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## ROLE OF SMART SPECIALISATION IN FINANCING THE DEVELOPMENT OF REGIONS IN PERSPECTIVE 2020

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**Abstract.** The aim of this article is to present the role of smart specialization concept in the process of providing funds for regional development. The systematic literature review was conducted in order to identify the role of smart specialisation concept in the process of providing funds for regional development. The methodology followed for the literature review included two main phases: selection and analysis. The article presents: (i) the idea of smart specialisation, (ii) characteristics of the areas of specialisation in the European Union, (iii) the creation of smart specialization strategies in the regions, (iv) the role of smart specialization in financing the development of regions, (v) examples of methodological approaches to identify smart specialisation at the regional level. The research examines the relationship between smart specialisation and process of providing funds for regional development.

**Keywords:** smart specialisation, regional development.

**JEL Classification:** O23, O31.

### 1. Introduction

Although Europe seems to overcome the last economic crisis, it has to face many long-term challenges like globalization, pressure on resources, and ageing populations. But probably the most important problem is still slower growth of Europe's economy than its main competitors caused by among others lower level of innovativeness and R+D expenditure. Innovation is considered as one of the key growth drivers as Geoffrey Nicholson<sup>1</sup> said "Research is the transformation of money into knowledge. Innovation is the transformation of knowledge into money". Therefore, the European Union emphasizes the significant role of smart specialisation as a new innovation policy concept designed to promote the efficient and effective use of public

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<sup>1</sup> Geoffrey Nicholson – 3M (3M ranks 3rd on the Booz & Company "The Global Innovation 1000" study 2012, whereas it ranks only 86th in terms of R&D spending).

investment in research and technology. It is a key solution for avoiding dissipation of the EU research funds and for focusing the research, innovation, human and financial resources on those innovative sectors which can be competitive on the global scale. Moreover, smart specialisation is a new generation of research and innovation policy that is not just for the “best” regions and technology leaders. On the contrary, this concept provides strategies and roles for any region. Its goal is to boost regional innovation in order to achieve economic growth and prosperity, by enabling regions to focus on their real strengths (European Commission 2012c). The aim of this article is to present the role of smart specialization concept in the process of providing funds for regional development. The article presents: (i) the idea of smart specialization, (ii) characteristics of the areas of specialization in the European Union, (iii) the creation of smart specialization strategies in the regions, (iv) the role of smart specialization in financing the development of regions, (v) examples of methodological approaches to identify smart specialization at the regional level.

## 2. Concept of smart specialisation

Smart specialisation is a relatively new concept both at academic and political level. Current references are limited to the authors that actually advise the Commission called as “Knowledge for Growth” (Foray, Van Ark 2007; Foray *et al.* 2009; McCann, Ortega-Argilés, 2011). According to them, smart specialisation could be defined as the identification of a small group of sectors/technologies at regional/national level, which can be potentially competitive in international markets and generate new activities with comparative advantage over other locations. The conceptual approach above considers the following features when defining smart specialization (del Castillo *et al.* 2011; Foray, Van Ark 2007; Foray 2009):

- *Global perspective* – the aim for intelligent specialization is to create a large area of research and innovation in order to compete on a global market beyond geographic boundaries;
- *Specialisation in technological domains* in order to achieve competitive advantage over the other locations, specialisation in connected with *general purpose technologies*, which means technologies, which caused a breakthrough in the global economy;
- *Regional diversity* – identification and exploitation of the regional related diversity in order to develop new technology domains and sectors;
- *Government role* – a huge role in shaping smart specialisation plays government policy which tasks are as follows: giving incentives for entities involved in the process of specialisation identification, assessing the value of chosen specialisation, selecting and promoting innovation which is complementary to specialisation, reducing investments, which were supported in the ex-ante framework of seeking appropriate expertise, and which turn out to be inadequate ex post.

