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# The development of peripheral areas: The case of West Pomeranian Voivodeship, Poland

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## Abstract

The process of peripheralisation of outlying areas is discussed in this article using a case study of West Pomeranian (Zachodniopomorskie) Voivodeship in Poland. Emphasis is placed on the relationship between these peripheral areas and metropolitan core areas. Scalar and vector data on selected indicators in the years 2005 and 2015 for gminas (communes, territorial units NUTS 5) are presented. The values for both years were observed as well as the change between them. A composite indicator based on the calculated data was developed, and it served as the basis for categorisation of metropolitan, 'semi-peripheral' and peripheral areas, which were further defined on the basis of their intrinsic properties and location in the region. The development of such peripheral areas is assessed more generally in the conclusions.

**Keywords:** periphery, metropolitan area, regional development, West Pomeranian voivodeship, Zachodniopomorskie, Poland

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## 1. Introduction

The process of peripheralisation is discussed in this article – the development of peripheral areas with a certain cohesion but also related to larger cities during the metropolitanisation process. Peripheries, commonly understood as one of the poles of development axes, are also usually the result of delimitation processes. In other words, as an understanding of their status as the result of regionalisation at various hierarchy levels. Factors of peripherality may extend beyond the marginal position of geometric distance, e.g. an unfavourable physical- and socio-geographic position, turbulent historical development or even an insufficiently developed settlement system. Naturally, such peripherality aspects might overlap.

For our purposes, the West Pomeranian Voivodeship in the northwest of Poland is studied as a case of an interesting area with a very diverse historical context and with a specific socio-geographic location within Poland and Central Europe. It is also internally differentiated primarily on the basis of the settlement system. There are some works that also deal with particular peripheral regions. For example, Chreneková et al. (2015) focused on the Žilina Region, Ślusarczyk and Herbuś (2011) dealt with the Silesian voivodeship, and Bański and Czapiewski (2015) whose research concerned the Mazovian region of Poland. All of these areas face

problems, either because of their remoteness, post-war population movements and subsequent changes, or their negative values on various socio-economic indicators.

Transformational changes that occurred after 1989 are significant for the current form of the West Pomeranian Voivodeship (WPV), as much as for the entire former Eastern Bloc. There were often cases of corporate collapse during the transition, even in Poland. On the other hand, a great place to invest had been unlocked. Transnational corporations (TNCs) and their foreign direct investment (FDI) actions have played a major role in post-socialist countries, but they have had only a small effect on regional development (Hardy, 1998). Actually, there are also some visible endogenous processes within the settlement system of post-socialist countries, such as metropolitanisation. According to Smętkowski et al. (2009), Poland is the most polycentric country in Europe because it contains 17 cities accommodating more than 200,000 inhabitants. Metropolitanisation is necessarily related to peripheralisation, which means that divergent processes are taking place at the lowest hierarchical level of the municipalities.

Poland is interesting because it is the only EU country that has not experienced a recession since the 2008 crisis and has grown economically every year (Duszczuk, 2014).

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According to the GUS (2016), however, most of the voivodeships have displayed a decline in growth or even a slump since 2011.

The contemporary WPV has its beginnings in the reform at the turn of the millennium, when the total number was reduced from 49 to its current 16. The present form of the Polish NUTS 2 units was created, among other reasons, for greater efficiency of regional policies (Chidlow et al., 2009). Regarding its position in the higher hierarchical structures, there is often a rather vague vision of the territory as 'average', and compared to other problem regions it is relatively uninteresting. Its national and transnational significance can be derived from more complex works that deal with Poland itself, but may be more or less generalised.

Seclusion and isolation, or rather distance from the main concentration area of Szczecin, is significant for the WPV, especially compared to the potentially lagging eastern Polish regions (Bański, 2010). This is also confirmed by Stelder (2014), who perceives the WPV strategic centres of Szczecin and Świnoujście as being on a blind transport branch extending from the Warsaw–Berlin axis. Some authors, however, have pointed out that Szczecin can benefit from its position as a traffic junction with a relatively good connection to Berlin (Smętkowski et al., 2009). This is due to the historical context of the region. The current highway A6 was originally built in 1937 (GDDKiA, 2016) as a planned connection between Berlin and Kaliningrad, known under the deeply rooted name Berlinka. Only a small part of this project was realised, however, and it contains the mentioned highway and the road DW142. On the other hand, Barjak (2001) evaluated the German post-socialist regions, which are adjacent to WPV, as having outdated industrial infrastructure, labour market problems, few economic capabilities and little potential for growth.

The current study of Poland and its regions should be interesting for other Central European geographers, due to its significant polycentric settlement system and strong regional centres, which counterparts in neighbouring countries generally lack. Such a system is also one of the strong determinants of regional development. In addition to gains in academic knowledge and any discussion of research results, the paper should be beneficial for peripheral areas in terms of development and settlement systems planning.

## 2. Theoretical background

One of the accompanying manifestations of regional development is spatial polarisation. Scientists have been involved since the introduction of Christaller's Central Place Theory and the research has subsequently developed throughout the post-war period (Pileček and Jančák, 2011). The evolution of polarisation has several phases that could be understood in a similar fashion to Friedmann's (1966) phases of national development – preindustrial, transitional, industrial and post-industrial, each of them having specific regional policy needs. Post-socialist countries are unique because of their 40-years of 'unnatural' evolution, which led to equalisation. The return to 'natural axes' of development occurred after the economic and social transformation following 1989.

Hospers (2003) distinguishes three ideal categories in the European economic-social system – core services areas, intermediate industrial areas and peripheral rural areas. The claims of Barjak (2001) are in indirect accordance, assessing the industrial areas as a necessary foundation for the economy. Such areas are actually not among the most

advanced and, according to this author, it is appropriate to develop services within these regions. It should be noted that services cannot be developed universally.

It should also be mentioned that this contribution specifically describes the Central European environment, focusing primarily on Polish, Czech and Slovak literatures.

According to Kuhn (2015), a periphery is a sparsely populated outskirt and it is determined by its distance from a centre. Schmidt (1998) indicates that a periphery is an area that did not go through successful integration into dominant structures or processes. But many factors can contribute to the formation of peripheries. Schmidt (1998) also presents six ways in which to understand a periphery: geometric, ecological, social, economic, cultural and political. Havlíček (2007a) also mentions the malfunctioning of functional and spatial relationships. There are also disadvantage for peripheries, which can be grouped into three fundamental categories, namely causal, contingent and associated (see Copus, 2001; Copus and Scuras, 2006). A position on the border might also be an opportunity, however, especially if the area is intersected by a transport corridor (Stryjakiewicz, 1998). This author also proposed a relatively optimistic suggestion that the 'grey economy' that can grow in the border areas helps the overall development of those areas. Peripheries are sometimes associated with the countryside, but this notion is also rejected by some authors. For example, Blunden et al. (1998) or Hedlund (2016) classify more rural areas as having a variety of characteristics rather than simply a peripheral status.

Just as there is not only one countryside, there is not only one periphery. For example, Czyż (2002) distinguishes between peripheries with low and average levels of socio-economic development. Although there might be several types of peripheries that depend on their environment or location, all of them have common disadvantages, which are mentioned above. These can include transport and travel costs or weak influences of government (Copus, 2001). The public sector is often tied to many problems. For example, Barjak (2001) mentions persistent centralist tendencies in the Polish context. In addition to whole peripheries, typical partial problems in such areas (or rural areas) are also studied. Szymańska et al. (2009) examined population age structure (the aging problem), while other authors have dealt with economic or financial issues. For example, in relation to finance, Bečicová and Blažek (2015) discuss cumulative mechanisms, such as regional drainage or selective lending business, which may adversely affect peripheries.

In publications on peripheries, the term 'margin' is often mentioned, for which the authors have differing approaches. The prevailing perspective, however, views marginal areas as escalated peripheries affected by total isolation, which are non-productive and are not integrated into markets (Pileček and Jančák, 2011). According to Leimgruber (2004), marginal areas lie 'on the margin of a system or outside of the system'. Areas with similar characteristics are referred to as 'lagging regions' by Blazyca et al. (2002). It is possible to extend the concept of core-periphery to a more segmented version, which includes core (metropolitan area), semi-metropolitan, semi-periphery, periphery and marginal areas. Sokol (2001) considers a similarly modified concept, but semi- and marginal areas are replaced by more types of 'super-peripheries', while using the continental scale. For Eastern Europe, the term 'New Periphery' appears in the context of post-transformation inclusion into the global capitalist system (Kagarlitskii, 1999).

