of the quality of education at all levels, strengthening the performance of/in research, promotion of innovation and transfer of knowledge across all Member States of the European Union. In addition, development of public policies should be carried out by ensuring that innovative ideas can be transformed into new products and services that give rise to economic growth. However, in order to succeed, these aspects should be combined with entrepreneurial spirit, finances, and an emphasis on the needs of users and market opportunities.

MATERIAL AND METHOD

With a view to ensuring a sustainable development, one of the relevant documents resulting from the various negotiations is the Europe 2020 strategy (European Commission, 2010), which was designed as successor of the Lisbon Strategy. The major objectives of Europe 2020 Strategy could be summarised (European Commission, 2010; Cigu, 2015; Onofrei & Cigu, 2015) as follows:

- i) an investment of 3 % of GDP in scientific research and experimental development (R&D);
- ii) increase of employment rate on the labour market of the population aged 20-64 to at least 75%, with the exception of the Member

States which have signed an individual agreement where the target proposed varies from employment rates of 80 % or more (Denmark and Sweden) and up to 70 % or less (Ireland, Greece, Italy, Malta and Romania);

iii) decrease of changes in climate and sustainable energy which imply the sustainable use of natural resources and maintenance of ecosystems by reducing emissions of gases with greenhouse effect to at least 20 % compared to the levels in 1990, increase of the share of energy from renewable sources in final energy consumption to 20%, transition to an increase of 20 % of energy efficiency;

iv) education by reducing early school leaving (18-24 age group) below 10 % and increase of the share of the young generation with higher education (30-34 age group) to at least 40 %;

v) fight against poverty and social exclusion where at least 20 million people must rise above the category of those facing the risk of poverty and social exclusion by the year 2020.

RESULTS AND DISCUSSION

This objectives are designed to stimulate economic performance and sustainable development in general and, in order to fulfil them, each Member State of the European Union must develop their public policies so as to achieve the targets by 2020. Thus, public policies should be taken together, as these objectives may not be regarded in isolation, but as interdependent and

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inter-conditional. Therefore, research and innovation do not operate in isolation, but may be considered as key-factors to other emblematic initiatives within Europe 2020 Strategy.

This research work is synthetically structured on two major directions, i.e. the first direction refers to the approach of the reference theoretical and legal frame for the issue of EU regional policies on research and innovation, while the second direction of research has been directed toward the critical examination of the “research and development” objective established by Europe 2020 strategy by highlighting the realities of the regions across the European Union.

EU STRATEGIC FRAMEWORK ON RESEARCH AND INNOVATION

Scientific research and innovation require development of medium- and long-term strategies to significantly contribute to a sustainable regional development, generating scientific excellence in order to strengthen global scientific excellence at the EU-28 level.

An important target set within the Europe 2020 strategy consists in stimulation of “research and development” (R&D) by increasing investments in this field of up to 3 % of the gross domestic product (GDP). By reference to the contents of budgetary consolidation strategies adopted by the different countries, in the opinion of certain authors (Oprea & Bilan, 2012), some structural reforms should attach greater importance to funding scientific research, given that investment in human capital is one of the factors that lead to considerable positive effects on medium and long term.

In the EU-28, public policies are oriented toward the objectives of smart growth, considering

research and innovation as essential engines of economic and social prosperity and environmental sustainability. In this respect, cohesion policy plays an important role by strengthening capacity and creating conditions that enable excellence.

With a view to achieving the ambitions targets established, several legislative and decision-making steps have been applied in the EU-28. Thus, in its Communication of October 19, 2010 on the “Revision of the EU budget”, the European Commission presented and accepted the key-principles of the future general budget of the European Union, conceiving also resources and tools for research and innovation in a common strategic framework. The normative act underlying all legal initiatives and proposals of EU authorities and bodies is Regulation (EU) No. 1291/2013 of the European Parliament and of the Council of 11 December 2013 establishing Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020) and repealing Decision No. 1982/2006/EC and other related acts.

ANALYSIS OF THE STRATEGIC OBJECTIVE FOR RESEARCH AND INNOVATION

Statistically, the use of the indicator based on the share of expenditure for scientific research and experimental development (R&D) in the gross domestic product (GERD) (OECD Manual, Frascati, 2002) does not indicate the proportion of expenditure on research and development which contribute in a specific way to sustainable regional development, but the so-called “R&D intensity”. One of the limits of this indicator is the fact that it does not reflect the potential for research and development in the country concerned, but only the effort carried out in a specific budget year.

