

Regional Differences in Economic and Social Development in Poland - Evaluation and Recommendations

Joanna KUDEŁKO

Cracow University of Economics, Cracow, Poland
kudelkoj@uek.krakow.pl

Abstract. This paper discusses variations in the level of development of Polish regions. These variations have resulted from prolonged socio-economic transformation processes over time. They are rather durable in nature and tend to deepen. In stimulating the development and bridging gaps between regions a significant role is played by policies implemented in particular areas, policies that should be considered as one of the most important determinants of regional development. This paper also gives some recommendations for the regional policy. In the context of eliminating adverse spatial differences one should favour the conduct of policies targeted more at the support of underdeveloped regions. The challenge facing Poland's regional policy is to design a model of development policy in which the participation of national and local governments in the area of decision-making and financial support is greater than ever before. Stimulating regional development based on the metropolis and processes of diffusion of growth factors should be backed by simultaneous decisive action involving bottom-up development of their regional environment.

Keywords: Poland's Regional Policy, Poland's Regions', Regional Developmental Differences in Poland.

1 Introduction

There are two main aspects of socio-economic development processes. One involves the creation and expansion of social income, and the other – its division. Indeed, development varies in time and space. Variation of development in time means that each of its stages is characterised by variable dynamics. Variation in the development process in space is associated with unequal distribution of social income among different territorial units. This situation, in turn, generates spatial differences in development levels, which becomes evident at different scales – global, national, regional and local.

Classical theories of polarization, on the basis of which many new ideas have developed today, assume that development is a process that does not proceed evenly in space, but its factors have a tendency towards focusing on selected growth poles [11]. The basis of accumulation of differences between individual countries and regions is

the accumulation of political, economic and cultural events in the most attractive locations for production factors. Market mechanisms are not conducive to optimal allocation of production factors. One of the manifestations of market failure are the barriers which hinder entering it. These barriers also concern access to new technologies, which are a prerequisite for development [8]. Technological progress is endogenous, and for this reason access to the new technologies of given countries is varied. Consolidation of the economic advantages of the highly developed countries promotes openness of economies and international trade. The benefits of international exchange are not symmetrical for all participating countries. The growing process of globalization and economic integration, as well as greater openness of economies, promotes the removal of barriers hindering competition and increases disparities in development levels and the living standards of people in given countries and regions. This results in the polarization of economic activity in the economically strongest regions and at the same time marginalizes the weaker regions.

In view of the mechanisms leading to polarisation of development, attempts to reduce spatial differences and the stimulate less developed regions constitute some of the most important objectives of the Polish and European regional policy. Activities arising in connection with the policy must be stronger than the market forces that resist them. Otherwise, the ongoing processes of polarisation will lead to the marginalisation of less developed regions which tend to be located far from Europe's central growth areas, especially from places of high concentration of science and technology.

Spatial variation in the socio-economic development of regions generates many negative consequences, for which reason the EU, as part of its cohesion policy, is taking extensive action in order to reduce such differences.

In this article the author analyses regional differences in Poland. Also included are some recommendations for regional policy implementation in the future.

2 Spatial Variation in Poland

Poland is divided into 16 NTS type 2 regions. This territorial division was adopted in an administrative and territorial reform of the country and has been in force since January 1999. The reform was implemented with a view to decentralisation of power and empowerment of Poland's regions, entailing their creation and empowerment as agents of government and public administration. The changes were spurred by the conditions and principles underlying the development policy in EU countries.

The subsequent analysis of regional differences in Poland focuses on the period between the delimitation of the current provincial boundaries, i.e. the 1999 and 2016.

GDP per head of population is a synthetic indicator of the socio-economic development of the regions. On the basis of this index the author computed the coefficient of dispersion of regional GDP per head of population in Poland, which is a measure of sigma (σ) type convergence. It occurs when absolute values of development level measures become equal. The second type of convergence – type (β) convergence implies a higher development rate of less developed units in comparison with their more

developed counterparts. However, the existence of (β) convergence does not always entail sigma (σ) type convergence.

