

Changing the development path of a region – a case study of the Lower Silesian Voivodeship

Abstract

A case study of the Lower Silesian Voivodeship is presented in this article. From the European Union's perspective, Lower Silesia is an example of a less developed region; however, it is also an example of a region that has improved significantly in regards to development due to a change in its innovation model. The purpose of this article is to identify the factors that have had an impact on the change in the region's development path (stimulants), as well as to indicate the weaknesses and barriers limiting further development. This article is based on a review of the literature, statistical data analysis as well as structured, in-depth interviews that were conducted with representatives of regional and local authorities, scientific units and business-related institutions. Recommendations for the regional policy of Lower Silesia have been formulated on this basis.

Keywords

Regional development • innovation • regional development path • path dependency

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Received: 23 February 2017

Accepted: 21 June 2017

Introduction

Attention should be paid to the significant doctrinal re-evaluations concerning regional development that have been presented in the last decade. They were related, among other things, to the following: new economic geography (Krugman 1995; Fujita, Krugman & Venables 2001), policy based on location (Barca 2009) and space of flows (Castells 1996; Castells 1997). The World Bank and the OECD played a key role in adapting such experiences to the framework of particular public policies (The World Bank 2009; Gill 2010; OECD 2009a; OECD 2009b); thus, a new paradigm of social and economic development has been written about. In this paradigm, territorial matters have an important meaning for the shape of development processes within particular territories (Gawlikowska-Hueckel & Szlachta 2014; Zaucha et al., 2015).

Since introducing the Delors package in 1988, the European Union has implemented an active regional policy oriented towards social and economic coherence, which was completed in the Lisbon Treaty with territorial coherence (Barcz 2008). A significant change that took place at the beginning of the twenty-first century involved shifting the priorities of regional policy from coherence to competitiveness. This was related to striving to reverse the negative megatrends in the global economy that involved erosion of Europe's economic position, including that of the European Union. Initially, the Lisbon Strategy of 2000 served this purpose, then the Renewed Lisbon Strategy of 2005, and finally the Strategy Europe 2020 from 2010 (the European Commission 2010). The latter was accepted as the basis for all EU policies in the 2020s. It underlines the current assumption that the purpose of the European coherence policy and other European policies for 2014–2020 will be the most efficient way of implementing this

strategy. The priorities of Strategy Europe 2020 are as follows: (1) development of the economy based on knowledge and innovation; (2) sustainable development; and (3) favouring an economy with a high employment rate, and ensuring high social and territorial coherence. This means a substantial emphasis on actions oriented towards competitiveness, innovation and the R&D sector, which was also expressed in the anticipation of common frameworks for the implementation of regional innovation policies that were supposed to be based – according to a guide developed by experts from the European Commission – on smart specialisations strategies (RIS3) (Foray et al., 2012).

Strategy Europe 2020 has become the basis for all EU policies that are supposed to stimulate positive changes in the economy and society of the European Union for the current decade. The 2014–2020 European coherence policy will obviously have an important meaning for the efficient implementation of this strategy as it has the necessary funds and instruments.

Methodology

This article describes a case study of the Lower Silesian Voivodeship, one of five Polish regions selected for detailed analysis within the research project: “Changing innovation processes models: a chance to break out of path dependency for less developed regions,” which is financed by the National Science Centre. The purpose of the case study was to determine the factors that influenced the change in Lower Silesia's development path as well as their significance. In the first stage of the study, statistical analyses of Eurostat and Central Statistical Office data were carried out. These allowed the determination of

the current level of Lower Silesian Voivodeship's development and the dynamics of the changes in the basic innovation indicators compared to other European regions. Then, based on the conclusions of the statistical analyses and a scientific literature review, the comparative advantage of the region was determined. In the next step, these factors were verified against the information and opinions obtained during the individual in-depth interviews with the main actors of the regional innovation system.¹ Due to length limitations, in this elaboration we focus our attention mostly on the results of the qualitative research.

In recent decades, with the exception of Mazovia, the Lower Silesian Voivodeship posted the highest increase in GDP *per capita*, according to purchasing power parity, of all Polish regions, thanks to which it advanced (amongst the EU 28) from a level of 46% in 1997 to 57% in 2006 and to 76% in 2014 (Central Statistical Office 1999–2016). Lower Silesia was also the second region (after Mazovia) to reach a level exceeding 75% of the EU average regarding GDP *per capita* measured as purchasing power parity. Clusters' analysis also indicated that in the twenty-first century Lower Silesia increased its innovation model by one class (from class C to class B) (Wojnicka-Sycz 2015). The Lower Silesian Voivodeship currently reflects the development path of strongly growing, less developed regions of the European Union. The statistical analyses indicate that, thanks to the strengthening of potential in the field of high technologies; along with an increase in the population's level of education, and an a rise in employment in the science and technical sectors as well as selected industrial and service branches within high and medium high technical areas, it was possible to change the development path of the region (Wojnicka-Sycz 2015). Since 2000, the region has been in the group that has had constant growth in terms of an innovative economy and business environment (Dominiak 2014). The changes, their direction and dynamics, indicate that the economy of Lower Silesian Voivodeship is increasingly based on knowledge and innovation (see Korenik 2006; Skórska 2014).