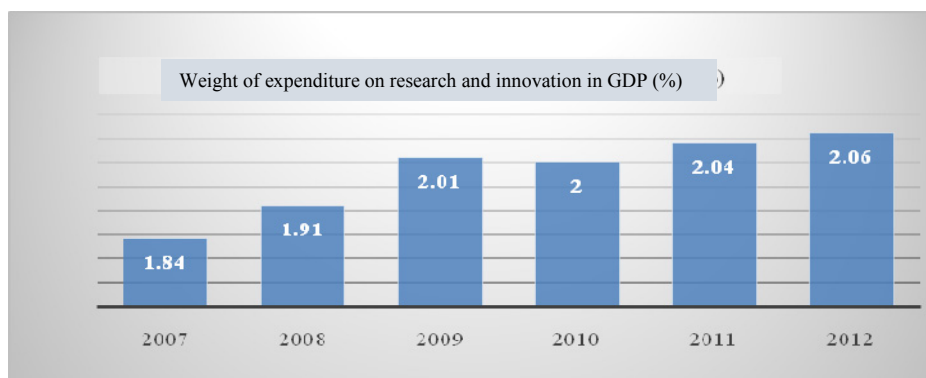


Figure 1 R&D intensity in the EU-28 by NUTS 2 regions during 2007-2012 period

Source: Eurostat data processed by the author

In order to achieve the target of Europe 2020 Strategy of 3 % of the GDP, R&D intensity in the EU-28 should increase on average by 0.12 % each

year. Until now, R&D intensity had an increasing trend in the period under consideration (2007-2012), from 1.84 % in 2007 to 2.06% in 2012.

Obvious increases in 2008 and 2009 were determined rather by a contraction of economic activity during the financial and economic crisis,

and not necessarily by a rise in the level of expenditure for research and development.

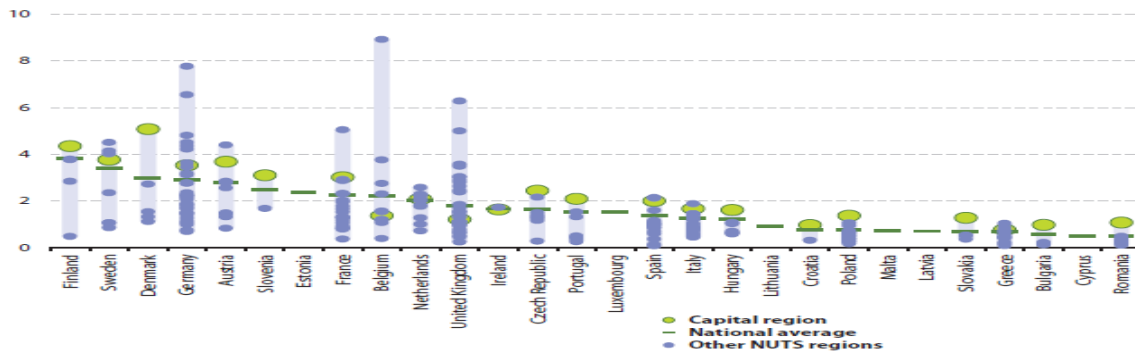


Figure 2 Regional disparities in R&D intensity in the EU-28 by NUTS 2 regions in 2011

Source: Eurostat regional yearbook 2014

In 2011, the year for which the data were available (Eurostat), Finland and Sweden recorded a national average of R&D intensity of more than 3.00%. The two countries were followed with a small difference by Denmark, with a national R&D intensity of 2.98%. The smallest weights at national level have been recorded in Bulgaria,

Cyprus and Romania (less than 1%). It was noted that in 11 Member States of the EU, capital regions recorded the highest level of R&D intensity. The highest R&D intensity in terms of capital regions was in Denmark. One Belgian region recorded an R&D intensity of approximately 9%, being followed by two German regions and a UK region.