The opposite of peripheral, or possibly marginal areas, are cores. According to Hospers (2003), the core region, particularly in the case of the Blue Banana, is distinguished by higher household incomes, lower unemployment rates and a developed infrastructure. In short, it differs in demographic, economic, infrastructural, cultural and educational aspects. It is however an extreme example of a ‘central megalopolis’ in Europe. According to Smętkowski et al. (2009), such a centre, which can be understood as a metropolis, develops on the grounds of population concentration in a sprawling area. There is also the mutual isolation of some urban activities (shops in shopping malls) and the growth of research and development potential. Metropolitanisation also affects the economic situation and the concentration of job opportunities. Regional economies de-specialise and the gap between the core and the periphery widens.

Smętkowski et al. (2009) also wrote specifically about Polish metropolitan areas. In addition to the above-mentioned phenomena, they also discuss their negatives, which include insufficient metropolitan spatial planning, inefficient transport systems including the lack of service in the suburbs, and the increasing pressures on the environment.

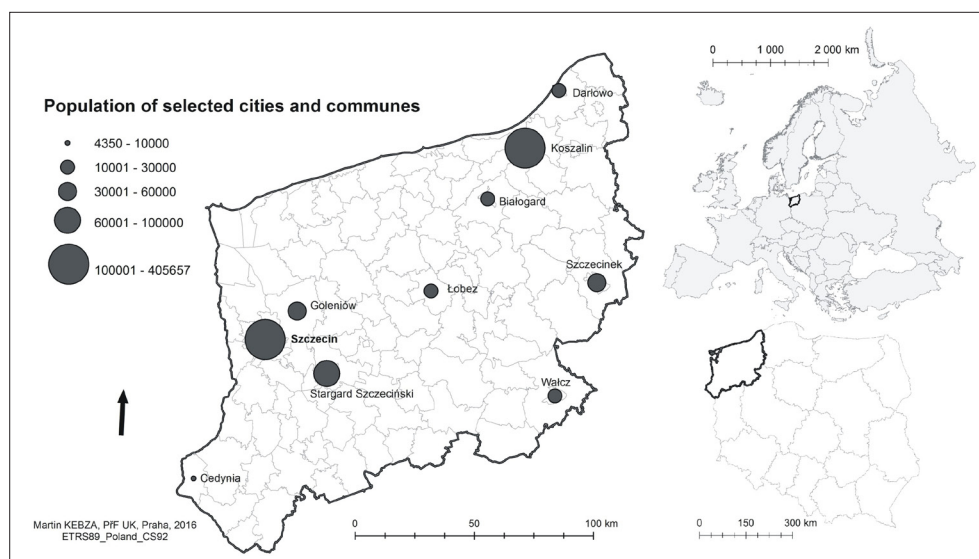
Other authors discuss the delimitation of metropolitan areas. A metropolitan area is supposed to have more than 0.5 million inhabitants, the maximum distance from the city is 50 kilometers, and principles of continuity and compactness are applied (Biczkowski et al., 2014). According to Smętkowski et al. (2009), a metropolis is usually a city with over one million inhabitants (similar to Gaussier et al., 2003), and a regional metropolis has more than 0.5 million inhabitants. Other attributes are needed in addition to the core, namely a suburban area, as well as selected features, such as connectivity with other cities whose centres operate as ‘hubs’ of transport, services or financial institutions. In their own definition, however, they applied criteria similar to legal regulations.

Metropolitan areas generally appear in the literature as points of growth. As Biczkowski et al. (2014) state, metropolitan areas primarily influence their surroundings and develop them further, while the remaining ‘unaffected’ regions decline relatively.

### 3. Data and methods

WPV has been chosen for several reasons:

- in the literature it is usually overlooked because at higher levels of regional analysis it is considered as rather ‘ordinary’ (except by Minarčíková, 2015, whose work concerns the regions of the Czech Republic, Poland and Slovakia). Authors tend to focus on more problematic regions, particularly in the east of the country, e.g. Podkarpackie, Podlaskie and Lubelskie (Lewandowska et al., 2015); Silesia (Ślusarczyk and Herbuś, 2011); and Mazovia (Bański and Czapiewski, 2015). Similarly, research has concentrated on the evaluation of the entire state, where detailed regional characteristics are interpreted sparsely (e.g. Bański, 2005, 2010; Barjak, 2001; Blazyca et al., 2002; Chaberko et al., 2012; Chidlow et al., 2009; Czyż, 2002; Zborowski et al., 2012);
- It has been neglected in the development of major transport routes. Since 1990, no highways have been built and the construction of expressways has prevailed in the form of bypasses (GDDKiA, 2016) and the region is thus relatively poorly connected with the rest of Poland;
- Due to the highly eccentric nature of Szczecin, which is the 7<sup>th</sup> largest city in Poland (GUS, 2016) and which also serves as a provincial city, it assumes the role of the administrator and main supplier of services. Biczkowski et al. (2014) label it as a metropolis;
- It is a settlement system in which secondary regional centres are relatively few in number;
- It has an interesting historical-geographic context, particularly from the perspective of the borders that have changed and have been through eras of closed and re-opened visa relations (Stokłosa, 2013). The region was until 1945 developed in a Germanised milieu, but a significant geopolitical change followed when the boundaries of Poland were changed and the area of the country shifted to the west. This was also connected with its demography: seven million Germans had to leave the new Polish area, while six million people (Poles and migrants from USSR) re-settled there (Fassmann and Münz, 1994).



*Fig. 1: Selected cities in the WPV and their population and location of WPV within Europe and Poland*  
*Note: Szczecin is a growth stimulating core with expanding agglomeration and Koszalin (on a level of close Stupsk or Lubusz voivodeship capitals) is a significant regional centre (cf. Bański, 2010)*  
*Source: author's elaboration based on data from GUS (2016)*

In Central Europe, research that deals with regional socio-economic differentiation tend to use NUTS 2 or NUTS 3 units for their analysis (e.g. Kubeš, Kebza and Nováček, 2016; Nováček, 2014). Such units may be important for regional policy. Some authors also use smaller units, e.g. Chaberko et al. (2012), Chreneková et al. (2015) and Zborowski et al. (2012). It is more appropriate to focus on individual topics than the entire socio-economic differentiation. A number of older works thematically linked with Poland naturally use the old divisions of voivodeships (Barjak, 2001), or combine both regionalisations (Chidlow et al., 2009; Czyż, 2002). In this paper, the NUTS 5 territorial units (gmina) were used. While the use of larger territorial units carries the advantage of having access to better statistical data, the approach used here should provide a much more detailed view of regional socio-economic structure. Data for some important indicators, which would be suitable for such research, are however not available (e.g. average monthly salary).

Polish NUTS 5 areas are relatively generalised units containing a relatively large number of often very small settlements, one of which usually has a departmental role. In comparison, in countries such as the Czech Republic an enormous number of separate municipalities (NUTS 5) exist. On the other hand, gminas are sufficiently large. The smallest population unit in the WPV gmina for 2015 is Nowe Warpno with 1,655 inhabitants (GUS, 2016), so the analysis should not be affected by extreme values, for example when examining population development, such as in the discussed Czech municipalities with tens or hundreds of inhabitants. In the WPV there are 114 gminas. It is common in Poland for some gminas to have the character of another gmina's suburb that has central functions, e.g. Walcz or Szczecinek, and bear the same name. The level of gminas should represent organic spatial units with their own inner processes and differentiation.

For this research project, data from 2005 and 2015 were used, with the exceptions of net migration rates from 2014 and the number of university students from 2013, both because of the lack of more recent data. The work is not only about regionalisation, but also about monitoring the development of certain polarisation processes of socio-economic differentiation in the region. The data used in this study were obtained mainly from the Central Statistical Office (GUS). Distance measurement was done through the web portal mapy.cz, in a manner similar to Halás and Klapka (2015).

The study data are divided into two basic groups: scalar and vector. The scalar group includes the unemployment rate, net migration rate and age dependency ratio. The vector group includes kilometric road distance from

selected services that are or may be somehow essential to everyday life and socio-geographic organisation within the voivodeship. Essentially, it is the availability of the centres of trade, education and labour. A disadvantage of such small territorial units is the lack of statistical data. Most of the studied indicators are not registered before the decade studied and some other indicators are registered only for larger areas. Other authors also agree that research is limited by databases (e.g. Minarčíková, 2015), especially in terms of economic indicators. Dostál and Hampl (2008) mention a suitable economic aggregate calculated as the average monthly wage multiplied by the population of employed people, if the GDP values are not available (also used in Kubeš, Kebza and Nováček, 2016). Unfortunately, for such small territorial units there were no available data for the GDP, not even for the average monthly wage. The only indicator, which is herein considered as economic, is the unemployment rate. It is a very widely-used indicator that can highlight the seriousness of the problems in the region from an economic perspective, while also overlapping with the social perspective (Nováček, 2014).