The dispersion ratio is calculated as the sum of values of absolute differences between the values of per capita GDP in each province and the value of the country's GDP per head of population, weighted by the share of each province's population in the total population of the country. This ratio is expressed as a percentage of the country's GDP per head of population. The greater the distance between the regional and national GDP (calculated as a weighted average), the higher the dispersion rate.

As regards Poland's regions this indicator increased over the period 1999-2011 from 17.5% to 22.0 % (see Table 1). This indicates that the period in question witnessed sigma (σ) type divergence, which can signal an increase in differentiation between Poland's provinces. In 2012 it decreased to level 20.8% and remained on the similar level until 2015.

Table 1. Indicator of dispersion of regional GDP per head of population in Poland [13].

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007
Indicator value	17.5	17.5	18.3	17.9	18.3	18.7	19.3	19.7	19.9
Year	2008	2009	2010	2011	2012	2013	2014	2015	
Indicator value	19.6	20.7	21.5	22.0	20.8	20.7	20.8	20.8	

A more detailed analysis of regional differences in Poland was conducted on the basis of selected indicators that characterise different aspects of socio-economic development.

Out of all the analysed aspects, in 1999 the largest differences between the regions were ascertained in terms of research and development outlays per head of population, as evidenced by the high value of the coefficient of variation (99.2%) calculated on the basis of this characteristic in the different regions (see Table 2). The ratio of the highest value to the lowest one for this characteristic was 22: 1. The largest research and development outlays were revealed in Mazowieckie province, followed by Małopolskie, Łódzkie and Dolnośląskie provinces. The least favourable in this respect was the situation in Lubuskie, Opolskie and Podlaskie provinces.

Large regional differences were also observed in investment outlays, although here the differences were not as pronounced as in the above case. The coefficient of variation stood at 42.7%, and the relationship between the values of the characteristic in the best province (Mazowieckie) and the weakest (Warmińsko-Mazurskie) was 3.9: 1. Mazowieckie province excelled on this count again and was followed by Dolnośląskie, Wielkopolskie and Śląskie. The smallest investment was recorded in Warmińsko-Mazurskie, Lubelskie and Podlaskie provinces.

Table 2. Selected indicators of socio-economic development of Poland's provinces in 1999 [13].

Region	1	2	3	4	5	6	7	8
Dolnośląskie	17928	16.0	33520	3605	9700	581	95	91.5
Kujawsko-pomorskie	15154	16.9	28397	2239	10818	513	57	75.3
Lubelskie	12260	12.9	29934	1780	5475	491	75	71.5
Lubuskie	15574	17.5	30538	2913	9474	549	18	55.8
Łódzkie	15630	14.3	30680	2510	9987	575	100	88.8
Małopolskie	14981	10.2	28800	2646	9388	560	134	144.3
Mazowieckie	26608	9.5	52237	6829	16830	680	398	79.5
Opolskie	14398	13.2	38707	2645	10144	507	34	89.1
Podkarpackie	12397	14.5	25964	1998	7575	477	67	81.4
Podlaskie	12742	12.5	30767	1904	6103	479	35	51.4
Pomorskie	17427	13.8	33660	3159	11047	568	90	63.3
Śląskie	18406	10.4	37321	3323	15391	597	81	160.9
Świętokrzyskie	13328	15.1	30092	2204	7290	468	73	96.3
Warmińsko-mazurskie	13432	22.4	29361	1743	7445	466	36	50.3
Wielkopolskie	18058	10.5	33837	3353	13708	559	86	78.5
Zachodniopomorskie	17220	18.1	36157	2594	9164	591	40	58.1
Average	15971	14.2	33123	2840	9971	541	89	83.5
Coefficient of variability	22.0	24.1	18.6	42.7	31.5	10.9	99.2	36.8

1- Gross domestic product per capita in PLN, 2- Registered unemployment rate in %, 3- Gross value of fixed assets per capita in PLN, 4- Investment outlays per capita in PLN, 5- Sold production of industry per capita in PLN, 6- Average household's disposable income per capita in PLN, 7- Gross domestic expenditures on research and development per capita in PLN, 8- Hard surface public roads per 100 km² in km.