Smart specialisation is different from the average innovation strategy in the following aspects:

- it sets priorities taking into account prudent spending and focusing investments on those sectors or technology which allow regions to be competitive comparing to other countries or regions;
- it is based on facts considering not only typical research and skills issues in regions, but all assets like geographic location, population structure, climate and natural resources, but also societal needs, potential customers, public sector innovation. In this way, smart specialisation can encourage a country or region to merge its unique local know-how and productive capacity into new combinations and innovations;
- it is a bottom-up decision created and implemented in a dynamic entrepreneurial discovery process involving key stakeholders;
- it is not focused on the implementing new knowledge everywhere, but it uses existing knowledge and technologies to innovate in many different forms, including organisational, marketing, user-driven, and social innovation;
- smart specialisation is not only for the leaders in particular sector or technology, but it rather supports the cooperation between regions in a form of clusters, sectoral and cross-sectoral activities, eco-innovation, knowledge spill-overs, both within the region and externally with other regions (Campagni 2013; European Commission 2012b).

The concept of smart specialisation is not only dedicated to European Union but it is widely known on the world-wide scale. OECD emphasizes that smart specialisation can be one of the key drivers for growth but it requires effective and active coordination of policy interventions and longer term visions of policy makers but also various stakeholders, including business (OECD 2013).

From a scientific point of view, the most substantial are methods and means used to designate the smart specialization and later verification of their contribution to development of the region, country or Europe. In this article, the main point of interest is smart specialisation at the regional level, however, is conditioned by factors at national and European level.

### **3. Smart specialisations in European Union**

#### **3.1. Europe 2020 strategy**

In response to the last financial crisis and global challenges, the main goal of European Union is to boost the prosperity and create conditions required for a more competitive economy. To achieve this aim the European Commission has elaborated Europe 2020 Strategy with key following priorities (European Commission 2010a):

- *smart growth* – through more effective investments in education, research and innovation;
- *sustainable growth* – thanks to eco-friendly economy;
- *inclusive growth* with a strong emphasis on job creation and poverty reduction.

Based on these three mutually reinforcing priorities, European Member States and regions are encouraged to find their own assets and R&I strengths and finally identify limited number of priorities. This approach called as smart specialisation is dedicated not only for leading regions but also for the underdeveloped ones. It aims to help countries and their regions to increase the level of employment, productivity and social cohesion in a manner that would be not only globally competitive but also environmentally, financially and socially sustainable.

Looking at three priorities elaborated by the European Commission, the first place is dedicated to *smart growth*, which means the development of economy based on knowledge and innovation. It was stated that in order to reach this goal, it is necessary to increase education level, improve research activity results, reinforce innovation and knowledge transfer in European Union, develop information and communication technologies, but also support the process of transformation of new idea into products and services. That is why Europe has to make investments into innovation, education, trainings, lifelong learning and digital society (European Commission 2010a). In order to face these challenges the European Commission divided three priorities into seven flagship initiatives presented on Figure 1. The concept of smart specialisation is connected with one of them – *the Innovation Union*.

Smart Growth	Sustainable Growth	Inclusive Growth
<ul style="list-style-type: none"> <li>– Digital Agenda for Europe</li> <li>– Innovation Union</li> <li>– Youth on the move</li> </ul>	<ul style="list-style-type: none"> <li>– An industrial policy for the globalisation era</li> <li>– Resource-efficient Europe</li> </ul>	<ul style="list-style-type: none"> <li>– Agenda for new skills and jobs</li> <li>– European Platform against Poverty</li> </ul>

Fig. 1. Priorities and initiatives in Strategy Europe 2020  
(source: author’s own study on the basis of European Commission 2010a)

*The Innovation Union* is strategic and integrated approach, which aims to improve framework conditions and make better access to finance research and innovation projects. In this way, novel idea will have chance to transform into products and services and create new workplaces (European Commission 2010b).

The main principles of Innovation Union are as follows:

- making investments in R&D and innovation in the field of climate change, energy and resource efficiency, health and demographic change;
- supporting those technologies which can be competitive on a global scale;
- avoiding the practice of excessive duplication, inefficient resource allocation;
- improvement and coordination of national/regional research and innovation systems;
- supporting every link in the innovation chain, from “blue sky” research to commercialization;

- involvement of all actors in the innovation process – the authorities, leaders of innovation, as well as universities and non-governmental sector, private enterprises including small and medium ones, and finally citizens (“social innovation”).

