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Introduction

According to Luger and Maynard (2008, 29.) regional economic development is "efforts to enhance employment, income, wealth, and/or opportunity within a defined geographic areas (...); it is an outcome, equated to a better quality-of-life for citizens (...) that means a more vibrant social and cultural milieu, financial security, physical health and well-being, and a sustainable environment". Such definitions correspond to the term "socio-economic development" used in this article, simultaneously taking into account social, economical, infrastructural, environmental and spatial conditions of development.

An important aspect of the contemporary socio-economic processes is constituted by their close association with concrete location and its features, and shaped by it – local, unrepeatable resources. The territorially rooted, specific properties of some locations predestine them to play the role of leaders – the engines of regional development. The character and course of regional development processes is outlined by growth conditions and activity factors that may be defined as development potential.

Regional disparities, in terms of the level of socio-economic development, are getting uncovered in the majority of spatial analyses conducted for individual countries or for smaller administrative units. In the studies carried out for the entire Europe, the reference units are either regions (NUTS 2) or subregions (NUTS 3), such as, for instance, in the studies of ESPON (European Spatial Planning Observation Network). The adoption of these large units showcases their significant internal diversity, reflected, in particular, through the attainment of high values by the deviation indicators for the attributes analysed. The high degree of heterogeneity of the considered regions causes important loss of information through averaging of the phenomena studied, so that the image obtained does not fully reflect the actual reality.

The intraregional differences are an increasingly significant planning and research issue. The inner diversity of regions is also important as, apart from the region's power, it is its structure that maintains reasonable relations between centre and periphery.

It should, however, be clearly emphasised that the issue of the regional polarisation of the country is a universal phenomenon and is in a way natural. The functioning of the inner development boundaries is an unavoidable phenomenon in a free market economic system. Owing to the regional differences, development takes place, since the differences constitute the stimulating factor of progress. Yet, the differences between the regions cannot take on very big dimensions, since then the transfer of technology and innovation is in practice impossible and the relations between the respective regions become even more disproportionate. In this context, it is more important to conduct an appropriate development policy for the core and peripheral areas than to attempt the complete evening out of socio-economic differences – spatial effectiveness or spatial equity. The former model assumes the increase of regional differentiation, but with emergence of cores and centres of growth capable of more effective use of means and more effective competition on the European scale. On the other hand, in the latter model larger emphasis is placed on the evening out of the development differences and the inflow of more funds to the less developed regions. Both the obtained results and the course of the contemporary development processes as well as the policies implemented show the domination of effectiveness over equity.

The main aim of the article is the presentation of internal borders and internal peripheries of socio-economic development. Taking into account the cited definition of socio-economic development, the intraregional differentiation of some selected features was shown – level of socio-economic development, infrastructure as well as human capital and migration. Spatial analyses was always done on the smallest administrative units – NUTS4 or NUTS5, which allow for the description of spatial differences being created within the regions. Additionally, an analysis of the influence of the distance from three selected regional centres – Warsaw, Wrocław and Szczecin – on values of the investigated features in the communes was conducted.

The intraregional boundaries in Polish space

The influence exerted by the existence of a boundary on the socio-economic development of a country or of the regions constitutes a significant research and applied problem (see, in particular, *Rumley – Minghi*, 1991; *Komornicki*, 2003; *Krok – Smętkowski*, 2006). At least three kinds of boundaries, conditioning in an essential manner the level and the direction of economic development, can be distinguished in the space of Poland:

 political boundaries with the neighbouring countries – closeness of location may have a stimulating impact on the development (e.g. Euroregions, cross-

border trade, Schengen zone – the so-called significantly and fully permeable boundaries, according to the study by *Ciok* [1990]), or a hampering impact (lack of trade and local authority connections, passport and customs hindrances – the so-called impermeable or only partly permeable boundaries, according to *Ciok* [1990]); the first kind of boundaries applies, first of all, in the case of regions bordering upon Germany (numerous joint transboundary projects), as well as those bordering upon Czechia, Slovakia and Lithuania; the second type of boundaries applies to the areas bordering upon Belarus', Russia (the Kaliningrad District), and Ukraine;