This study used two socio-demographic indicators that may illustrate the condition of the territory (peripherality). An important factor is population growth, which is better represented by the net migration rate from the perspective of territorial attractiveness. It can strongly recognise depopulating areas, as well as growth areas, especially suburban regions. A very significant problem associated with migration is the outflow of young people, who are heading to larger cities or abroad. Moreover, Bański (2005) mentions that a post-productive population is typical in peripheries. To express this problem, the age dependency ratio was used. It would be interesting to use other indicators such as the proportion of university graduates (as in Kubeš, Kebza and Nováček, 2016). The problem is again, however, the lack of data, which in addition to contemplating the time slice, must provide monitoring of continuity.

Because the literature is in agreement (Havlíček, 2007b; Pileček and Jančák, 2011) that peripheries are dependent on cores, distance was measured as a demonstration of the relationship between them using the designated three vector indicators that give relatively greater freedom for data collection. This is more or less similar to the approach of Halás and Klapka (2015), who also considered distance (distance-decay functions) to Slovak regional centres. This work does not include the distance to the administrative centres of Poland since most residents do not possess the immediate objective of commuting and can act rather symbolically. In addition, this is typically the largest city of the region with a high concentration of services so such measurements could be somewhat duplicate.

Indicator	Based on	Measure unit
Unemployment rate	Number of unemployed persons	%
Net migration rate	Number of migrants	%
Age dependency ratio	Number of persons in post-productive age	%
'Trade'	Size of GLA	k <sub>s</sub>
'Education'	Number of students	k <sub>s</sub>
'Labour'	Number of occupied posts	k <sub>s</sub>

Tab. 1: Overview of indicators that were used for the analysis  
Source: author's conceptualisation

Trade is appraised as one of the basic services. According to van Leeuwen and Rietveld (2011), it is a key element in providing services. In some form, it might even exist in a rural landscape, while according to these authors, its departure leads to problems. Current trends, however, are moving towards territorial trade concentration and de-specialisation in large-format retail centres. They, as Spilková (2012) has also discussed, are becoming a kind of relaxation zone for an ever-increasing group of people for their practicality and availability. The size of trade centres was measured by the size of GLA, the rental area of relevant shopping malls. These data were obtained from the Polish Council of Shopping Malls (Polska Rada Centrów Handlowych, 2016). Although the sheer size of the area is not necessarily a determinant, the size of trade centres is a noticeable indicator of significance.

Institutions of tertiary education are undoubtedly one of the major elements forming cores. Their significance can be imagined on multiple levels: by the status of universities and colleges as hierarchically the highest centres in Central Place Theory (Christaller, 1933); as an intelligence and innovation incubator; or as a city attractiveness factor for the young residents who are concentrated there and may settle after graduation (Zborowski et al., 2012). The size of educational centres was derived from the number of students studying at the university, which is located in the centre. That number may also reflect demographic changes, but also the prestige and reputation of the university as perceived by students. Naturally, some prestigious universities prefer quality of education over quantity of students. In Poland however, the public universities that are financed by the number of students are dominant. The data were obtained from the Central Statistical Office yearbooks, which offered the data of the most recent years (GUS, 2006, 2014). This indicator also partially stands for the proportion of university graduates in the population discussed above.

The labour centres were defined according to the number of occupied posts (NoOP). It was assumed that such a centre had at least 25,000 NoOP, so the cities with more regional or trans-regional impact had been selected. Even though the level of 25,000 NoOP was set down subjectively, smaller centres would have had a too low value of the  $k_1$  coefficient (explained below). Vector indicators could be synthesised into usable forms on the basis of absolute values (GLA, the number of students, NoOP) by determining coefficients of centres' range ( $k_1$ ) and coefficients of centres' power ( $k_2$ ).

$$k_1 = 1.5 + \ln(6) \frac{n}{10,000} \quad (\text{where } n = \text{GLA})$$

$$k_1 = \frac{n}{200} \quad (\text{where } n = \text{number of students})$$

$$k_1 = \frac{n}{1,000} \quad (\text{where } n = \text{NoOP})$$

The coefficient of the centre's range is a value corresponding to a kilometric reach of the radius in which the centre has an impact on other gminas. Gminas may be influenced by multiple centres, where the values are added up, but also beyond the reach of the centres (which is rare). In gminas it is necessary to distinguish distances from the centres; the coefficient of the centre's power determines the degree of an

individual centre's influence in gminas. For central gminas that have logically zero distance, the natural logarithm was used instead of kilometres, which also performs the role of a weight in calculating the composite coefficient ( $k_s$ ).

$$k_2 = \frac{k_1}{d} \quad (\text{where } d = \text{distance})$$

The  $k_1$  coefficient was obtained differently for each indicator because of the nature of the data and due to their real impact. For trading centres'  $k_1$ , a logarithmic function was used since the availability of services for people is more important than its dimensions. Cities with the largest shopping malls are theoretically disadvantaged. The education and employment centres'  $k_1$  were counted as linear functions, where the numerator was the indicator's absolute value and the denominator value was 200 for education and 1,000 for labour. While the data source for trade centres was an area, these two indicators' importance, in terms of the real 'human' capacity, grows with each person, as evidenced by funding universities.

$$k_s = \sum_i (\ln k_i) * m$$

(where  $m = k_2$  for each considered city)

Values of trade, education and employment centres were calculated with the composite coefficient ( $k_s$ ), as well as with the values of the inverted unemployment rate, inverted age dependency ratio and net migration rate. Three methods of data evaluation were used in this study, while the final categorisation is based on the intersections of the results. The methods are deviations from the median, z-score and rank method. The difference of the latter-mentioned method is that it does not respect the differences between values. These three procedures were applied to each indicator, and the result was a composite indicator for each method, which is equal to the arithmetic mean of the individual gminas. The average deviation from the median, the average z-score, and the average rank for each gmina were evaluated.

## 4. Results

The aim of this section is to present and interpret the processed values of indicators and the results of the three methods mentioned (deviations from the median, z-score, rank method), which are shown in maps (Figs. 2–4). The results are also compared with existing research. For example, Barjak (2001) evaluated the former Szczecin Voivodeship as average in economic capabilities, human resources and technological progress, while the former voivodeships of Koszalin, Gorzów and Piła, which now partially complete the current constitution of WPV, were conceived as average in economic capabilities and having labour market problems. Although this is a rather generalised statement, it is possible to proceed with it and to monitor its development.

The labour market in WPV is a problematic area. According to GUS (2016), WPV recorded a 13.3% unemployment rate, one of the four most affected regions in 2015. In 2005, it was the worst after Warmian-Masurian, with 25.6% unemployment. As these values suggest, within a decade the situation has improved significantly, similar to all other voivodeships. Large problems with unemployment were stated by Korcelli et al. (2008). The unemployment rate both in Poland and WPV was affected by Poland's entry

into the EU in 2004, when it decreased until the economic crisis in 2008 and then increased for the next four years, but never reaching 'pre-EU' values (GUS, 2016).

In 2005, the spatial distribution of the unemployment rate had a clear east-west gradient. Szczecin and its surroundings had the most favourable values. There were very low values of unemployment in the city of Police, which is tightly linked to Szczecin, and is also an important industrial city and a source of jobs. Similarly, low values were also recorded in other larger cities and their surroundings. A higher unemployment rate was measured in the central-eastern part of the region in areas with no significant job centres. A decade later, the spatial pattern had changed only slightly. The positive areas around Szczecin and Kołobrzeg increased and an improvement occurred around Cedynia. Relatively worse values were recorded in the eastern part of the voivodeship. The smallest relative change occurred in the stable area of Szczecin and Kołobrzeg, the large triangle between Goleniów, Łobez and Stargard, as well as in the border area near Szczecinek. As Málíková et al. (2015) have indicated, the entire Polish borderland is improving from the perspective of unemployment, which complies with the observed data.

Between 2005 and 2015, migration was naturally linked to suburbanisation. There are distinct suburbanisation streams around Szczecin, as well as Koszalin. In 2005, there were also relatively high values in the seaside, above average in voivodeship boundaries and the lowest in the central area. In 2015, concentration areas also appeared along the newly-built expressway S6 leading to the sea, and surprisingly also near Wałcz. Again, less favourable values are located in remote gminas and also in the above-mentioned industrial Police. The most noticeable positive change is in the Wałcz migration area, and likewise in the Koszalin suburbs. On the other hand, changes in Szczecin suburbs are small.