As far as smart specialisation concept is concerned, the European Commission outlines that it is a key solution not only for leading regions but also for the underdeveloped ones. The regions should develop on the basis of their strengths, however in cooperation with the rest of member countries and regions. In addition, *the Innovation Union* clearly outlines that smart specialisation concept should be included among the objectives of the Structural Funds programs, the Cohesion Policy and Rural Development Policy in the financial perspective 2014–2020. Moreover, the implementation of smart specialisation model can be supported by two other initiatives: *the Youth on the move*, which aim is to improve education results and increase of competitiveness of higher education on the international scale; *the Digital Agenda for Europe* which offers wide-spreading fast Internet and the opportunity of taking benefits from single digital market (European Commission 2010c).

### **3.2. Regional innovation strategies for smart specialisation**

The concept of smart specialization on the regional level is related with the implementation of the Cohesion Policy for the period of 2014–2020. Smart specialisation identification is ex ante condition for funding actions by the EU funds in the following fields (European Parliament and the Council 2013):

- research, innovation and technological development, information and communication technologies – financed by European Regional Development Fund (European Commission 2012a);
- knowledge and innovation transfer in the agriculture, forestry and rural areas financed by the European Agricultural Fund for Rural Development.

The European Commission in the special Communication pointed out the positive influence of regional politics on the implementation of smart growth concept (European Commission 2010c). According to this Communication, regional politics can unblock the potential of European Union by promotion of innovation in all regions, complementarity of innovation systems at EU, national and regional level but also by making investments in R+D and ICT technologies. Despite the differences between the development of European regions, the regional politics has to support smart growth in each region so that all of them will be able to absorb innovation and implement new projects effectively.

In order to benefit from EU funds in the financial perspective 2014–2020, each member country is obliged to prepare regional and national strategy of research and innovation based on the concept of smart specialisation. However, the national strategy is not prior to the regional one. These strategies should guarantee more effective public spending and stimulate investments in private sector. Regional Innovation Strategy for Smart Specialisation (RIS3) aims to face social and economic challenges in order to support transformation of the region’s economy based on new technologies, gain the position of

region on the global scale but also reinforce the internal and external connection with other regions. The concept recommends that each region should focus its efforts and resources on a limited number of realistic niches which allow to develop and compete in the global economy following the smart, sustainable and inclusive growth priority (European Commission 2014). While elaborating the smart specialisation strategy, the regional authorities should take into account the following aspects: innovative clusters, innovation-friendly business of small and medium enterprises, long-life education in the field of research and innovation, attractive regional research infrastructure, competitive centres and European partnership for innovation.

Regional Research and Innovation Strategies for Smart Specialisation (RIS3 strategies) as integrated and economic transformation agendas have five important characteristics:

- support key regional challenges and needs through policies and investments;
- are based on strengths, competitive advantage and potential excellence of each region;
- support technological and practical innovation and stimulate investment in the private sector;
- commit different stakeholders and resources in order to create shared vision of future;
- are based on facts, and include the appropriate monitoring and evaluation systems.

Regional Research and Innovation Strategies for Smart Specialisation of the EU's regions should be based on the analysis of a region potential for innovation and relevant innovation actors, but also identification of limited priorities and targets. The RIS3 strategy should be elaborated in 6 steps shown on Figure 2.

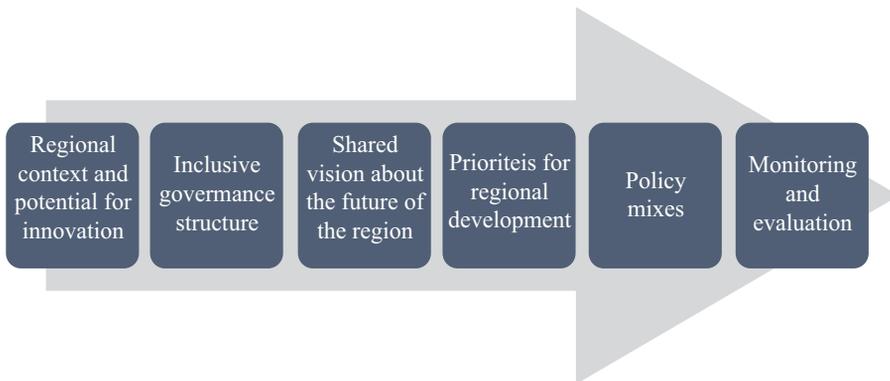


Fig. 2. Steps of elaboration of Regional Research and Innovation Strategies for Smart Specialisation (source: author's own study on the basis of European Commission 2014)