- GERD % in GDP -

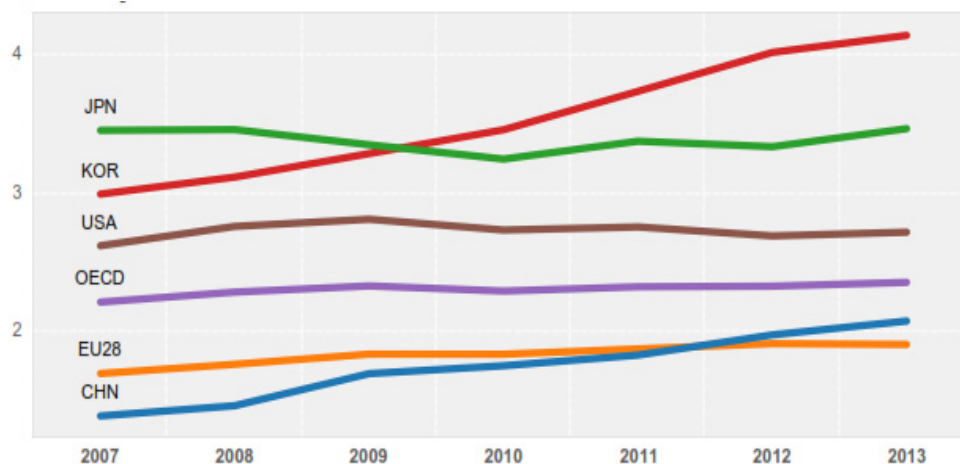


Figure 3 R&D intensity in the EU-28 in 2007-2013 period compared with other economies at global level

Source: OECD estimates based on OECD Main Science and Technology Indicators Database, 2015/1, on

Compared with other economies at global level, R&D in the EU-28 area had a relatively constant evolution, with a slight increase in 2007-2013, from 1.70 % in 2007 to 1.91 % in 2013. Other economies, such as OECD countries (2.36 % in 2013), Korea (4.15 % in 2013), the United States of America (2.73 % in 2013), Japan (3.47 % in 2013) have surpassed significantly EU R&D intensity, being higher in the period under review, i.e. 2007-2013. China recorded a significant evolution of R&D intensity from 1.39 % in 2007 to 2.083 in 2013, exceeding the percentage of the EU-

28 during 2012-2013. The most visible increases were recorded by Korea and China. Japan has recorded fluctuations during the reporting period, the most significant decrease being in 2010, and the most significant increase in 2013. The country with the highest R&D intensity in 2013 was Korea (4.15 % in 2013).

In order to achieve the proposed target, that is to invest 3 % of the gross domestic product (GDP) in research and development (R&D), three reinforcing priorities for 2014-2020 are pursued: (i) Excellent science, for which EUR 24,441

billion are allocated, (ii) Industrial leadership, for which EUR 17,015 billion are allocated, and (iii) Societal Challenges, for which EUR 29,679 billion are allocated.

The first priority, “Scientific excellence”, finances the most promising research activities at the boundaries of science (European Research Council), supports interdisciplinary scientific collaboration with regard to completely new ideas, which presents a high degree of risk (“Future and emerging technologies”), provides training and cross-border mobility for scientists (“Marie Skłodowska-Curie actions”), supports excellent research infrastructures, equipment and European data sources to attract worldwide researchers.

The second priority “Industrial leadership” supports research in information and communications technology (ICT), nanotechnology, biotechnology, aims to overcome

deficits in the availability of debt (e.g. credits) and equity finance (through sale of shares to investors) for R&D (“Access to risk finance”) and provides SME-tailored support to stimulate all forms of innovation (“Innovation in SMEs”). During the past two decades, risk capital supported the creation and/or development of industries with a high degree of innovation, such as IT, biotechnology, semiconductors and online trade. In the last few years, other industries, such as clean technologies (cleantech) and social media have benefited from this type of funding to develop (Anton, 2010).

The third priority “Societal Challenges” is focused on the following specific objectives: health, demographic changes and well-being, environment, energy and safe companies by protecting freedom and security of Europe and its citizens.

