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SPATIAL AND TEMPORAL DISTRIBUTION OF ECONOMIC GROWTH AND STAGNATION AREAS IN POLAND – - challenges for Polish cohesion policy after 2013

Key words: growth areas, stagnation areas, cohesion policy, Poland

Abstract: Aim of this study is to identify the status and changes in the level of diversity of socio- economic development in Poland, from which results the fundamental challenges for the economic policy of the country and the region, in terms of their compliance with a focus on EU cohesion policy after 2013.

1. Introduction

The process of socio-economic development is characterized by the lack of spatial balance. Due to various conditions and volatile factors endogenous and exogenous development processes do not appear with equal intensity on each area. However, too large a spatial differentiation between development levels may result with a barrier to the course and optimization of development process. One of the general objectives of the European Union rests upon creating favorable conditions for its balanced territorial development. Since the very first years the European Communities have been founded a necessity to pursue towards economic and social cohesion was taken for granted. Unfortunately the subsequent extensions of membership resulted in deepening the internal development differentiations, what entailed a systematic reinforcement of interventionism targeted at efficient improvement of cohesion, while broadening the substantive content of this concept. As a consequence of this process comes a current change in orientation of the European Union's regional policy to cohesion policy, which now during this perspective sets its overriding goal for attaining a possibly highest cohesion in its three dimensions: economic, social and territorial, while abandoning the compensation approach. A prerequisite underlying this new path is that achieving cohesion does not necessarily mean equalizing spatial differences, only a state where these differences are socially and politically accepted (Faludi 2006, Molle 2007). In conclusion, the co-existence of economic growth and stagnation areas is no longer considered a development barrier per se. A barrier is when there are too large inequalities in the development levels accompanied by the lack of linkages, which are substantial for the proper functioning of the spatial system according to foundations of

polarization and diffusion theories. Adopting this prerequisite to the interventions in the framework of regional policy may impact its objectives and re-orientates them from leveling out the differences to taking the advantage of them through employing i.e. endogenous resources, territorial co-ordination of policies, multilevel governance (Territory matters... 2006, Shrinking regions... 2008). The change of policy's paradigm from compensation to polarization–diffusion is widely acclaimed by i.e. OECD and World Bank (Growing Unequal?... 2008; Reshaping Economic... 200, Regional Development... 2010, Regional Policy... 2011). However, it becomes controversial when subject to debate on dividing the cohesion policy budget. Apparently, lagging countries and regions are afraid of the compensation paradigm to be abandoned, having its consequences in a partial loss of structural allocations, which now may be directed at core regions.

This paper aims at identifying the current state and dynamics of socio-economic development differentiations in Poland, that may be challenging for the economic policy at both country and regional level in terms of the compliance with the European Union's cohesion policy after 2013. The research procedure is composed of following steps:

1. Characteristics of state and objectives of the EU cohesion policy after 2013.
2. Analysis of state and differentiation of socio-economic development in Poland at regional and subregional levels.
3. Conclusions and recommendations for targeting the cohesion policy in Poland with respect to identified spatial differentiations and the concept of cohesion policy in years 2014- 2020 fostered by the European Union.

The analysis will be carried out in two spatial dimensions: regional- NUTS 2 (16 Polish voivodeships) and subregional- NUTS 4 (379 Polish poviats), its scope being determined by the accessibility of statistical data. In the research an official database of the Central Statistical Office in Poland is applied. The analysis covers the period of 2000- 2010.

The results presented constitute the end of the initial research stage realized in the context of the project, Socio-Economic Growth and Emergence Of Growth and Economic Stagnation Areas, financed by the National Centre of Science (N N306 791940). This project is being undertaken by the Research Focus Group, Regional Analysis Department, Institute of Socio-Economic Geography and Spatial Management UAM in Poznań.