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- historical boundaries, connected with the 19th-century partition of Poland into three parts, belonging to Russia, Austria and Prussia, and the shift of the political boundaries after the World War II; during the 19th century the essential socio-economic structure of the country took shape, owing to the development of industry, construction of railways, urbanisation and structural changes in farming; within each of the three parts different legal systems were in force, and the political relation to the territories administered differed, so that also nowadays, with respect to many cultural, social, infrastructural or economic aspects, distinct boundaries resulting from the 19th century partitions are visible;
- intraregional boundaries, defining the zones of the weakening influence of the large urban centres; these boundaries coincide to a definite degree with the administrative boundaries of provinces, but their existence is linked with distance, or, more precisely, with spatial accessibility of a given area to the growth centre of the region; the boundaries of this type, rather than being lines, take the form of belts or zones; two examples, from the domain of demography and the economic-infrastructural domain are provided in order to illustrate the existence of the intraregional boundaries.

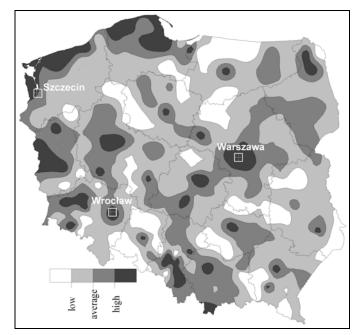
Socio-economic development

In case of socio-economic potential, the division of Poland into a core and periphery scheme revealed the most clearly visible differences. Definitely the highest development potential characterises the largest cities and their suburbia (*Figure 1*). It is an understandable and typical spatial scheme that is met by regional development analysis not only in Poland. Cities presently concentrate the greatest development potential and have or rather should have exogenous functions for surrounding areas. Such situations do not always occur. In case of large agglomerations, one may point at their suburbia that are characterised by high potential. However, smaller units, especially towns located in the eastern part of the country, are not so strong as to stimulate the development of neighbour areas. And it is

counties from eastern Poland that are characterised by the weakest development potential. This is a result of many factors such as history (Russian rule during XIX century), the mono-functional structure of economy based on agriculture and the aforementioned lack of strong urban centres. The Warsaw agglomeration, with its very high development potential, has an exceptional position in Central and Eastern Poland. However, already in the distance of about 50 km from the Polish capital, the peripheral area begins in terms of development potential begins. The remaining areas of the region are characterised by a much lower development potential and in principle do not gain any advantage from the fact of being situated in the province of Mazovia (the wealthiest region in Poland, with the highest values of GDP per capita and the highest rate of socio-economic growth). Therefore, the distance in development between the area of agglomerations and the region outskirts is significant. Areas with developed tourist functions also have high potential – the sea-side belt, lake regions and some mountain areas in the south of the country.

Figure 1

Counties by synthetic index of socio-economic development potential & location of three selected regional centres

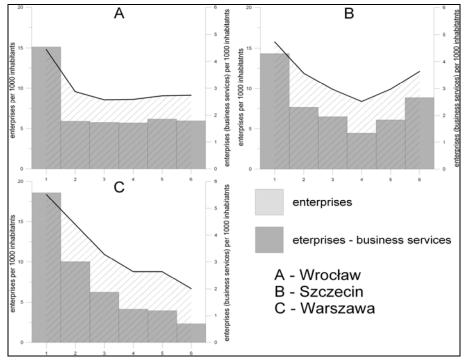


Source: Authors' own construction.