The density of hard surface public roads was another analysed characteristic on whose account regions differed significantly. In this respect, the centrally located region of Mazowieckie ranked only number eight. This reflects its poor spatial infrastructure in areas other than the capital city of Warsaw. Śląskie province excelled in this respect, followed by Małopolskie and Świętokrzyskie in the third place. The lowest road density was revealed in Warmińsko-Mazurskie, Podlaskie and Lubuskie.

The smallest spread between regions occurred in terms of the average household's disposable income. The coefficient of variability for this characteristic was 10.9%, with income in the highest-ranking region of Mazowieckie being one and a half times higher than that of the weakest Warmińsko-Mazurskie.

Analysis of selected indicators confirms a clear superiority of Mazowieckie province over the other provinces. In 1999 it ranked the best in seven out of eight characteristics and stood a long way ahead of the remaining provinces. Across the country Śląskie, Wielkopolskie and Dolnośląskie followed by Pomorskie and Małopolskie stand out positively. The weakest group is constituted of the provinces of eastern Poland. They

faired particularly bad in terms of per capita GDP and investment outlays, sold production of industry and the available income of households.

The development processes between 1999 and 2016 only served to deepen the differences between Polish regions. For a majority of the studied aspects of development (five out of eight) the differences in 2016 were even higher than in 1999. (see Table 3).

Table 3. Selected indicators of socio-economic development of Poland's provinces in 2016 [13].

Region	1 ^{a)}	2	3	4	5	6	7	8
Dolnośląskie	52203	7.2	100975	5255	40177	1586	372	97.8
Kujawsko-pomorskie	38190	12.0	77765	2551	26014	1309	139	98.4
Lubelskie	32074	10.3	74009	1795	17180	1299	293	87.4
Lubuskie	39052	8.6	100919	3555	32317	1499	82	62.3
Łódzkie	43772	8.5	91646	3706	30434	1458	281	111.9
Małopolskie	42160	6.6	82090	3160	26547	1423	947	164.3
Mazowieckie	74682	7.0	143035	6354	46107	1781	1284	104.3
Opolskie	37816	9.0	85077	6546	25460	1390	139	89.4
Podkarpackie	33176	11.5	76443	2601	20531	1134	359	93.7
Podlaskie	33272	10.3	79597	2118	19484	1420	150	65.1
Pomorskie	44955	7.1	90359	3704	37525	1560	535	73.4
Śląskie	48670	6.6	93414	4375	47248	1513	264	176.5
Świętokrzyskie	33841	10.8	72750	1624	19431	1306	107	121.9
Warmińsko-mazurskie	33179	14.2	74783	2073	21795	1372	115	55.4
Wielkopolskie	50790	4.9	97675	4286	45735	1400	311	97.1
Zachodniopomorskie	39569	10.9	92465	2412	23292	1483	110	60.9
Average	42338	9.0	89563	3507	29955	1433	343	97.0
Coefficient of variability	25.5	27.2	19.2	43.8	34.6	10.2	96.8	35.2

a) figures for 2015

1- Gross domestic product per capita in PLN, 2- Registered unemployment rate in %, 3- Gross value of fixed assets per capita in PLN, 4- Investment outlays per capita in PLN, 5- Sold production of industry per capita in PLN, 6- Average household's disposable income per capita in PLN, 7- Gross domestic expenditures on research and development per capita in PLN, 8- Hard surface public roads per 100 km² in km.

The greatest differences continued to be seen in gross domestic expenditures on research and development. In 2016 the variation coefficient for this characteristic stood at 96.8% and the value of per capita expenditure in the best region – Mazowieckie was nearly 16 times higher than that in the weakest – Lubuskie. The difference in this case narrowed on 1999 however, which is a welcome development.

The investment outlays still continued to significantly differentiate the domestic space. The variation coefficient stood at 43.8% and the ratio of the highest to the lowest value was 4.0 : 1.