2. Scope and objectives of the EU cohesion policy after 2013

The new programming period of the EU's budget is challenging for Member States. First, the united Europe shows low resistance to consequences of world economic crisis, even weakening its position on the global markets. Second, Member States undertake constant attempts to stabilize the economic situation of the Euro Zone and elaborate efficient mechanisms of monitoring the macroeconomic policies preventing crises from deepening in particular Member States, what affects the whole European Union. Third, lack of satisfying effects of the up-to date cohesion policy mobilizing the European Council, Parliament and Commission together with governments to search for bettering solutions in scope of programming, implementing and monitoring the policy.

On June 29th 2011 the European Commission adopted a draft project of 'Multiannual Financial Frameworks 2014- 2020' (2011) and 'A Budget for Europe 2020' (2011). Herewith the European Commission has formally presented assumptions underlying the new programming period of 2014- 2020 and defined their relationships to the overriding Growth Strategy in Europe. In order to specify the assumptions

underlying the cohesion policy, European Commission has put a legislative package proposals under consultation on October 6th 2011. According to them, cohesion policy in the new programming period is to support not only actions stimulating economic growth but also leveling out divergences and consequences of economic crisis. The policy is simplified and its orientation must be determined by the up-to date effects. A significant change in this matter rests upon introducing a common conditionality rule as one of the basic instruments boosting the efficiency and effectiveness of interventions co-financed from the EU public funds amounting 339 bln Euro.

The new programming period 2014- 2020 of cohesion policy is targeted at accomplishing two general objectives (COM(2012) 496 final. 2011/0276 (COD)):

Objective 1 – Investment in growth and jobs – covering actions financed from European Regional Development Fund, European Social Fund and Cohesion Fund - 96,5% of input planned.

Objective 2 – European Territorial Co-operation - actions financed from European Regional Development Fund- 3,5% of input planned.

Reducing the number of objectives from three to two vs. the financial perspective of 2007-2013, signifies the further concentration of means, confirmed by the spatial (geographic) and substantial scope of the policy.

Geographic concentration, while generally encompassing all EU territories, still includes some preferences for lagging areas. In framework of Objective 1 all European regions are to be classified according to GDP per capita value into three groups (COM(2012) 496 final. 2011/0276 (COD)):

- lagging regions – of GDP per capita <75% average EU's GDP – 50,0% of resources allocated to Objective 1, covering 119,2 mio EU citizens,
- phasing in/out regions of GDP per capita ranging from: >75% to <90% - 11,1% of resources allocated to Objective 1, covering 72,4 mio EU citizens,
- well-developed regions - of GDP per capita > 90% - 16,9% of resources allocated to Objective 1, covering 307,1 mio EU citizens.

In addition the interventions framed within Objective 1, regions of countries characterized by the GNP below 90% EU's average will be supported by the Cohesion Fund (21,6% of means allocated for Objective 1). The intervention will be complemented by special actions for remote or low-dense territories, specified in the Article 349 of Treaty on the functioning of the European Union and in the Treaty of Accession of Austria, Finland and Sweden to the European Union, supported by 0,4% resources allocated in this objective. The Objective 2 will be implemented on cross-border and other geographically indicated areas covering the supranational territorial co-operation. Having regard to its limited budget the scope of this intervention will be of a rather complementary and local significance (COM(2012) 496 final. 2011/0276 (COD)).

Apart from two aforementioned objectives, the substantial concentration is subject to implement the Europe 2020- A strategy for smart, sustainable and inclusive growth (2010). As a result the intervention's undertaken in regions of the united Europe will be bound to fulfilling the indices quantifying this most important strategic document in Europe. In order to orientate the activities performed by the beneficiaries of cohesion policy in draft project of a Regulation laying down common provisions for structural assistance (COM(2012) 496 final. 2011/0276 (COD) European Commission proposes 11 thematic objectives, corresponding to Europe 2020 on one hand and being the vital development challenges of European Union on the other:

- 1) strengthening research, technological development and innovation;

- 2) enhancing access to, and use and quality of, information and communication technologies;
- 3) enhancing the competitiveness of small and medium-sized enterprises, the agricultural sector and the fisheries and aquaculture sector;
- 4) supporting the shift towards a low-carbon economy in all sectors;
- 5) promoting climate change adaptation, risk prevention and management;
- 6) protecting the environment and promoting resource efficiency;
- 7) promoting sustainable transport and removing bottlenecks in key network infrastructures;
- 8) promoting employment and supporting labour mobility;
- 9) promoting social inclusion and combating poverty;
- 10) investing in education, skills and lifelong learning;
- 11) enhancing institutional capacity and an efficient public administration.