The most important factors that favoured structural changes were described using matrixes applied in SWOT analyses. Later in the article, the potentials and weaknesses of the Lower Silesian Voivodeship are characterized (internal features of the region) as well as opportunities and development barriers (region-related elements).

Potentials of the Lower Silesia Voivodeship

One of the key factors that stimulated the development of Lower Silesia was an inflow of foreign direct investment into the region. From the beginning of the 1990s, due to its beneficial geographical location the Lower Silesia Voivodeship effectively attracted foreign capital. After Poland joined the European Union in 2004, the inflow of foreign direct investment became even more dynamic. The voivodeship has had noted high positions in investment attractiveness rankings for Polish regions for many years (in the last IBnGR rating, third position). Factors such as economic and social infrastructure, transport availability and most of all, activities directed at attracting investors, are assessed highly (Tarkowski 2015). In the ranking, it is understood that, a high number of investment offers, a distinguished Regional Investor Assistance Centre, an above-average intensity of activities distributing information, but also that local and regional authorities as well as residents are open to new investors, all have an important meaning. Undoubtedly, the development of investment

¹In total, 11 in-depth interviews were conducted, including interviews with representatives of the Department of Regional Development and the Department of European Funds of the Marshal's Office of the Lower Silesian Voivodeship, the local government of the city of Wałbrzych, the Institute of Territorial Development, the Wrocław Regional Development Agency, the Wrocław Technology Park, the Wrocław Centre for Technology Transfer, the Wrocław Research Centre EIT+, the Wałbrzych Special Economic Zone "Invest-Park" and the NutriBiomed Cluster.

areas, in particular those that have the status of special economic zone (SEZ) significantly impacted the investment attractiveness of the region (see Drelich-Skulska 2006; Jarczewski 2012). Lower Silesia has the largest number and the greatest surface area of SEZ subzones (the surface area of all investment areas in SEZs exceeds 3.6 thousand hectares and nearly 370 business entities have invested in the area with a declared employment level of 61 thousand people) (the Marshal's Office of the Lower Silesian Voivodeship 2016). Foreign investments have contributed to the creation of new workplaces in the region as well as to modernizing the economy through the inflow of new technologies and knowledge. Here, it should be underlined that the region's employment structure is very beneficial (third position in the country regarding the share of employment in industry, 26.4%), and the industry sector is characterized by the highest gross value added (GVA) *per capita* in the country (EUR 37.4 thousand *per one* employed person in 2013). However, SEZs in Lower Silesia not only attract manufacturing companies, but also global companies that situate their competence centres there (Hajduga 2011).

Another important factor in the development of the Lower Silesian Voivodeship is its scientific potential. Wrocław is a significant academic and scientific centre both for Poland and Europe. Regarding both the number of students (nearly 130 thousand students in 2015) and the activities of its educational units concerning research (29 educational units assessed in this category as A+ and A by the Ministry of Science and Higher Education) it achieves high positions in comparison to other Polish voivodeships. It is worth noting that educational courses are adjusted to the regional employment market (nearly every third graduate of a university in Lower Silesia completed engineering studies). An important element of Lower Silesia's regional innovation system is the presence of numerous pro-innovation and business-related institutions. Obviously, Wrocław has the greatest potential in this field, as it has technological parks, technology transfer centres, entrepreneurship incubators, and research and development centres – including the first RTO organization (*Research and Technology Organization*)² in Poland; but institutions supporting entrepreneurship and the innovation of companies are also located in sub-regional cities as well as some county centres.

Weaknesses of the Lower Silesia Voivodeship

The positive effects of economic modernization and changes in the innovation process models are, unfortunately, not apparent in all parts of the region to the same extent. Within the voivodeship there are both strong growth poles, such as the Wrocław metropolitan area and the Legnica-Głogów Copper District, as well as areas in which negative social and economic phenomena accumulate; this results from both peripheral locations (Kłodzko region, mountain areas, and north-eastern regions of the voivodeship) as well as economic transformation processes (e.g. Wałbrzych agglomeration). Social and economic degradation and a simultaneous lack of appropriate quality communication connections spatially that isolates these parts of the regions, means that they are subject to strong depopulation processes. Wałbrzych constitutes a clear example as it has, since the beginning of the 1990s, lost 25 thousand residents, a decrease of 17%, and what is more challenging, the demographic forecast for this part of the voivodeship is not optimistic (Górecka, Szmytkie 2015).