First step of the analysis should be based on the one of the most important element of smart specialisation concept, which means regional diversity. Each region must find its own potential so it is necessary not only to describe specific regional context, but also determine key economic and social challenges, existing assets and major strengths and

weaknesses. Moreover, regions should take into account their relations with other regions and the position within the EU. Secondly, the process of setting main goals of the strategy should involve stakeholders from different sectors like companies, research centres and universities, but also business environment institutions and non-governmental organizations. In result, all stakeholders committed in the process should elaborate shared vision of region's future with clear directions of regional development. This step is an important political process, which decides if the strategy is going to be successful. Later, the priorities should be chosen with accordance between top-down objectives of EU policies and a bottom-up identification of niches through entrepreneurial process. While setting priorities, regions should take into account existing assets and their possibilities, potential diversity of analysed sectors, critical mass and potential among each sector, international position on global value chain. Afterwards, the strategy should be implemented by a means of a clear action plan allowing for a degree of experimentation through diverse pilot projects. Finally, from the very beginning the strategy should include the mechanisms for monitoring and evaluation. The European Commission recommends the implementation of these six steps in sequence shown on the Figure 2. However, it is important to point out that they can sometimes overlap in case of many unexpected situations coming up in the process like entering of new actors or discovering unrealised potential. Therefore, they should be thought as interacting elements of a comprehensive design scheme, which implementation order depends on the specificity of regional context (European Commission 2014).

The preparation of RIS3 is a major challenge for Member States, especially for those with little experience in the creation, implementation, and evaluation of innovation policy. That is why, the European Commission released two useful tools – Guide to Research and Innovation Strategies for Smart Specialisation and the Smart Specialisation Platform (Platform S3). Both the Guide RIS3 and the Platform aim to support regions of the Member States in better defining their research and innovation strategies, specific strengths and weaknesses and to develop their competitive advantage. The platform supported by the Institute for prospective technological studies (Institute for Prospective Technological Studies IPTS) gives idea and guidance, provides case studies and methodology as well as serves the exchange of contacts, opinions and experiences. Moreover, on the platform many workshops, trainings, and annual meetings concerning smart specialisation are organised. The Commission noticed many problems while setting R&I priorities in Europe: sometimes either the priorities are not clearly defined, or they are simply copied from one region to another. It is worth outlining that to develop excellence and compete in the global economy, each region should identify its own best assets, R&D potential and choose a limited number of priorities (European Commission (2012a), Smart Specialization Platform).

Although the European Commission prepared special helpful guide and platform for regions and countries but it did not point what methods would be best to identify their smart specialisation. Therefore, the methods used to identify smart specialisation are very differentiated in European regions – the overview of different research methods are shown on Figure 3. The World Bank recommends a mixture of different approach in order to obtain

as soon as possible a comprehensive understanding of region potential. However, it is not precise in what order these methods should be applied, although it seems reasonable to start with the two first methods (analyses of S&T and economic specializations) since they are relatively easy to conduct and provide decision-makers with basic information about the region's innovation system. The latter methods are more complex, but could be more accurate as quantitative analysis is complemented by a qualitative layer (Piatkowski *et al.* 2014). Among the approaches used in order to identify smart specialisation, regions usually choose the following research techniques (Dziemianowicz *et al.* 2014): desk research, statistic methods, SWOT analysis, individual in-Depth Interviews, Focus Group Interview, Experts panel, Scenario analysis, Five Porter's forces analysis, Technological foresight.



Fig. 3. Potential research methods of selecting smart specializations (source: author's own studies on the basis of Piatkowski *et al.* 2014)

#### 4. Level of specialisation and innovativeness in European Union

A region/country’s level of specialisation in a field of science or technology is measured by comparing the world share of the region/country in the particular field to the world share of the region/country for all fields combined. The EU’s scientific and technological output appears to be more diversified than that of the USA. Specialisation in research and technology (S&T) in selected countries of the European Union is shown in Table 1.