Taking into account the level of entrepreneurship of people and the number of business service entities, there are visible differences between the three selected centres and their surroundings (*Figure 2*). Wrocław is characterised by very significant decline between the city and the first zone, but simultaneously all other zones have similar values. In the case of Szczecin, the decrease of values is gradual and from the fourth zone, increase is observed. In the case of Warsaw, the decrease is visible in all zones, but it has to be underlined that values of entrepreneurship levels in the first zone (communes bordering on Warsaw) are very large compared to the other two cities. In the Warsaw agglomeration, the most distant 6th zone has the lowest value among all investigated zones of the three cities, confirming that Mazovia is the most polarised region in Poland. A common characteristic of all analysed cities is the appearance of distinct borders between centres and peripheries, but what is interesting in all cases is that borders occur with different intensity and in different distance from the centre.

Figure 2

Total and "business services"; number of enterprises in the zones around three selected regional capitals



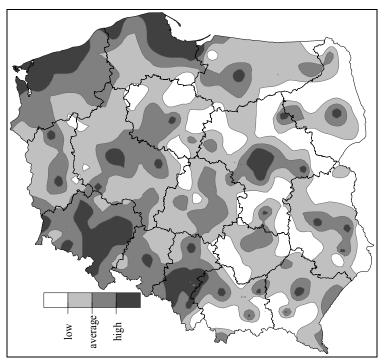
Source: Authors' own construction.

Infrastructure

On the basis of the synthetic indicator of the level of infrastructural development it can be stated that there exists a broad belt of communes, featuring distinctly higher values of this indicator (*Figure 3*). Besides, one can clearly see that the suburban zones of larger cities also feature higher values of this indicator. Similarly, around the remaining cities of more than 100,000 inhabitants, concentric zones can be seen with the indicator values of the infrastructural and economic development higher than the national average. On the other hand, the areas with distinctly lower values of the indicator analysed are constituted by the municipalities from the provinces in Eastern and Central Poland (*Czapiewski*, 2004). A better situation in the suburban municipalities corresponds to the frequently determined directions of diffusion of the development impulses in space in Polish conditions. This diffusion, namely, takes primarily place from the west towards the east, from the large urban centres to the surrounding regions, as well as along the main transport routes (*Węcla-wowicz* et al, 2006).

Figure 3

Indicator of the infrastructural development of the Polish municipalities

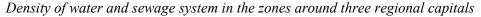


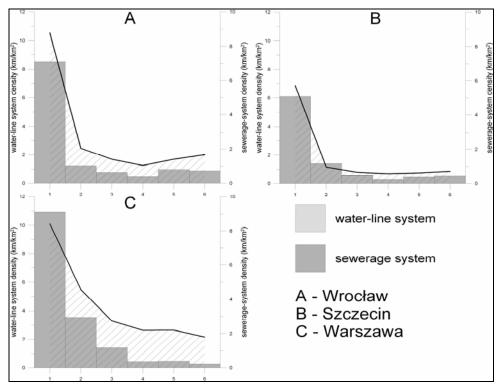
Source: Authors' own construction.

The obtained spatial pattern refers to a large extent to the core-and-periphery theory, whose foundations have been laid by F. Ratzel, and which was thereafter developed by J. Friedmann, as well as to the concept of the polarised region of J. R. Boudeville. The spatial differentiation of infrastructural supply in Poland displays a high degree of correlation with the level of economic development. So generally, the presence of infrastructure is much worse in the poorer regions of the country – first of all in its eastern part. These areas feature a high degree of rurality and a high significance of agriculture in the local economy and employment structure.

During the analysis, the density of different kinds of infrastructure networks in concentric zones around the three selected cities, as well as large disproportions between centre and surrounding can be noticed (*Figure 4*). This is well understandable, when it is taken into account that together with the increase of distance from the centre, there is a decrease of density of population.

Figure 4





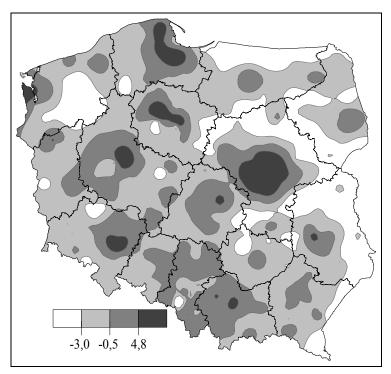
Source: Authors' own construction.