The indicated scope and objectives of the new cohesion policy for 2014- 2020 will be also supported by many changes of organizational character, the most important being integrated strategic programming in territorial dimension based on multifund, common strategic frameworks and partner contract. The relevant change that may cause a fundamental improvement of effectiveness is the conditionality rule. It will rest upon both ex- ante conditionality (condition of accession, including concentration of actions) and ex- post conditionality (reward bonus) and what matters most with regard to the current financial situation in Europe also macroeconomic conditionality (possibility of suspending payments). The procedures will become more flexible and simple and financial instruments more accessible: Joint Action Plan and promoting e-administration limiting the cost of cohesion policy implementation.

3. Differentiation analysis of socio-economic development state and dynamics at regional and subregional levels in Poland

Analyzing the differentiation of socio-economic development state and dynamics requires a procedure enabling the description of points (objects) in multidimensional space. In this case objects are identical with territorial units corresponding with the Nomenclature of Units for Territorial Statistics- NUTS 2 voivodeships and NUTS 4- poviats. Dimensions describing the position of these objects in multidimensional space are identical to values of indices defined for each moment in time. Indices characterize the process of socio-economic development in partial approaches covering its following aspects: population and settlement, labour market and economy structure, technical infrastructure and spatial accessibility, financial situation and the level of affluence, innovative economy and business environment and in general systemic approach too. In the research a z-score index and k-smooth cluster analysis were applied. Z-score index was employed in order to determine an average standardized value of all indices (characteristics describing the position of objects). It is then a synthetic meta-indicator measuring the socio-economic development level for each territorial unit. Subsequently, basing on the Z-score index values, territorial units have been classified with the use of k-smooth cluster analysis. The method led to identify clusters gathering similar Z-score values with regard to the lowest possible variance of index values in each cluster (Morrison 1990, Szymła 2000). The econometric analysis was employed to indicate three groups of objects:

- of relatively lowest values – identified as stagnation areas
- of average values
- of relatively highest values - identified as growth areas.

The analysis encompassed time period of 2000- 2010 and included all data for territorial units made available by the Central Statistical Office 's Local Database.

The research procedure was composed of three basic steps: selection, clustering and classification. At the stage of selection, characteristics describing the socio-economic development were scrutinized with auto-correlation procedure and subdue to a content-related assessment of their merit. The first assumption underlying this stage was to eliminate all characteristics that displayed the autocorrelation of $r^2 > 0,5$ in the period of at least 7 years. However, all characteristics that were to be removed from further analysis, were also assessed in terms of their actual content-related merit for conditioning the socio-economic development process and their meaning in the process interpreted in general approach. The result of content-related assessment was therefore deciding in the selection procedure. The second assumption underlying this stage was to eliminate at least 50% of the initial number of characteristics collected in the database. Clustering the objects- being territorial units, referred to its division into three groups according to the relatively highest similarity with k-cluster analysis. At this stage three methods were tested: standardized k-clustering on mode values, smooth k- clustering on Z-score index, smooth k- clustering on three first PCA values and smooth k- clustering on Z-score index with averaged clusters' thresholds applied for all 11 observations in time period of 2000- 2010. Having regard to various advantages and disadvantages of methods a smooth k- clustering on Z-score index with averaged clusters' thresholds was finally chosen for the purpose of further research (Churski, Hauke, 2012). Classification of the objects (territorial units) rested upon interpretation of three indicated groups (clusters) in the context of stagnation and growth areas.