Another of Lower Silesia's weaknesses is the lack of continuity in development policies, which results from a large variability in personnel at the level of regional authorities. Strong animosities between the political systems and the elites associated with the

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four smaller voivodeships that existed in Lower Silesia until 1999 – Jelenia Góra, Legnica, Wałbrzych and Wrocław – are often visible. It can be stated that political cooperation is significantly stronger within particular sub-regions rather than the entire region. There were many respondents who had the opinion that the region is divided into Wrocław and the rest of the voivodeship; a lack of understanding and acceptance of policies based on the concept of the polarization-diffusion model was also mentioned (see Churski 2014). In many places self-governance at the local level brought about positive effects thanks to the tools with which local governments have been equipped in recent times (Integrated Territorial Investments, Urban Revitalization Programmes), but undoubtedly the result of actions undertaken at the regional level or the governmental level are also extremely significant for the peripheral areas of the Lower Silesian Voivodeship. Establishing the Wałbrzych Special Economic Zone “Invest-Park” in 1997 helped the region of Wałbrzych to recover from its economic collapse, however, new sub-zones being opened in relatively well-developed urban agglomerations, has weakened the competitiveness of this sub-zone.

Another weakness of the region is the low level of trust and cooperation between representatives of the sectors of science and business as well as other entities of the regional innovation system (underdeveloped quadruple helix). The number of clusters functioning in the region does not fully reflect the real cooperation potential, as numerous institutions were established as a result of external funding (usually from the EU) and when the funding is restricted or ceases, there are justifiable concerns that many of them will terminate their activities.³

Lower Silesia's Development opportunities

Among the external factors determining the development policy for the region in the coming years, the adoption of the smart specialization concept is seen as the most important when creating regional innovation policies (see Foray 2015; Dziemianowicz & Peszat 2014). The regional innovation policy that is currently implemented in the Lower Silesian Voivodeship allows for a greater concentration of funds (also EU funds) in areas that are strategic for the region, but most of all it creates an opportunity to enter into more permanent relations in the fields of science and economy, which together, as has been indicated by various scientific, economic and political communities, are essential for the development of the region.⁴

Another factor that is very important for the development of Lower Silesia is cross-border cooperation. Good neighbourhood relations, particularly with Germany, already bring positive effects both at the local and regional level. Greater openness for cooperation with the Czech Republic with which relations are good but not sufficiently taken advantage of, would certainly bring real benefits for the entire region (currently cooperation occurs mostly in border municipalities).

Lower Silesia's development barriers

A significant limitation in the development of the Lower Silesian Voivodeship is the lack of appropriate transport infrastructure that connects the south of the region with Wrocław. Protracted

procedures related to the construction of the S3 express road as well as the lack of modernization of the railway network (which despite having the greatest density in Poland is not competitive in comparison to vehicle transport in many places) deepens the spatial isolation of the Kłodzko Valley and limits the possibilities for the development of commercial exchange and increased tourism from the Czech Republic. The Sudetes mountains still constitute a physical barrier to the development of the southern part of Lower Silesia.

Another risk for the long-term perspective could be the termination of the Special Economic Zones' activities in the Lower Silesian Voivodeship. As indicated by the studies conducted by Ernst and Young (2011), preferences and tax exemptions (and the length of their application) are among the key factors in deciding about the location of companies in these areas. In 2011, when a decision about extending the activities of SEZs until 2026 was not made, more than a half of the investors who were conducting activities in these zones declared that they were not planning to implement new investment in SEZs if they were to function only until 2020. Therefore, the question as to whether investors will remain in the region if SEZs cease to exist in their current form or whether they will make decisions about relocating activities, remains relevant.

Conclusions and recommendations for regional policy

As can be concluded from the conducted studies, the development trajectory of Lower Silesia was exceptionally beneficial after the political changes at the beginning of the twenty-first century and after Poland joined the European Union. Lower Silesia took second position in the regions of Poland concerning development parameters. The region turned out to be relatively resistant to disturbances in the development processes that initially resulted from the financial crisis, and then from the economic crisis that affected the European Union and its member states after 2007 (Gawlikowska-Hueckel & Szlachta 2016).