Human capital and migrations

The analysis of the phenomenon of migration allows for the determination of very important processes of transformation in spatial structures. The areas featuring significant population loss are concentrated in the outer zones of the regional peripheries –situated in the border zones between the provinces (*Figure 5*). These municipalities are situated at a far distance from the economic centres of the particular provinces, which causes that the development impulses, originating from such centres do not reach the distant areas. In effect, important outflow takes place from these areas, usually to the largest cities or towards their direct neighbourhoods. It is exactly the suburban areas around the regional centres that featured the highest population increase and one should expect the continuation of this process in the future. The increase of population numbers was also characteristic for the regions of Małopolska and Kaszuby –areas of traditional social structure featuring relatively high natural increase.

Figure 5

Migration balance in Poland



Source: Authors own construction.

If we look at population migrations in absolute figures, an interesting image of Polish space appears. The majority of rural municipalities in Poland have been characterised in recent years by a small – in absolute terms – negative balance of migrations between 0 and 40 persons a year. On the other hand, a handful of communes (some 125 units – 6% of the total), concentrated around the biggest development centres, were characterised by the migration-related increase of more than 100 persons a year. These values confirm the previously indicated process of population concentration in the urban complexes, taking shape and encompassing the towns along with their suburban zones.

The largest negative migration balance is observed in the areas situated outside of the sphere of influence of the largest towns in North-Eastern Poland. Intensive outflow of population from areas of rural character takes place there. In the part of Poland considered this is quite a significant problem, since poor perspectives of getting a job in the countryside, associated with the lack of (or, rather, poor use made of the existing possibilities) the sources of subsistence alternative to farming, is linked with high shares of rural population. At the same time, inflow to towns is not compensated for in these cases by the outflow of the urban population.

The highest education levels are observed within the areas situated in the vicinity of large urban centres, especially regional capitals, the least advantageous situation exists in the areas between such zones (*Figure 6*). Two disadvantageous kinds of conditions coincide on these areas: low accessibility to the establishments of tertiary education in larger cities and a lack of such establishments in place.

The co-presence of universities and great share of people with higher education is observed clearly, as confirmed by the percentage of people with higher education in all localities in Poland that are the academic centres (15.4%). The value of this rate for the rest of the country amounts to 6.1%. The concentration of the schools and people with higher education in the main academic centre occurs in all presented areas. In the majority of cases, there is a drastic decrease in the share of people with higher education. The presence of the next academic centres in the following concentric spheres causes a simultaneous increase of this rate.

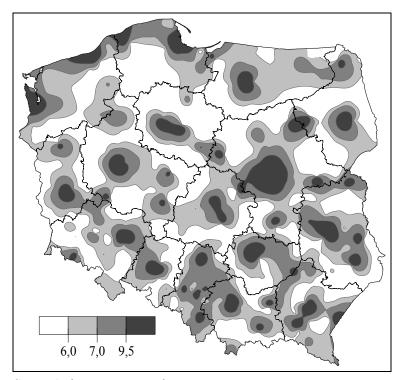
It is interesting to observe the gradient of the decrease in share of people with higher education with the increasing distance to the academic centre. As far as the surroundings of Warszawa are concerned, one observes a slow fall in education level, while in the neighbourhood of Szczecin and Wrocław there are the greatest differences between the central unit and the closest sphere of communes (*Figure* 7). In these cases the average value of the share of people with higher education is similar to the value for the whole area around an academic town already in the second sphere. It means that the spatial influence of these centres to the surrounding areas is scarce.