The disparity in terms of the sold production of industry. The variation coefficient stood at 34.6% and the ratio of the highest to the lowest value was 2.8 : 1.

However, a sizeable narrowing of the gap between density of public roads should be viewed as a positive change. In this case, the coefficient of variation decreased from 36.8% to 35.2%.

The 17 years under analysis, in principle, did not witness a change in the situation of individual provinces in terms of socio-economic development.

Mazowieckie continued to stand out. Other relatively highly developed regions, as before, include the provinces of Śląskie, Dolnośląskie, Wielkopolskie and Pomorskie. There was no change in the situation of the least developed regions of Eastern Poland. In terms of most of the development aspects under analysis they occupied the lowest places in the national ranking and fared particularly badly in terms of per capita GDP and sold production of industry.

The analysis indicates that the national spatial diversity is quite pervasive in nature and tends to deepen. Similar conclusions can be drawn from studies carried out by other authors [1, 2, 4, 6, 10].

The increase in disparity was noted in most of the characteristics studied. This means that the less developed regions still have a lot of catching-up to do and despite increased capital expenditure are not able to quickly make up for accumulated gaps separating them from more developed ones. This confirms the rule that lagging economies usually achieve higher growth rates, but because they start from a lower level, they are not able to quickly bridge the gap between them and highly developed economies.

3 Recommendations for Regional Policy

In stimulating development and bridging the spatial gap great importance is attributed to the way in which policies relating to certain areas are implemented as these policies should be considered to be one of the most important factors of regional development.

In the cohesion policy programming period 2014-2020, Poland remains to be one of its major beneficiaries. The funds granted to Poland amount to EUR 82.5bn. It offers great development opportunities for Polish regions, accelerating the process of advancement.

Although, according to the analysis, the differences in levels of development in the Polish and European space increased, it cannot be inferred that cohesion policy is ineffective. The possibility of using European cohesion policy instruments provides less-developed regions with a chance to accelerate the process of socio-economic development. It would also be worth considering what the situation would look like if cohesion policy was not in place at all. Then probably the development gap would increase even more. One cannot therefore question the rationale for the implementation of cohesion policy and its continuation in the next programming periods, although certainly one could hope for better results. It should also be noted that the effects of

cohesion policy are long-term, and the development activities initiated by the policy will generate long-term results.

In the context of the implementation of European cohesion policy in Poland and the related availability of EU aid, attention should also be paid to the unfavourable regularity whereby regional policy in Poland was dominated by the European cohesion policy [5]. Objectives and policies relating to the conduct of regional development policy, as defined in the Polish legislative and programme documents created at the national and regional level clearly refer to and reflect the rules and guidelines contained in the documents drafted at the EU level. This is, of course, dictated by the possibility of tapping into the financial aid package offered by the European Union. And the funds under the European Regional Development Fund account for more than 80 % of the total amount allocated to the implementation of the regional operational programmes.

Meanwhile, cohesion policy should constitute only one of many points of reference for regional policy, and national and local governments should have much more leeway in making their financial decisions. The European Commission does not impose any restrictions ruling out parallel pursuit of provinces' own specific objectives. The fact that in the case of Polish regions that does not happen is associated with the regions' and countries' economic and financial weakness manifesting itself in lack of funds for additional activities and investments which are considered important and necessary in different territorial units.

In the context of eliminating adverse spatial development differences one should declare support for the need to conduct more targeted policies supporting underdeveloped regions. At the same time, one should be aware that it is not possible to achieve full convergence within the meaning of equalising individual province's level of development. The objectives of a policy targeting underdeveloped regions should be to harness their potential so as to allow them to initiate development stimuli on the basis of their endogenous potential coupled with a realistic inclusion of the emerging possibilities and existing constraints.

Therefore, one should strongly recommend efforts to develop a model of regional policy in which the participation of local and regional authorities in the sphere of decision-making and financing is greater. With this in mind it would be advisable to further decentralise government and financing, transferring more competencies than before as well as more financial resources. The case for increasing decentralisation was made in writing in the National Regional Development Strategy [9]. However, its provisions do not translate in practical measures because there are no precise indications as to how to achieve greater decentralisation. There is no doubt that the income level of local government units is still too low compared with their development requirement, which is a factor curtailing their ability to take a number of key actions and investments.