We may say that the very dynamic social and economic expansion of Lower Silesia in recent decades has mostly resulted from using simple reserves such as the advantages of its geographical location (excellent transport accessibility in the European context), the privileges of having Special Economic Zones, a good economic situation within world copper production, the removal of numerous barriers and limitations to the development of the economy thanks to the political transformation, as well as cheap and relatively well-educated labour force resources. The first stage of the local government reform was an essential component in the dynamic social and economic development of Lower Silesia, as a result of which empowered local governments were established at the beginning of the 1990s. Numerous cities and municipalities took advantage of the possibility for creating high quality, efficiently implemented local strategies; an excellent example of which is the city of Wrocław and the municipalities near to Wrocław. Also, the possibility of taking advantage of significant funds (due to their scale) within the European Structural and Investment Funds after 2004 and mostly managed at the regional level, also favoured the economic expansion.

As indicated in the literature on the subject, Poland and its strongest regions have already fallen into the middle income trap (Geodecki et al., 2013). This means it is unable to further improve its economic position within the European Union, or the world, based on traditional functions and development potentials. Lower Silesia is one of the Polish regions that is most exposed to such fundamental re-evaluations of its position. This results from the following: the exhaustion of simple development reserves, the perspective of a fundamental limitation in the scale and scope of intervention by the European Structural and Investment Funds

³Obviously, positive examples can be pointed out of such organizations that have functioned for many years in Lower Silesia, members of which see real benefits in participating in clusters and who declare that they will maintain cooperation even after the termination of external funding. An example of such an organisation in the region is the NutriBiomed cluster (combining nearly 70 entities), which is the only cluster from the Lower Silesia Voivodeship to be entered in the list of national key clusters.

⁴In the Lower Silesian Voivodeship six areas of smart specialisations were pointed out: the chemical and pharmaceutical industry, spatial mobility, high quality food, natural and secondary raw materials, production of machines and devices, material processing, and information and communication technologies (the Marshall's Office of the Lower Silesian Voivodeship, 2015).

in Lower Silesia after 2020, the dependence of the region's development trajectory on the economic situation of the copper raw material industry, and, despite an extension for another ten years (i.e. until the 31st of December 2026) the periodicity of solutions concerning SEZs, amongst other things.

With this background, several necessary elements of public policy may be indicated, including regional policy, which also conditions the maintenance of the voivodeship's beneficial development trajectory into the coming decades. The first element is to strengthen the metropolitan functions of the functional area of Wrocław. Wrocław is currently the second or third centre in Poland according to economic power. It has very beneficial parameters within the R&D sector, the strength of an academic centre, the development its cultural sectors, public services, its finance sector, its business-related sector, and events and initiatives that are of global and European significance, all of which must be maintained. An increase in the impact of this metropolitan area on various spatial scales, including the voivodeship, macro-regional and international scales, is essential.

The second element is to build an efficient network for improving the development processes within the entire voivodeship. In comparison to the high level of social and economic development of Lower Silesia, parameters concerning social capital are relatively low. The quality of cooperation between the various stakeholders in development processes requires fundamental improvement. The previously mentioned internal regionalization of Lower Silesia does not favour complex thinking concerning development on the scale of the entire voivodeship; therefore, consistent strengthening of skills and the will to cooperate, is necessary, not only on the scale of the functional area of Wrocław's Integrated Territorial Investments, but on the scale of the entire voivodeship, and in the spirit of the quadruple helix.

An analysis of the territorial regularities of Lower Silesia's social and economic development indicates that the maintenance of a dual structure is still visible as discrepancies between the

Wrocław sub-region and Legnica sub-region, and the sub-regions of Jelenia Góra and Wałbrzych increase, which is also as a result of the negative course of migration and demographic processes. Some areas of the Sudetes, exposed to further losses of potential and population migration loss, as well as a deepening in the deficiency of modern development functions, are particularly affected. Therefore, the third element should be a greater emphasis on a more efficient approach to matters concerning the internal coherence of the voivodeship, also at the local scale, and based on modern development factors.

Finally, shaping Lower Silesia's economic specialization (smart specialization) requires special diligence. It should involve expanding the economic portfolio in order to decrease the dependence on the raw materials industry as well as to develop science-intensive industries based on technological and academic potential. In the literature, the significance of using the so-called wild cards or black swans – which are suddenly emerging opportunities for development – is pointed out (Taleb 2007). Lower Silesia is one of only a few regions in Poland where such possibilities should occur, however their use requires the existence of the relevant structures.

In general, it may be stated that qualitative and quantitative changes within the innovation processes that occurred in Poland, allowed for a beneficial development trajectory for Lower Silesia. However, they require development and better configuration to effectively avoid the trap of the average development level.

Acknowledgements

The research leading to this paper has received funding from the National Science Centre, Poland under grant: "Changing innovation processes models: A chance to break out of path dependency for less developed regions" (grant n° DEC-2014/13/B/HS5/03612). The grant was awarded to the University of Warsaw, Faculty of Geography and Regional Studies.

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