Table 1. Specialisation of S&T in UE Member States (source: Cooke 2009)

S&T	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK
Agriculture and food			■	■			■	■	■	■	■	■				■		■	■	■		■	■		
Basic life sciences			■			■					■	■		■											
Biological sciences		■	■		■		■			■	■	■	■	■						■	■	■	■		
Biomedical science and Pharmacology						■					■	■	■	■						■	■				
Clinical medicine and health sciences		■			■		■				■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Earth and environmental sciences			■		■						■	■	■		■		■					■	■	■	
Chemistry		■	■	■					■		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Engineering			■									■	■	■	■	■	■	■	■	■	■	■	■	■	■
Mathematics and statistics		■	■			■	■	■			■		■	■	■		■			■	■	■	■	■	■
Physics and Astronomy		■		■	■		■			■	■	■	■	■	■	■				■	■	■	■		
Computer Sciences					■	■					■	■								■	■			■	

- specialization
- before specialization
- without specialization

Regarding scientific and technological specialisation in the European Union, member countries are very diversified. As the Table 1 shows, Poland specializes in chemical sciences, mathematics, physics, and astronomy.

In the field of innovations, the diversity among countries of the European Union can be also noted. Based on the average innovation performance measured by Summary Innovation Index (SII)<sup>2</sup>, the Member States fall into four different performance groups which are demonstrated on the Figure 4.

<sup>2</sup> SII is based on 25 different indicators divided into 8 following dimensions: human resources, research systems, finance and support, firm investments, linkages & entrepreneurship, intellectual assets innovators, innovation of the country.



Fig. 4. EU Member States' innovation performance  
(source: author's own study on the basis of Innovation Union Scoreboard 2014)

As shown above, Poland takes the last place within the group of Moderate Innovators as the SII value reached 0.279 and is much lower than the average one in UE – 0.554. The lowest place has only Bulgaria, Latvia and Romania. In 2013, the most innovative countries among EU were: Sweden with the highest index of innovation at the level of 0.750, next Germany (0.728), Denmark (0.709) and Finland (0.684).

Similarly to the Innovation Union Scoreboard, European regions, according to Regional Innovation Scoreboard<sup>3</sup>, have also been classified into four groups (shown on Fig. 5):

- Regional innovation leaders (34 regions),
- Regional innovation followers (57 regions),
- Regional moderate innovators (68 regions),
- Regional modest innovators (31 regions).

As we analyse the Figure 5, the most innovative regions are located in countries which are innovative leaders. Unfortunately, most regions are either innovation followers or moderate innovators. These regions are situated developing countries of eastern and southern Europe (e.g. Poland, Czech Republic, Slovakia) or in countries which were marked the most by the financial and economic crisis (e.g. Portugal, Spain Greece, Italy). As far as Polish regions are concerned, five of them are classified as moderate followers – the developed regions of central and south part of Poland. However, eleven of them are modest followers – on the one hand, the poorest ones situated on the east part of Poland but on the other, surprisingly also the richer ones located on the west side of country.

<sup>3</sup> Comparing to IIS, RIS is based only on 11 indicators from 25 used in ISS, because some regional data was not available.