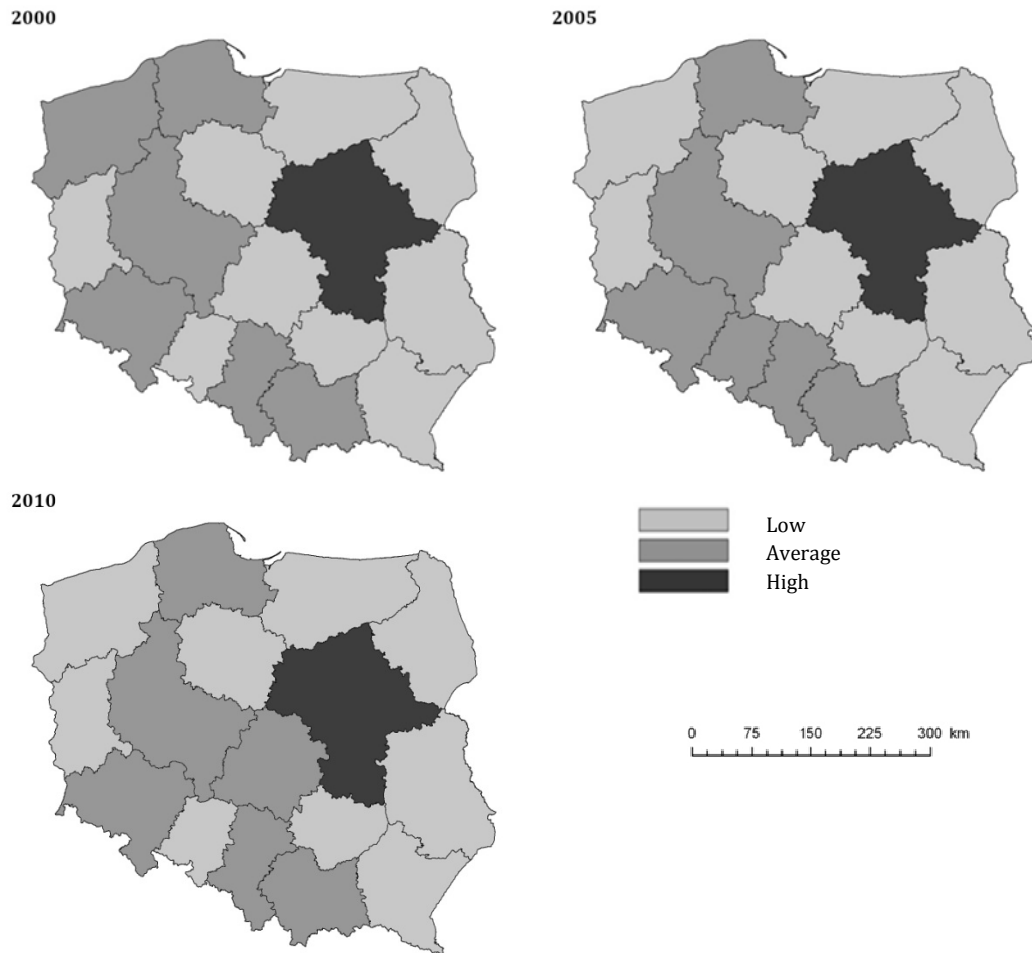
The research has been conducted separately for each level of analysis: regional and subregional, and its results obtained for three observations in general approach are illustrated by Fig. 1 and Fig. 2¹.

In case of regional approach there are following conclusions to be made:

- Mazovia (Mazowieckie Voivodeship with capital city of Warsaw) is a single object clustered in the group corresponding to growth areas, and it is not changing across the analyzed period of 2000-2010,
- cluster gathering regions characterized by the lowest development level is very little versatile with the constant participation of regions located by the Eastern border, i.e. the poorest regions in Poland and also across the EU and Lubuskie Voivodeship (by the Western border) which despite the convenient location does not benefit from the positive impact of Berlin and Poznan agglomerations;
- in most cases regions located by the Eastern border are included into groups of stagnation areas in each partial aspect and most observations (moments), what imply a relatively low efficiency of structural funds allocated during this rather short time horizon so far;
- general distribution of growth and stagnation areas is mostly determined by various levels of financial stock and innovation. A relatively lower degree of determinacy was observed for diversification of labour market and economy structure or technical infrastructure conditioning i.e. spatial availability.