Conclusions

The intraregional boundaries differentiate a given area between the parts characterised by more and less advantageous socio-economic, infrastructural and demographic-migration conditions. These boundaries, though, do not form precisely defined lines, and their distance from the core centre depends upon the phenomenon analysed. Besides, in many cases the level of development of a commune decisively depends upon the specific local conditions, such as the entrepreneurship of the inhabitants, that is, a number of endogenous development conditions. There are, additionally, numerous phenomena which do not have a spatial aspect, or their appearance depends upon many other variables, such as, for instance, the quality of the natural environment. Yet, as one analyses a definite group of issues – especially those associated with the economic sphere – the development of the internal peripheries of development becomes visible.

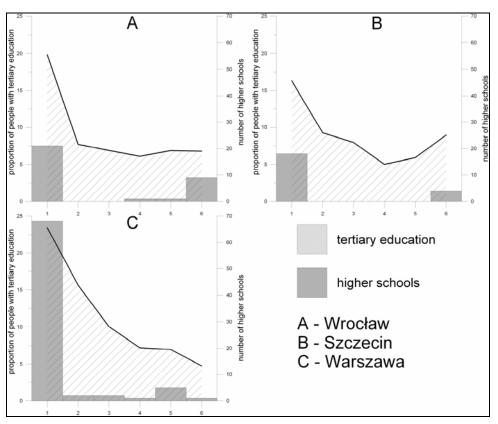
Figure 6

Shares of population with higher education in Poland



Source: Authors own construction.

Figure 7



Share of people with tertiary education and number of higher schools in the zones around three regional capitals

Source: Authors' own construction.

Paying attention to this question is important for three reasons: (1) it is commonly held that the peripheral regions are the ones situated along the national boundaries; (2) the analyses conducted at the level of large regions neglect the aspect of internal differentiation; (3) the implemented regional policy has to contain appropriate development strategies for the areas from the inner peripheries.

The obviously appearing core-periphery scheme carries serious implications. From respect, the establishment of metropolises that focus well-educated and venturesome people should enable some Polish areas to compete at international level. Great urban centres may be a motivating force for the whole country's growth. However, on the other hand, the increase of intra-regional diversity is evident. Its

further progress may result in the establishment of 'enclaves of poverty' in some areas.

Evident split into large cities that are characterised by the greatest development potential and into remaining areas is undoubtedly a confirmation of the worldwide process of polarisation in socio-economic space. The consequently appearing coreperiphery scheme carries serious implications. From one respect, the establishment of metropolises that concentrate well-educated and entrepreneurial people, are well equipped in infrastructural outfit, and have high economic indicators should enable Polish regions to compete at the international level. Great urban centres may be a motivating force for the whole region's growth. However, on the other hand, the process of increasing intra-regional diversity is evident. Therefore, the establishment of strong centres at peripheries' costs is a serious challenge for regional development policy. It is essential for the region to be a unified, functionally coherent area, and, therefore, that the development of cities should be accompanied by the development of their surroundings.

The obtained results highlight the repetition of the proposition formulated earlier, namely that at least under Polish conditions (although the same can be said for the majority of the countries of Central and Eastern Europe), it is necessary to elaborate appropriate development plans and strategies for the areas of inner peripheries, which, being significantly removed from the centres of the socio-economic development, and characterised to a large extent by monofunctionality, associated with farming, can rely in their development only on the endogenous factors; these factors, in the majority of cases, remaining at a very low level.

The existence of areas with high or low potential does not predispose to the role of the leaders or outsiders. Development potential that *ex definitionem* characterises development abilities and possibilities, does not always have to be used properly. The abundance of exogenous and endogenous factors that affect socio-economical processes may lead to the hindrance of growth in areas with high potential and in the same time may stimulate the development of weaker regions. Hence there is a necessity of reasonable and effective actions of decision makers. Actions that will enable multifunctional development based on the full use of existing potential and on a possibly permanent increase in its quality in all areas – currently weak and strong. Only constant improvement of scores and equal development of all potentials causes that the given area may be called the basis of success.

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