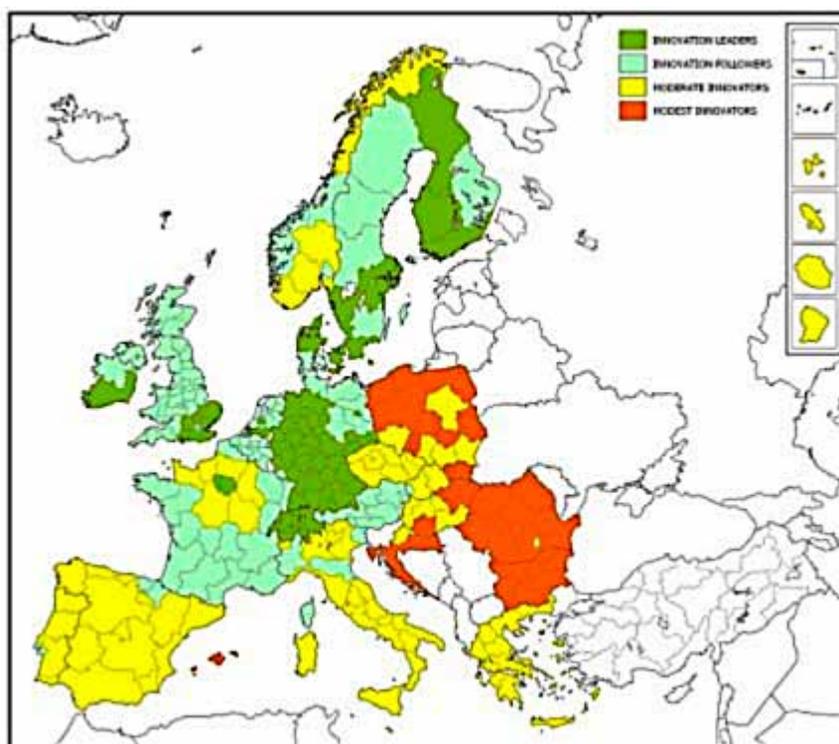


Fig. 5. Regions' innovation performance (source: Regional Innovation Scoreboard 2014)

## 5. Smart specialisation in Polish regions

Taking into account the European Commission recommendations mentioned in Chapter 1, Polish regions have chosen their smart specialisations. The data presented in Table 2 were gathered on the basis of information presents on S3 Platform, regional innovation or development strategies and the report made for The Ministry of Regional Development.

The results in Table 2 show that regions defined very differentiated smart specialisation. The most popular are quite new and modern sectors like IT/multimedia, bio-economy, healthy food and medicine especially medicine tourism. On the contrary, there are also regions, in which traditional sectors like gun & metal industry or power engineering will play the dominant role of regional development – adequately 7 and 6 voivodeships. On the one hand, some regions identified very rare specialisation like mining, manufacture of plastic products, textile industry/design aviation and aerospace, gate to east, offshore technologies and water economy. On the other hand, a part of specialisations, which are seen as universal ones, is chosen by a few regions for example

Table 2. Smart Specialisation in Polish regions (source: author's own research on the basis on regional innovation strategies and regional development strategies: Inteligentna specjalizacja (IS)... 2012; Program rozwoju inteligentnych... 2015; Program Strategiczny Regionalna... 2014; Regionalna Strategia Innowacji... 2011, 2012, 2013, 2014; Strategia Rozwoju Województwa... 2013a, 2013b; Zaktualizowana Strategia Rozwoju 2013; Założenia aktualizacji Regionalnej... 2012, and the reports: Potencjały i specjalizacje... 2013; Obszary inteligentnych specjalizacji... 2014; Ramy Strategiczne 2014)

Specialisation	Voivodeship (Region)															Sum	
	dolnośląskie	kujawsko-pomorskie	lubelskie	lubuskie	łódzkie	małopolskie	mazowieckie	opolskie	podkarpackie	podlaskie	pomorskie	śląskie	świętokrzyskie	Warmińsko-mazurskie	wielkopolskie	zachodniopomorskie	Sum
ICT/Multimedia	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	10
Bio-economy	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	9
Healthy food	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	9
Medicine/M.tourism	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	9
Gun and metal industry	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	7
Power engineering (including OZE)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	6
Chemistry	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	4
Creative industry	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	3
Services for business	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	3
Construction	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	3
Logistics, water and land engineering	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	3
High life quality	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	2
Woodworking & furniture	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	2
Mining	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1
Manufacture of plastic products	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1
Textile industry/ Design	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1
Aviation and aerospace	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1
Gate to East	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1
Offshore technologies	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1
Water economy	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1
Sum	7	8	5	4	5	5	4	5	3	2	8	3	5	2	6	5	

creative industry, services for business, high quality of life. It can be the result of mature approach of regions to the assessment of own potential or the necessity of limiting the number of priorities. However, the list of smart specialisation is not closed because the process of their selecting is still ongoing (for example in dolnośląskie and podlaskie voivodeship).