Migration may also be related to the age dependency ratio. In 2005, the smallest values were in western Szczecin suburbs, as in Koszalin. Suburbanisation is less reflected in smaller towns. Other values form a kind of mosaic with a rather limited territorial pattern. High values were recorded in Szczecin and several remote gminas. A decade later, concentration into a few zones is an obvious phenomenon. Low values are typical for the suburbs of larger cities. High values are concentrated in Szczecin and Koszalin.

As in 2005, the central area exhibits high values, as well as the coastal cities of Świnoujście and Kołobrzeg in 2015. One could generalise three types of areas with a concentration of elderly people. Firstly, remote areas experiencing an outflow of younger people. Secondly, locations with a pleasant environment, such as the seaside or in Pojezierze Drawskie. Finally, cities providing a greater selection of services, such as health care.

Traditionally, a problematic issue is education. Loss of students, whose numbers are measured by this indicator, is very noticeable. It is assumed that a large contributor is the declining number of members of the 20–24 year age demographic group, who form the major portion of students. By 2013, this group's numbers had fallen to 75% of their 2005 values, and the number of university students decreased by 64%. Students' requirements for a better image of universities or other 'soft' aspects may also have a certain importance.

The university city of Szczecin (61,696 students) and the college city of Koszalin (13,225), had favourable values for the year 2005 according to GUS (2006). Along with the surroundings of these two centres, Wałcz had favourable values, which reflects the relative proximity of other university centres that have an influence on WPV. These are namely, Poznań (111,182), Gdańsk (56,715), Toruń (37,866), Bydgoszcz (25,961) and Słupsk (8,129). The central coastal part of the voivodeship, where a below-average number of better-educated people reside, was also recorded by Korcelli et al. (2008), and its southwest corner had the lowest values. In 2013, Szczecin and Koszalin had the highest values that are spatially 'connected' through the axis of higher values, which flows through Wałcz. The southwest, northwest and northeast had low values. The above-mentioned decrease of students is very large and significant. According to GUS (2014), the number of students decreased to 39,129 in Szczecin, 8,626 in Koszalin and 94,399 in Poznań. In Toruń and Bydgoszcz, the number of students fell to 28,034 and 20,080 respectively, and so their  $k_1$  coefficients were too low to influence WPV, as in Słupsk, where the number of students dropped to only 3,306. The only city where the number of students increased was Gdańsk (62,586).

In contrast, trade centres experienced a significant shift associated with ever-increasing demand. In 2005, shopping malls in WPV were located in the three largest cities, with the

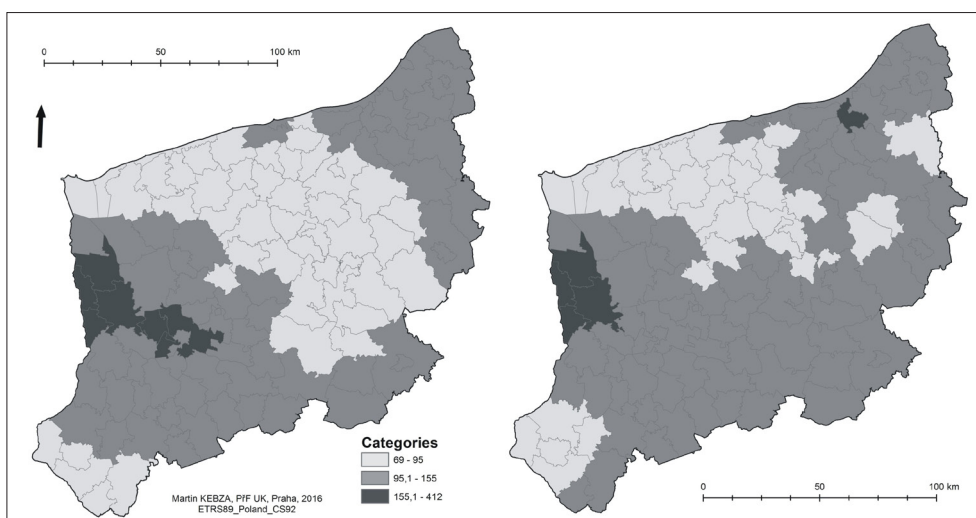


Fig. 2: Average values of all indicators' deviations from the median in 2005 (left) and 2015 (right)  
Source: author's elaboration

dominant role of Szczecin. Several shopping malls are located there, the largest and also the largest in the voivodeship, was the 'Galaxy' centre, which opened in 2003 (Polska Rada Centrów Handlowych, 2016). Koszalin and Stargard played a rather minor role. The influence of Poznań entered into the voivodeship. It already had a highly-developed network of shopping malls and includes the territory of suburban gminas, which were combined with their centre for this research. Gdańsk, and much more faintly Gorzów Wielkopolski, had an influence. The highest values are thus recorded mainly in the western half of the voivodeship, particularly around Szczecin and in the northeast. The lowest values were in the central north, partly seaside area and Świnoujście.

In 2015, there was evident expansion and diffusion in the extension of the existing base, as well as the building of new shopping malls in relatively small towns (Świnoujście, Szczecinek). The shift even occurred in Stargard, but much more noticeable in Szczecin itself. The GLA area of Koszalin, where 'Atrium', the largest shopping mall in WPV (Polska Rada Centrów Handlowych, 2016), opened in 2008, had increased fivefold. This trend was similar in other regions, while some cities (Piła, Bydgoszcz, Słupsk, Gdynia) began to influence WPV with their values. The most dominant centres remained Poznań and Gdańsk.

The strongest values were found near Szczecin, Koszalin, Wałcz and Szczecinek. The lowest values appeared near Cedynia and the central-northern part of the voivodeship. The highest relative changes occurred in Świnoujście due to the construction of the shopping mall, the area around Koszalin and the entire eastern part of the voivodeship also experienced a greater change.

Seven labour centres have been defined in the voivodeship for 2005 and eight for the year 2015. A further seven centres outside the voivodeship are under consideration. A decline in the number of occupied posts was noticeable, especially for the largest of them. Smaller centres experienced stagnation or weak growth. In 2005, Szczecin and its surroundings had the highest values, as well as neighbouring Police or Stargard. The influence of other centres, especially Koszalin, Szczecinek or Kołobrzeg, is obvious. Central, southwestern and west coast areas recorded low values. The spatial pattern is similar for 2015. Goleniów became an employment centre with enhanced values for its surroundings, which logically experienced the largest relative change.

Some areas with a clearly defined place in the hierarchy became evident in the presented results of using these methods (Figs. 2, 3 and 4). Szczecin and its surroundings

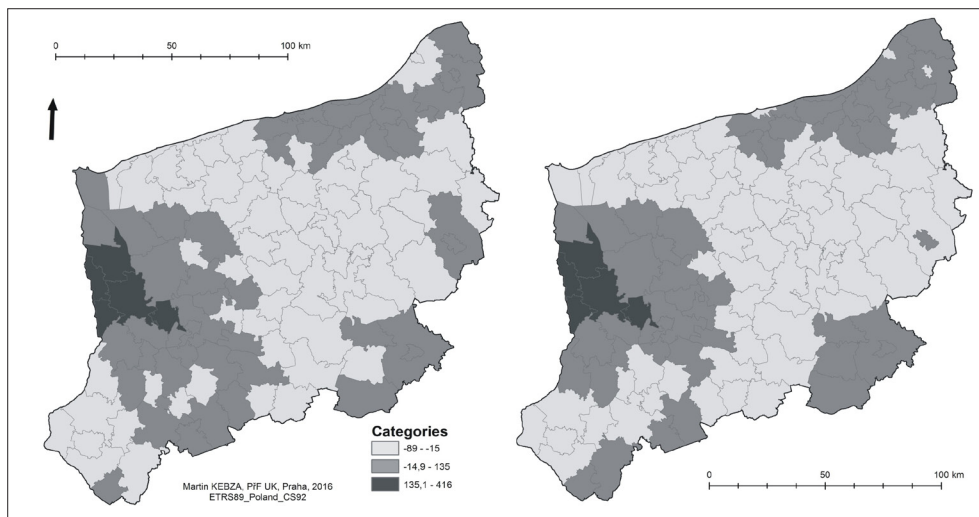


Fig. 3: Average values of all indicators' z-score in 2005 (left) and 2015 (right)  
Source: author's elaboration