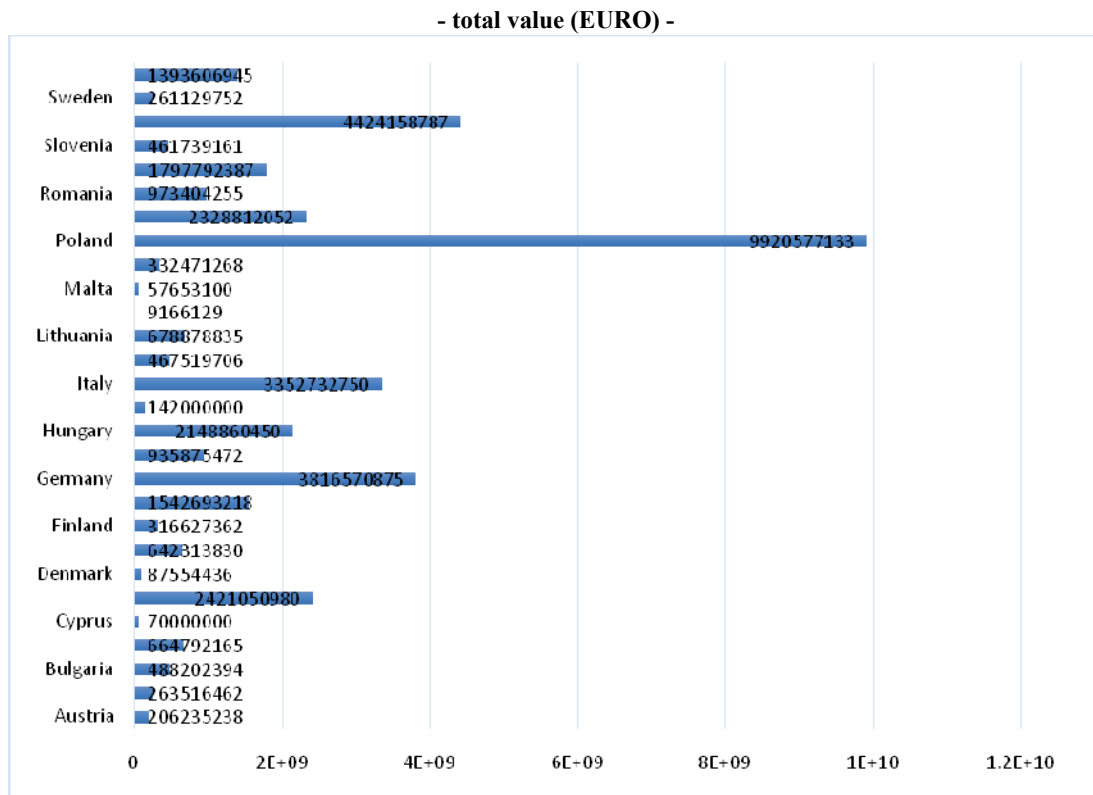


Figure 4 Allocation of EU funds for research and innovation in 2014-2020 financial year
 Source: processing by the authors of official data provided by the European Commission,
http://ec.europa.eu/regional_policy/en/policy/themes/research-innovation/

For the specific objective “Spreading excellence and widening participation”, up to Euro 816.5 billion are allocated to ensure that the benefits of an innovation-led economy are maximised (e.g., creation of centres of excellence by association of research institutions with other institutions, agencies or regions). The specific objective “Science with and for society” is

allocated at most EUR 462.2 to recruit new talent for science and to pair scientific excellence with social awareness and responsibility. EUR 1.9026 billion are allocated for non-nuclear direct actions of the Joint Research Centre (JRC), while for the European Institute of Innovation and Technology (EIT), which brings together excellent research,

innovation and higher education, at most EUR 2.711 billion are allocated.

Thus, as far as 2014-2020 financial framework (Figure 4) is concerned, the European Union allocated EUR 40.2 billion for research and innovation, considering that in the future smart regional policies and strategies will mobilize the innovative potential of all EU regions.

During 2014-2020 financial framework, in the field of research and innovation, the most relevant amount is allocated to Poland (EUR 9.9 billion), followed at a significant distance by Spain (EUR 4.4 billion), Germany (EUR 3.8 billion EUR) and Italy (EUR 3.35 billion).

CONCLUSIONS

From the study conducted, several important conclusions can be drawn, such as:

1. In the framework of regional policies, there is a particular interest for research and innovation, especially considering that it is one of the major objectives of Europe 2020 strategy.

2. EU Member States have rethought their public policies over time, so that in 2007-2012 period, R&D intensity was steadily growing.

3. EU funding for research and innovation in the 2014-2020 financial framework covers all regions of the EU-28.

4. Efforts of each region and country in achieving the goal of 3% of GDP for research and development is supported by the European Union, and it is up to each state to develop public policies and strategies aimed at increasing absorption.

5. A future research direction is to analyse public policies impacting research and innovation at NUTS 3 level.

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