Also, in the context of the public sector's reduced financial potential, private companies should be more actively engaged in supporting the innovativeness of particular regions.

One should also refer to other provisions of the National Regional Development Strategy promoting the use of the polarisation and diffusion model of regional development. This means focusing on supporting the most competitive entities, which

in turn are expected to diffuse development processes to other areas. This amounts to strengthening the metropolitan functions of major urban centres (mainly provincial capitals) as the most competitive ones in the regional space and creating conditions for the diffusion of development processes in other areas.

It does not seem appropriate to ground the development of provinces solely on their leading hubs. As regional development theories and economic practice demonstrate the development of large cities and concentration of potential in central places is an objective market phenomenon. Supporting the growth poles in their capacity as the most competitive drivers of development would only intensify natural market processes resulting in polarisation of space. The more so because, according to Heffner [3], the effect of metropolisation in Poland is small as it does not exceed 20-30 km, with Warsaw being a notable exception reaching out some 40-50 km. However, more outlying regional environment undergoes the leaching of resources, resulting in a rise in unemployment, decline in the number of business entities and a negative migration balance.

Stimulating a province's development on the back of the metropolis and processes of diffusion of growth factors should be supported by firm simultaneous measures promoting bottom-up development of province's regional environment through the development of networks of small cities and towns that are sub-regional and local development hubs and additionally through activation of rural areas. One should agree with Prusek [12], who emphasises that the lack of adequate support for less developed areas, coupled with the promotion of the metropolis, will increase the polarisation processes. However, the endogenous potentials of the most developed cities are so strong that they will continue to grow, even without state support.

This recommended bottom-up stimulation of regional development by activating towns and rural areas must be associated with efforts to increase the competitiveness of these areas so as to make them more attractive to their populations and potential investors. Kudłacz [7] points out that it is particularly important to retain development factors locally, including human capital. For the environment of the most developed hubs to respond to development stimuli, the former must be reveal adequately mature development. This involves real processes, which manifest themselves through the existence of adequate institutional basis for co-operation as well as regulatory processes, depending as they are mainly on the attitudes of local authorities.

The basic feature underlying the attractiveness of towns is the availability of companies offering quality jobs and high wages. But beyond that, the smaller localities must have public services, including education, health and culture whose quality is equal to that in major cities. Highlighting advantages of smaller localities must go hand in hand with the creation of new projects, including for the public.

The implementation of the regional policy is based on the well-grounded assumption of its territorial dimension. Particular regions have their strengths and weaknesses and face unique challenges. Therefore, intervention policies should be constantly modified in response to local conditions. This approach provides opportunities for an effective use of particular regions' endogenous potential.

4 Conclusions

Spatial differentiation can be considered to be an objectively occurring phenomenon in all countries and regions of the world.

Regional differences in Poland are rather durable and tend to deepen.

In the context of eliminating adverse spatial differences one should favour the conduct of policies targeted more at the support of underdeveloped regions.

In recent years, regional policy in Poland was dominated by the European cohesion policy. This manifests itself both in the process of formulating the goals and principles of the policy towards the region and in its financing.

The challenge facing Poland's regional policy is to design a model of development policy in which the participation of national and local governments in the area of decision-making and financial support is greater than ever before. This implies a need for greater decentralisation involving granting local governments more leeway and funds than previously.

Stimulating regional development based on the metropolis and processes of diffusion of growth factors should be backed by simultaneous decisive action involving bottom-up development of their regional environment.

Endogenous stimulation of a region's development by activating smaller cities, towns and rural areas must be coupled with efforts to increase these areas' competitive edge so as to make them more attractive to their populations and potential investors.

Complete elimination of the differences between underdeveloped regions and the more developed ones is therefore not a measure of the success of policies aimed at the former. Such success manifests itself in the stimulation of economic development in a way that will allow them to initiate growth stimuli.

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