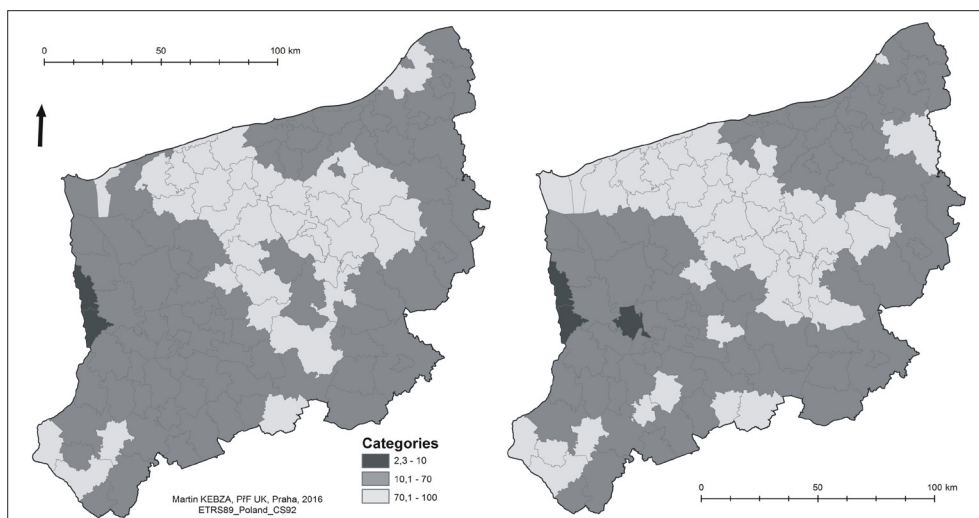


Fig. 4: Average values of all indicators' rank in 2005 (left) and 2015 (right)  
Source: author's elaboration

stand out the highest due to positive values associated with their own sizes and also the industrial background of Police. Other regionally developed areas are the wider Szczecin and the surroundings of Koszalin. The value of Wałcz and its surroundings, which is at the very edge of the voivodeship and very far from the provincial city from a spatial point of view, paradoxically also extended. At the other end of the spectrum, there is the problematic central part of the voivodeship without any major leading city and the southwestern part of the voivodeship, which is linked to the border with Germany.

The evaluation of Koszalin with its surroundings as peripheral enclaves (Czyż, 2002) might sound somewhat odd. It is indeed a very progressive part of the voivodeship (Fig. 5) and may be understood as an enclave in the periphery. The difference in relative change indicator values between the western and the eastern half of the voivodeship is also interesting, but that might be attributed to Szczecin and its surrounding area's saturation.

On the basis of the analysed data, it was possible to proceed to a typology of the gminas in the WPV (see Fig. 6). The typology is based on the concept of growth poles (core-periphery; i.e. metropolitan area-periphery), while the periphery was divided into several groups. Bordering peripheries (BP) are located at the border of the voivodeship or are closely linked to it, and bordering peripheries with Germany (BPG) is a special sub-group bordering with Germany. These gminas were excluded because of the possible presence of boundary effects and their potentially different character. Another group is Pleasure peripheries (PP), gminas with a dominant role of tourism, including gminas proximity to the seaside or to Szczecin Lagoon (Bański, 2005). Last and most intriguing, is the group of Inner peripheries (IP) that fills the underdeveloped area that is not adjacent to any current administrative boundary,

while not playing a dominant role in tourism, although there may be a location with appropriate localisation or realisation factors.

Besides these groups, Metropolitan and Semi-metropolitan areas are also defined. Furthermore, disparate groups of gminas with various values, here called Rest of Areas, could be understood as semi-peripheries in Wallerstein's concept. This group included developing gminas at secondary provincial centres (especially Koszalin), but also remote and edge areas benefitting from their position among several metropolitan areas in different voivodeships (e.g. Wałcz).

The metropolitan area (MA) is a relatively broad concept: one is defined in this paper, Szczecin Metropolitan Area. In addition, the provincial city also includes three other gminas (Dobra, Kołbaskowo, Kobylanka), which are characterised by high values most likely stemming from their proximity to Szczecin. Two other gminas were identified as 'semi metropolises' that are very similar to MA in their attributes. It is an area with positive values on the level of metropolitan areas, but it is a characteristically distinct unit. Police, which is immediately connected to Szczecin and has even shared public transport, is an important industrial city and cannot be viewed as a typical suburb in the centre's hinterland. Moreover, some indicators derive mainly from the presence of industry (e.g., unemployment rate). Unlike other gminas in the Szczecin MA, there is also a lack of suburban urbanistic character.

The second gmina (city) included in semi-metropolitan areas is Koszalin, which forms a smaller but developing pseudo-metropolitan region, yet the population is insufficiently large, as in Koszalin itself. Also, other cities (Goleniów and Stargard) might be considered in relation to this category. Goleniów is particularly important due to the presence of modern industry and the international

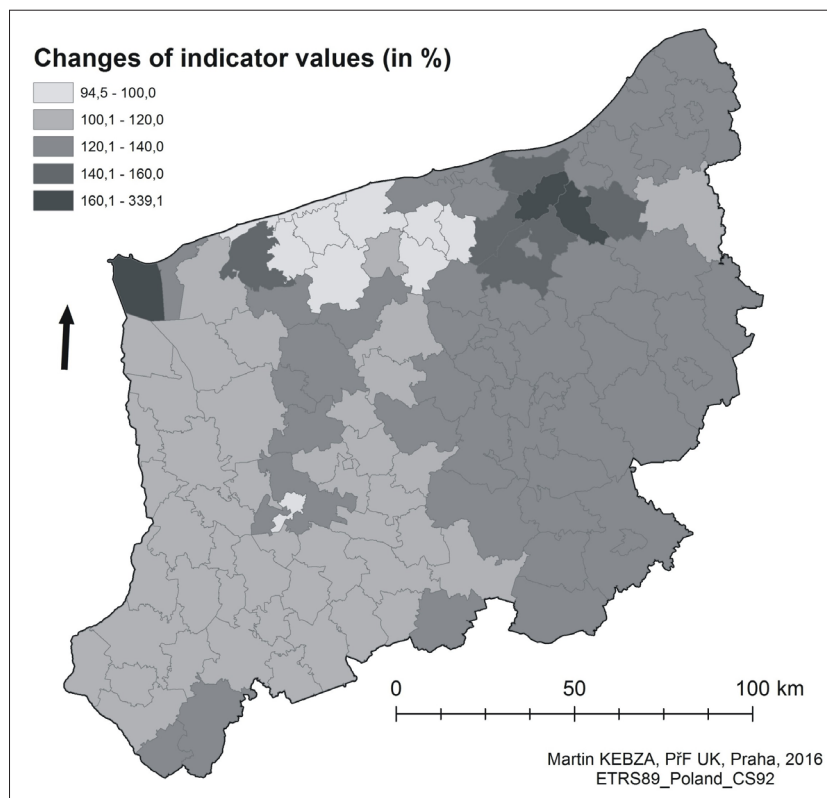


Fig. 5: Average change of all indicators values between 2005 and 2015  
Source: author's elaboration



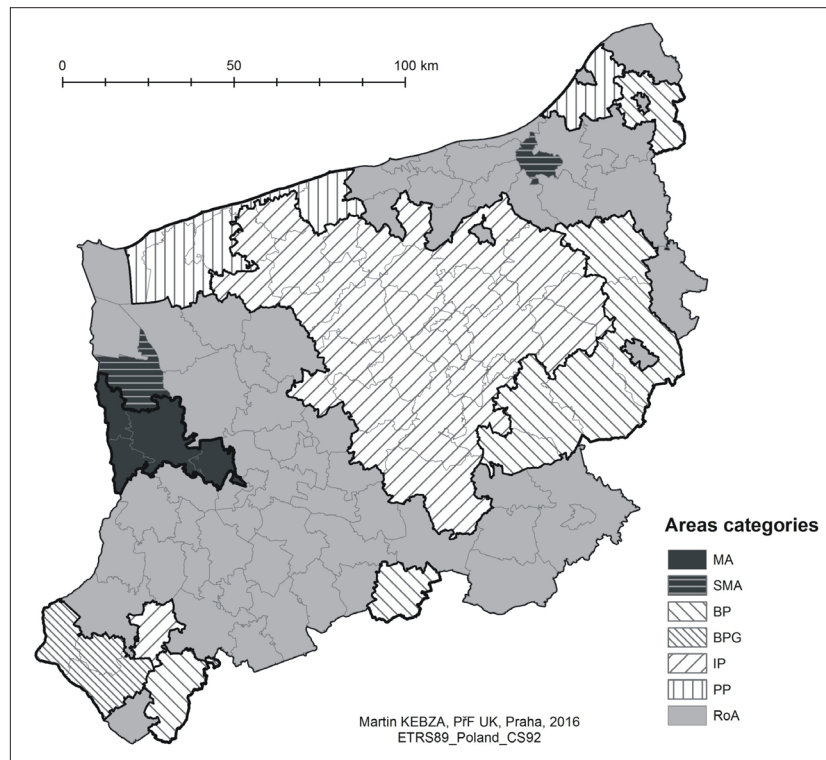


Fig. 6: Typology of areas (Legend: MA – Metropolitan area; SMA – Semi-metropolitan areas; BP – Peripheries at a border; BPG – Peripheries at a border with Germany; IP – Inner peripheries; PP – Pleasure periphery; RoA – Rest of areas). Source: author's elaboration

airport serving Szczecin, which has long been isolated. Kołós et al. (2012) proposed linking the city centre with buses, but in 2013 a railway station near the airport was opened, which conveniently combined not only Szczecin, but also Kołobrzeg and thus the sea. Stargard is another large city, which is well connected to Szczecin, but has relatively poor socio-demographic characteristics. Both cities lack positive values for integration into this category, however.