¹ Due to a limited capacity of the article, the presentation of outcomes obtained in partial approaches was not possible, therefore the presentation covers only outcomes of the general approach that includes all five partial aspects of the socio-economic development. However, some conclusions may refer to the partial outcomes.

Fig. 1. Socio-economic differentiation at regional level in Poland in years 2000-2010



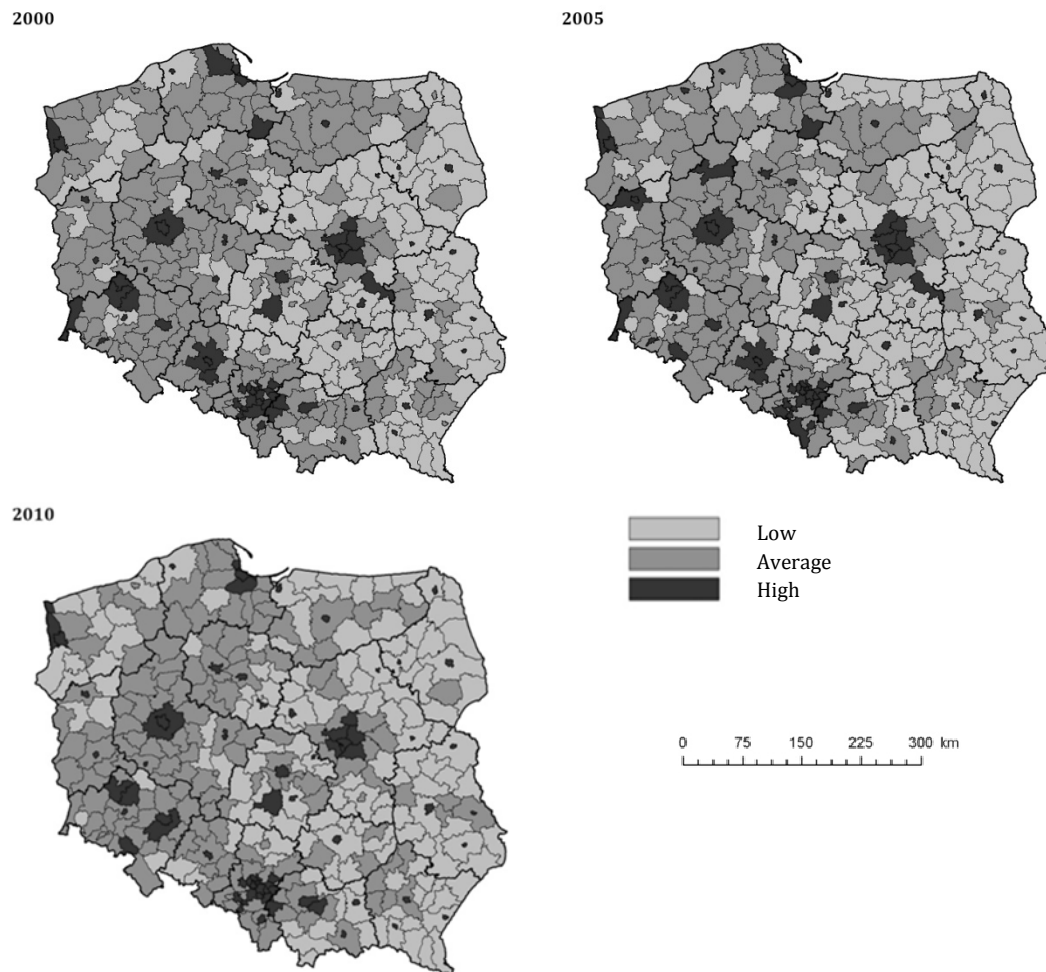
Source: own compilation

- highest polarization among all research issues at regional level was displayed in the framework of financial situation and the level of affluence, in case of which the cluster of growth areas contains capital Mazovia region in years 2000 - 2010 and Lower Silesia (Dolnoslaskie Voivodeship) only in 2010,
- the most balanced situation in terms of balanced spatial distribution was noted for the population and settlement.