Moreover, the process of smart specialisation identification was different in each regions – more often integrated with the updating of regional innovative strategies or regional development strategies. Only a few regions prepared specially dedicated strategies towards smart specialisation. In addition, as Table 3 shows, the most popular method of smart specialisation design was the analysis of scientific and technological potential with the use of desk research as the basis for later research. The results of these analysis were deepened by expert panels and individual interviews. Some regions have done comprehensive procedure of specialisations selecting, but unfortunately with little participation of foresight methodologies and benchmarking. However, many authors emphasise that foresight method is an efficient, but unappreciated instrument of regional strategic management, supporting the development of regional policies, development scenarios and decisions. It could be also used as the tool in smart specialisation identification thanks to its long time-span, flexibility and ability to adapt to changing conditions but also participation of all stakeholders in the process (Ejdys, Lulewicz-Sas 2013; Kononiuk, Nazarko 2011).

Table 3. Research techniques of smart specialisation identification in Polish regions (source: author’s own research on the basis on sources mentioned in Table 2)

Specialisation / Voivodeship (Region)	dolnośląskie	kujawsko-pomorskie	lubelskie	lubuskie*	łódzkie	małopolskie	mazowieckie	opolskie	podkarpackie	podlaskie	pomorskie	śląskie	świętokrzyskie	warmińsko-mazurskie	wielkopolskie	zachodniopomorskie
Desk research	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Statistic methods	■			■	■		■		■			■				■
SWOT analysis	■				■					■		■	■			■
Scenario analysis	■				■				■							
Individual in-Depth Interviews					■				■		■	■				■
Focus Group Interview							■		■		■	■				
Experts panel		■		■	■							■				■
Five Porter’s forces analysis					■											
Technological foresight						■						■				

The good example of research project aiming to select technological specialisations on regional level is *Foresight technologiczny «NT FOR Podlaskie 2020»: Regionalna strategia rozwoju nanotechnologii* (Nazarko 2011; Nazarko *et al.* 2013). The project involved many experts from numerous national and international research centres and numerous stakeholder groups representing entrepreneurs, local authorities, non-governmental organisations, media and students. An important novelty, in comparison with the previous regional strategic documents, is the approach based on foresight, which aims to develop a vision of desirable future. The authors express their hope that the strategy will contribute to the development of the knowledge-based economy in the region, including the intensive exploration of the possibilities afforded by nanotechnologies. Policy-makers and other stakeholders can use this kind of projects based on foresight method as a helpful tool for creating regional innovation policy.

To sum up, the analysis of Polish smart specialisation strategies conducted recently, have shown many problems identified within the current system of innovation support, including the RIS3 frameworks both at the national and regional levels. They are concentrated in four following aspects (Piatkowski *et al.* 2014):

- coherence – limited cohesion not only between but also within the various governance levels, which results in chaotic actions and a high degree of uncertainty in the system;
- quality – the low quality of strategic documents, including RIS3, as well as failure in fulfilling ex ante conditionality, resulting in “business-as-usual” rather than supporting a fundamental socio-economic change;
- smart specializations – selection of smart specializations is not treated as a key tool in socio-economic transformation;
- implementation – an implementation system is still a weak element in the RIS3 framework, which lowers the realism of the presented ideas and weakens the impact of the strategy.

## 6. Conclusions

The article presented the concept of smart specialisation, its relevance with regional development, characteristics of specialisation areas in the European Union, methodological approaches to identify smart specialisation at the regional level on the example of Polish regions. Although each Polish region selected smart specialisation, the experts have recently identified many problems within the current system of innovation support, including the innovation strategy frameworks both at the national and regional levels. In addition, the final shape of the criteria according to which RIS will be assessed, is still during negotiations. Therefore, regions are still uncertain how their strategies will be assessed. In result, the author of this article states that further researches on the issue of smart specialisation should be conducted in order to help regions in case of failure. From a scientific point of view, the most substantial in not only the evaluation of methods and means used to designate the smart specialisations but also verification of their contribution to development of the region, country or Europe.

## **Disclosure statement**

I have no competing financial, professional, or personal interests from other parties.

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