The eastern part of the IP is relatively developing (see Figs. 5 and 6), and it is possible that in the future the area of IP may shrink or move. What is also interesting is that the IP recorded the smallest population growth (see Tabs. 2 and 3), as the decade decrease was at the 99.05% level. The work of Chaberko et al. (2012) is devoted to the problem of social exclusion and poverty. The poor and prosperous regions were defined in their research. One of the poorest regions of Poland partly overlaps with the definition of IP and BP in Figure 6. Czapiewski (2005) came to a similar conclusion. By monitoring living conditions, this author

negatively evaluated the WPV central part related to the herein defined category of IP. Markuszewska (2015) also expressed a high rate of rural community decay in the region, as well as in the BPG, while in the MA it is the lowest. Generally, the IP can be viewed as a transition zone between the spheres of influence of Szczecin and other centres, especially the Tricity area.

Similarly, we may consider the BP, but in the literature this concept (at the boundaries of administrative units) is often understood as an inner periphery. Compared to the IP, however, it had significantly better results, even though its population is similarly decreasing. The issue of Pojezierze Pomorskie (Drawskie) is also associated with IP. According to Korcelli et al. (2008), it is a marginalising and physically inaccessible area of the former state farms. On the other hand, Bański (2010) considered this Lakeland as developing significantly in terms of tourism. BPG is also problematic because of its underdeveloped infrastructure (Korcelli et al., 2008). Due to unfavourable resulting values, it is not

2005	Area (km <sup>2</sup> )	Population	Composite Indicator (Deviations)	Composite Indicator (Z-score)	Composite Indicator (Rank)
MA	638	435,232	245.98	287.27	7.90
SMA	350	149,302	170.81	148.62	25.93
BP	2,788	80,092	94.92	- 17.16	74.55
BPG	545	16,106	90.16	- 28.26	74.48
IP	6,119	227,405	85.33	- 50.33	84.77
PP	896	52,831	78.80	- 13.90	78.88
RoA	11,127	717,990	105.19	6.96	56.00

Tab. 2: Selected characteristics and average values from analytical results: 2005  
Source: author's elaboration

2015	Average change of all indicators (%)	Population	Composite Indicator (Deviations)	Composite Indicator (Z-score)	Composite Indicator (Rank)
MA	114.50	443,821	232.23	270.46	10.79
SMA	133.10	149,588	169.30	112.03	25.50
BP	140.61	79,521	101.30	– 36.76	64.11
BPG	116.61	16,070	88.75	– 37.55	84.45
IP	130.05	225,248	93.53	– 42.40	76.68
PP	123.11	53,403	89.26	– 10.40	68.92
RoA	132.47	727,513	105.94	6.70	49.01

Tab. 3: Selected characteristics and average values from analytical results: 2015  
Source: author's elaboration

possible to confirm the assumption of the positive influence of boundary effects. BPG is also the only compact unit, but this is obviously because of its small size.

A special case is the PP (“pleasure periphery”), which is not decreasing despite the weak resulting values. The development of tourism and an increasing share of post-productive population indicate the definition of this group. The largest category is the RoA, which contains some of the larger or medium-sized cities (e.g. Stargard, Świnoujście), the broader suburbs of Szczecin (e.g. Goleniów, Gryfino, Nowe Warpno), Koszalin’s suburbs and many gminas distant from the centre, but with relatively better resulting values. This group is highly variable. While a further division of the gminas is not the subject of this article, other studies of these areas might be appropriate.

## 5. Discussion

The main discussion questions concern the manner of facilitating the development of the defined peripheries. Good solutions tend towards convergence and equalised polarisation, or to concentrate on ‘recovery islets’ and spillover effects. This is called the dilemma of “equality × efficiency” (Bański, 2010), and decisions about this strategy may have long-term consequences. As Bański (2010) has mentioned, Poland behaves in a similar fashion to the theory of polarised development: first, saturate several major cities, then investors’ interests spill over into the lower hierarchical levels. Such a trend can also be observed in the processes investigated here: Szczecin is a relatively saturated core without major socio-economic changes (Fig. 5), and Koszalin is a smaller center with a steeper rise. As Bański (2010) stated, investment in nodes and zones of activity and innovation are the most effective. The problem of WPV lies in its eccentric core position and the position of other major centres at the edges of the voivodeship, although some may form theoretical strips of activities (Szczecin–Goleniów–Świnoujście; Koszalin–Szczecinek–Wałcz).

In IP, there are several larger towns, the most populated of which is Gryfice with 24,000 inhabitants. Other interesting towns in this category are Drawsko Pomorskie, which is tied to the military industry, and Świdwin, which is located approximately in the middle of the voivodeship and is also situated on the railway line linking Szczecin with Koszalin. With the continuation to the Tricity, it forms one of the two main lines of top priority (Bański, 2010). Transport infrastructure can actually be an important factor in development processes. But as Bański (2010) added, the development of these traffic routes cannot be carried out without external sources of infrastructure and innovation funds.

It may actually be difficult to develop peripheral areas from the outside. Activating impulses from the inside and accessing external networks can be more fundamental. Even so, external impulses are also necessary for effective development. The meaning of a centres’ network connectivity is emphasised by Bański (2010), because of the ability to prevent the ‘tunnel’ effect – when potentially developing areas become areas of transit. It may apply particularly to the areas bordering the major transport corridors. Traditional major ports are also interesting for this coastal region, especially Szczecin and Świnoujście, followed by Police. Much smaller ports may also have an interesting role in development, and the evolution of such ports is described by Noteboom and Rodrigue (2005).

Another perspective can be the development of innovation and activity zones in the form of “edge cities”, in this case the Central European derivatives thereof. Garreau (1991) describes them, for the North American context, as developing units on the outskirts, with a quaternary sector, relatively lower buildings than in downtown areas, white-collar jobs, malls or airports. He also stated that their population is often higher than in central cities. Goleniów particularly suggests this for this researched regional context: a town with an international airport has potential in respect to PP (a ‘pleasure periphery’ – direct links with the maritime centres of Świnoujście and Kołobrzeg, but also with Szczecin).

According to Hospers (2003), it is important to have an understanding of the geographical context of the area. This can be a springboard for new combinations in market orientations, while expressing skepticism over the copying of successful projects in other countries or regions. It is important in this context to express regional identities, which could change in the development process. Their possible influence is discussed by Semian and Chromý (2014). It is questionable, however, how regional identity is developed in such uprooted areas compared with the middle of eastern Poland. A focus on the market is also important. In Korcelli et al. (2008), gminas are distinguished by their function and market orientation. This distinction in WPV, however, has created a diverse structure, which is not necessarily a disadvantage. Lack of innovation is understood as a core factor of peripheralisation (Kuhn, 2015). Innovation can be supported next to classical hierarchical spatial diffusion as a diversification of local economies or the transfer of new technologies into current activities. The problem may also be a lack of finance. Kagarlitskii (1999) states that after the first decade of post-socialist transformation, countries got into trouble due to a shortage of investment that remains in the cores, which are not present in the East. Another perception of the lack of resources can be discussed by cumulative mechanisms, particularly by selective lending

2005	Unemployment rate (%)	Net migration rate (%)	Age dependency ratio (%)	Education (k <sub>s</sub> )	Trade (k <sub>s</sub> )	Labour (k <sub>s</sub> )
IP	21.64	– 0.46	16.74	37.60	7.55	48.41
PP	16.83	– 0.40	15.83	31.80	3.63	41.79
BP	19.59	– 0.10	16.62	40.96	10.92	59.33
BPG	17.89	– 0.28	16.34	35.61	12.57	39.87
MA	9.27	2.68	13.30	169.05	50.98	189.88
SMA	11.46	– 0.26	14.35	111.20	24.90	147.03
RoA	16.22	– 0.10	15.79	48.09	13.41	68.35