In case of regional approach there are following conclusions to be made:

- a group clustering growth areas is the least numerous and includes basically three categories of units (poviats). To first category belong cities and towns classified as urban poviats. To second category belong „resource-rich poviats”, where large plants of mining industry are located, characterized generally by the best financial situation among all units in Poland. To third category belong poviats with profitable enterprises, operating especially in chemical industry.

Fig. 2. Socio-economic differentiation at subregional level in Poland in years 2000-2010



Source: own compilation

- Complementary to these categories are land poviats located in direct neighbourhood of urban poviats, constituting together metropolitan areas,
- cluster grouping economic stagnation areas is far more numerous in comparison to growth areas. In this group dominate land poviats located especially in eastern and central part of Poland. The spatial distribution is bound to relict boundaries (political boundaries from 1815-1919), which even now clearly divide the socio-economic space of Poland. Moreover, to this cluster belong also land poviats bothered by deep structural problems resulting from: high share of agricultural farms formerly owned by state (in communist era) in the total structure of agricultural ownership (i.e. north-western and north-eastern parts of Poland), dispersed agricultural farms of small surface (poviats in eastern part of Poland), and monofunctional labour markets, in case of which the local economic base rested upon one enterprise and depended on its economic situation-bankruptcies impacting the socio-economic development of the whole area (occurring all over the country),

- urban poviats belong to the cluster gathering growth areas in each analyzed development aspect. The influence exerted on development of their economic background is clearly visible in the aspects of: population and settlement as well as labour market and economy structure,
- stagnation areas are versatile depending on the development aspect concerned. The largest number of units classified as stagnation areas occurred while measuring their financial situation and the level of affluence, whereas the lowest while measuring their combined situation in area of population, settlement, labour market and economy structure (high share of units displaying average development levels),

4. Conclusions and recommendations

The outcomes of this research allow to make following conclusions and recommendations for the future 2014-2020 cohesion policy in Poland:

- a) up - to date interventions in the framework of regional policy in Poland deliver rather ambiguous development effects at regional and subregional levels (Borowczak, Churski, Perdał, 2012),
- b) all Polish regions no matter if classified as either growth or stagnation regions are identified in the European cohesion policy 2014-2020 as lagging or phasing-in (capital Mazovia) regions, requiring strengthening development incentives and leveling out the divergences,
- c) content-related orientation of actions should be based on identified differentiations of development process impacted by particular aspects of development:
 - strong concentration of means on actions improving networks as well as scope and ranges of functional linkages both at regional and subregional levels, what may possibly strengthen spill-over effects, now observed only in direct spatial neighborhood of biggest agglomerations,
 - in the structure of tree of goals, including the 11 thematic objectives of prospect cohesion policy 2014-2020, special attention should be attracted to improving the level of innovativeness and developing the business environment, as this factor highly differentiates the economic space of Poland, as well as to developing the financial support for entrepreneurs, who could become a substantial beneficiaries in conditions of growing indebtedness of the sector of public finance and their decreasing absorption potential thereof. The use of non-grant, i.e. recyclable assistance is strongly recommended to boost the effectiveness of this measure;
 - it is recommended to improve the intervention directed at human capital, as it turns out to deliver a rather ineffective results, what is confirmed by a lowly differentiated situation in area of population, settlement, labour market and economy structure identified in this research
- d) spatial orientation of actions should be based on conclusions drawn from spatial distributions of socio-economic development on regional and subregional levels:
 - maintaining the compensation support for East Poland's regions
 - intensifying the support for big urban agglomerations and also subregional centers aimed at strengthening their development capacities with special attention drawn to shaping the functional linkages of possibly biggest range;

- supporting rural areas threatened by a permanent marginalization, enabling them developing endogenous capitals as a base of their multifunctional development on one hand and shaping their linkages with growth areas on the other;
- e) new instruments of cohesion policy envisioned for 2014-2020, and especially integrated territorial investments, may bring a relevant contribution to shaping the functional linkages between growth and stagnation areas, while creating the efficient conditions for a polarization-diffusion model from a bottom-up perspective.

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