Tab. 4: Average values of indicators in delimited parts of the WPV 2005

Source: author's elaboration

2015	Unemployment rate (%)	Net migration rate (%)	Age dependency ratio (%)	Education (k <sub>s</sub> )	Trade (k <sub>s</sub> )	Labour (k <sub>s</sub> )
IP	11.67	– 0.52	19.30	29.76	27.78	51.52
PP	9.28	0.06	20.72	24.89	24.80	43.93
BP	11.53	– 0.57	19.75	31.42	36.47	58.07
BPG	9.71	– 0.59	18.14	26.14	25.50	44.23
MA	4.91	1.90	16.11	114.51	102.70	228.96
SMA	6.12	– 0.35	22.00	79.17	73.25	140.25
RoA	8.71	– 0.15	18.99	34.18	34.80	69.95

Tab. 5: Average values of indicators in delimited parts of WPV 2015

Source: author's elaboration

to entrepreneurs (Bečicová and Blažek, 2015). Most authors note that the competition for clients is so strong that such mechanisms are suppressive. They also reflected on the example of the Moravian-Silesian region in the Czech Republic in which all surveyed entrepreneurs from peripheral areas received the credit.

The turning point of negative causalities, such as depopulation as part of the process of peripheralisation, is the influx of 'Floridan' (Florida, 2005) creative populations. Due to the competition of human capital, such an influx might not happen everywhere, universally. The human capital issue is also important because of its connection with economic capabilities (Barjak, 2001). Among other possibilities, reference to the problem of reducing the number of students suggests itself. Rather pessimistic views also argue that potentials and strategies of endogenous development are often unclear, especially in peripheries where power or innovation capacity is lacking (Kuhn, 2015).

Another 'everlasting' question is whether the results of natural evolution are convergence or divergence, cannot be clearly answered on the basis of the information used in this project. From the perspective of differentiation, the concept of 'convergence-divergence' is instead replaced by 'concentration-diffusion', in which the core stabilises and then expands (Bański, 2010). In terms of the regional context discussed here, a stabilisation of Szczecin has already taken place and is currently reflected in the smaller Koszalin. As such, a downward shift within the settlement system hierarchy is evident.

## 6. Conclusions

The issue of peripheries, their position in the region or their development in WPV, which is one of the sixteen Polish NUTS 2 units, has been discussed in this paper. Several

specific factors and processes might be seen in the process of peripheralisation, manifested in the case study region. These include the eccentric position of Szczecin and its turbulent historical development. Within this quite specific context, the author sought to describe WPV, which has been relatively neglected in the geographic literature because of its specifics that are however equally interesting for other more discussed Central European regions. Some universal generalisations can hardly be offered due to the conceptual orientation of the article. Therefore, according to this author, it would be appropriate to develop this research at a higher (national) scale level, while maintaining necessary details and employing the principles of comparison.

This research project was limited in particular by data availability, and therefore a rather small number of indicators was used, which, however, had been selected to express the complexity of the socio-economic situation. The problem is that the data for suitable indicators is only available for territorial units at a higher aggregate level than gminas (NUTS 5). Another problem is the often relatively short temporal aspect of the measurement. Therefore, this contribution focused on just one decade, which actually coincides with Poland's entry into the EU in 2004 and the subsequent dynamics of economic development.

Metropolitan and semi-metropolitan areas, 'semi-peripheries' and peripheral areas were defined using scalar and vector data. They have been divided into several types according to location or nature. All of the regional delineations, however, are just a passing spatio-temporal construct. It is unclear how long they can persist and what may be left in the future. Such 'heritage' of regions is particularly conspicuous in Poland with connections to the pre-war arrangement of borders, but also at the scale of the entire country. Due to the territorial reform

at the turn of the millennium in Poland, it is questionable whether the previous voivodeship division has left any mark on the formation of peripheries within the new divisions, where the former administrative border zone found itself in the 'inland'.

Despite all the unfavourable characteristics and submitted proposals for development, it would be incorrect to understand peripheries as something negative, but rather as a natural part of regional systems. It can also be appealing to live in the distant and perhaps even tranquil countryside.

## References:

- BAŃSKI, J. (2005): Suburban and peripheral rural areas in Poland: the balance of development in the transformation period. *Geografický časopis*, 57(2): 117–130.
- BAŃSKI, J. (2010): Dilemmas for Regional Development in the Concepts Seeking to Develop Poland's Spatial Structure. *Regional Studies*, 44(5): 535–549.
- BAŃSKI, J., CZAPIEWSKI, K. (2015): A Vision of the Polycentric Development of the Mazovia Region in Poland. *Geografický časopis*, 67(4): 301–321.
- BARJAK, F. (2001): Regional disparities in Transition Economies: A Typology for East Germany and Poland. *Post-Communist Economies*, 13(3): 289–311.
- BEČICOVÁ, I., BLAŽEK, J. (2015): Is there a Credit gap in a periphery? The perception of this problem by small entrepreneurs. *Journal of Rural Studies*, 42: 11–20.
- BICZKOWSKI, M., MÜLLER-FRĄCZEK I., MUSZYŃSKA, J., PIETRZAK, M. B., WILK, J. (2014): The Delimitation of Bipolar Metropolitan Area Within the Kujawsko-Pomorskie Region. *Oeconomia Copernicana*, 5(2): 101–122.
- BLAZYCA, G., HEFFNER, K., HELIŃSKA-HUGHES, E. (2002): Poland – Can Regional Policy meet the Challenge of Regional Problems? *European Urban and Regional Studies*, 9(3): 263–276.
- BLUNDEN, J. R., PRYCE, W. T. R., DREYER, P. (1998): The Classification of Rural Areas in the European Context: An Exploration of a Typology Using Neural Network Applications. *Regional Studies*, 32(2): 149–160.
- CHABERKO, T., GRAD, N., KRETOWICZ, P., ŁEBEK, S. (2012): Geographical distribution of poverty in Poland. *Prace Geograficzne*, 130: 43–54.
- CHIDLOW, A., SALCIUVIENE, L., YOUNG, S. (2009): Regional determinants of inward FDI distribution in Poland. *International Business Review*, 18(2): 119–133.
- CHRENEKOVÁ, M., MELICHOVÁ, K., MAJSTRÍKOVÁ, L. (2015): Development Activities in Districts of Žilina Region in Frame of Cohesion Policy. In: Klímová, V., Žitek, V. [eds.]: 18<sup>th</sup> International Colloquium on Regional Sciences, Conference Proceedings, (pp. 286–292). Hustopeče, Masaryk University.
- CHRISTALLER, W. (1933): Die zentralen Orte in Süddeutschland: eine ökonomisch-geographische Untersuchung über die Gesetzmässigkeit der Verbreitung und Entwicklung der Siedlungen mit städtischen Funktionen. University Microfilms.
- COPUS, A. K. (2001): From Core-periphery to Polycentric Development: Concepts of Spatial and Aspatial Peripherality. *European Planning Studies*, 9(4): 539–552.
- COPUS, A., SKURAS, D. (2006): Business networks and innovation in selected lagging areas of the European Union: A spatial perspective. *European Planning Studies*, 14(1): 79–93.
- CZAPIEWSKI, K. Ł. (2005): Living conditions and functional structure of rural communes in Poland. *Geografický časopis*, 57(1): 23–42.
- CZYŻ, T. (2002): Application of the potential model to the analysis of regional differences in Poland. *Geographia Polonica*, 75(1): 13–24.
- DOSTÁL, P., HAMPL, M. (2008): Development of national settlement systems in the industrial and post-industrial eras: a general discussion and the case of the Czech Republic. In: Strubelt, W., Gorzelak, G. [eds.]: City and Region. Papers in Honour of Jiří Musil (pp. 43–54), Opladen, BudrichUniPress.
- DUSZCZYK, M. (2014): Poland under Economic Crisis Conditions. *Perspectives on European Politics and Society*, 15(3): 370–384.
- FASSMANN, H., MÜNZ, R. (1994): European East-West Migration, 1945–1992. *The International Migration Review*, 28(3): 520–538.
- FLORIDA, R. (2005): *Cities and Creative Class*. New York, Routledge.
- FRIEDMANN, J. (1966): *Regional Development Policy: A Case Study of Venezuela*. Cambridge, M.I.T. Press.
- GARREAU, J. (1991): *Edge Cities: Life on the New Frontier*. New York, Anchor Books.
- GAUSSIER, N., LACOUR, C., PUISSANT, S. (2003): Metropolitanization and territorial scales. *Cities*, 20(4): 253–263.
- GDDKiA (2016): Mapa Stanu Budowy Dróg [online]. [cit. 23.04.2016] Available at: <http://www.gddkia.gov.pl/pl/1077/mapa-stanu-budowy-drog>
- GUS (2006): Szkoły wyższe i ich finanse w 2005 r. [online]. [cit. 06.05.2016]. Available at: [http://www.nauka.gov.pl/g2/oryginal/2013\\_05/34c79d126fc957f39c582891c9827797.pdf](http://www.nauka.gov.pl/g2/oryginal/2013_05/34c79d126fc957f39c582891c9827797.pdf)
- GUS (2014): Szkoły wyższe i ich finanse w 2013 r. [online]. [cit. 06.05.2016]. Available at: [http://stat.gov.pl/files/gfx/portalinformacyjny/pl/defaultaktualnosci/5488/2/10/1/szkoly\\_wyzsze\\_i\\_ich\\_finance\\_w\\_2013\\_r.pdf](http://stat.gov.pl/files/gfx/portalinformacyjny/pl/defaultaktualnosci/5488/2/10/1/szkoly_wyzsze_i_ich_finance_w_2013_r.pdf)
- GUS (2016): CENTRAL STATISTICAL OFFICE OF POLAND [online]. [cit. 15.08.2016] Available at: <http://www.stat.gov.pl>
- HALÁS, M., KLAPKA, P. (2015): Spatial influence of regional centres of Slovakia: analysis based on the distance-decay function. *Rendiconti Lincei, Scienze Fisiche e Naturali*, 26(2): 169–185.
- HALL, C. M., HARRISON, D., WEAVER, D., WALL, G. (2013): Vanishing Peripheries: Does Tourism Consume Places? *Tourism Recreation Research*, 38(1): 71–92.
- HARDY, J. (1998): Cathedrals in the Desert? Transnationals, Corporate Strategy and Locality in Wrocław. *Regional Studies*, 32(7): 639–652.
- HAVLÍČEK, T. (2007a): Population Stability in the Peripheral Regions of Czechia, with a Focus on the Czech-Austrian Border Region. In: Jones, G. et al. [eds.]: *Issues in Geographical marginality: Papers presented during the Meetings of the Commission on Evolving Issues of*

- Geographical Marginality in the Early 21<sup>st</sup> Century World, 2001–2004, Demographic problems (pp. 30–40). Grahamstown, Rhodes University.
- HAVLÍČEK, T. (2007b): Border, Borderland and Peripheral Regions. Theoretical Considerations in frames of Process of Transformation. In: Jones, G. et al. [eds.]: Issues in Geographical marginality: Papers presented during the Meetings of the Commission on Evolving Issues of geographical Marginality in the Early 21<sup>st</sup> Century World, 2001–2004, Border Issues (pp. 2–10). Grahamstown, Rhodes University.
- HEDLUND, M. (2016): Mapping the Socioeconomic Landscape of Rural Sweden: Towards a Typology of Rural Areas. *Regional Studies*, 50(3): 460–474.
- HOSPERS, G. J. (2003): Beyond the Blue Banana? Structural Change in Europe's Geo-Economy. *Intereconomics*, 38(2): 76–85.
- KAGARLITSKII, B. (1999): The New Periphery. *Russian Politics & Law*, 37(6): 24–43.
- KOŁOŚ, A., TACZANOWSKI, J., TRZEPACZ, P. (2012): Connecting Airports Connecting airports with cities. Perspectives of air-rail links development in central europe. *Prace Geograficzne*, 130: 107–130.
- KORCELLI, P. et al. (2008): Ekspercki projekt Koncepcji Przestrzennego Zagospodarowania Kraju do 2033r. Ministerstwo Rozwoju Regionalnego.
- KUBEŠ, J., KEBZA, M., NOVÁČEK, A. (2016): East-west gradient of regional differentiation in Poland. In: Jedlička, P. [ed.]: Proceedings of the international scientific conference „Hradec Economic Days 2016“ (pp. 456–463), Hradec Králové, University of Hradec Králové.
- KUHN, M. (2015): Peripheralization: Theoretical Concepts Explaining Socio-Spatial Inequalities. *European Planning Studies*, 23(2): 367–378.
- LEWANDOWSKA, A., STOPA, M., HUMENNY, G. (2015): The European Union Structural Funds and Regional Development. The Perspective of Small and Medium Enterprises in Eastern Poland. *European Planning Studies*, 23(4): 785–797.
- MÁLIKOVÁ, L., KLOBOUČNÍK, M., BAČÍK, V., SPIŠIAK, P. (2015): Socio-economic changes in the borderlands of the Visegrad Group (V4) countries. *Moravian Geographical Reports*, 23(2): 26–37.
- MARKUSZEWSKA, I. (2015): Rural area marginalisation: searching for tendencies. Case study: the Western fringes of Poland. *Bulletin of Geography. Socio-economic Series*, 29: 75–91.
- MINARČIKOVÁ, I. (2015): Assessment of regional development in the selected EU countries in the context of Europe 2020 Strategy. In: Klímová, V., Žitek, V. [eds.]: 18<sup>th</sup> International Colloquium on Regional Sciences, Conference Proceedings, (pp. 25–33). Hustopeče, Masaryk University.
- NOTEBOOM, T. E., RODRIGUE, J. P. (2005): Port regionalization: towards a new phase in port development. *Maritime Policy & Management*, 32(3): 297–313.
- NOVÁČEK, A. (2014): Historical-geographical determinants of the west-east territorial disparities in the Central European countries. *Europa XXI*, 26: 5–23.
- PILEČEK, J., JANČÁK, V. (2011): Theoretical and Methodological Aspects of the Identification and Delimitation of Peripheral Areas. *AUC Geographica*, 46(1): 43–52.
- POLSKA RADA CENTRÓW HANDLOWYCH (2016): Katalog Centrów Handlowych [online]. [cit. 23.04.2016] Available at: <http://www.prch.org.pl/katalog-ch>
- SCHMIDT, M. H. (1998): An Integrated Systematic Approach to Marginal Regions: from definition to development policies. In: Jussila, H., Leimgruber, W., Majoral, R. [eds.]: Perception of Marginality: theoretical issues and regional perceptions of marginality in geographical space (pp. 45–66). Aldershot, Ashgate.
- SEMIAN, M., CHROMÝ, P. (2014): Regional identity as a driver or a barrier in the process of regional development: A comparison of selected European experience, *Norsk Geografisk Tidsskrift – Norwegian Journal of Geography*, 68(5): 263–270.
- SMETKOWSKI, M., JAŁOWIECKI, B., GORZELAK, G. (2009): Metropolitan Areas in Poland – Diagnosis and Recommendations. *Regional and Local Studies, Special Issue*: 37–58.
- SOKOL, M. (2001): Central and Eastern Europe a Decade after the Fall of State-socialism: Regional dimensions of Transition Processes. *Regional Studies*, 35(7): 645–655.
- SPILKOVÁ, J. (2012): The Birth of the Czech Mall Enthusiast: The Transition of Shopping Habits From Utilitarian to Leisure Shopping. *Geografie – Sborník ČGS*, 117(1): 21–32.
- STELDER, D. (2014): Regional Accessibility Trends in Europe: Road Infrastructure, 1957–2012. *Regional Studies*, 50(6): 983–995.
- STRYJAKIEWICZ, T. (1998): The changing role of border zones in the transforming economies of East-Central Europe: The case of Poland. *GeoJournal*, 44(3): 203–213.
- SZYMAŃSKA, D., BIEGAŃSKA, J., GIL, A. (2009): Rural Areas in Poland in the Context of Changes in Population Age Structure in 1996, 2001 and 2006. *Bulletin of Geography. Socio-economic Series*, 12: 91–107.
- ŚLUSARCZYK, B., HERBUŚ, A. (2011): University Education Level and the Unemployment in the Silesian Voivodeship and the City of Częstochowa. *Polish Journal of Management Studies*, 4: 223–230.
- VAN LEEUWEN, E. S., RIETVELD, P. (2011): Spatial Consumer Behaviour in Small and Medium-sized Towns. *Regional Studies*, 45(8): 1107–1119.
- ZBOROWSKI, A., SOJA, M., ŁOBODZIŃSKA, A. (2012): Population Trends in Polish cities – stagnation, depopulation or shrinkage? *Prace Geograficzne*, 130: 7–28.

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