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Spatially Integrated Social Research and Official Statistics: Methodological Remarks and Empirical Results on Local Development[1]

Abstract

*This paper aims to elucidate some aspects of confluence of the developments in modern methods of spatial analysis and in the public statistics' data generating processes, along with empirical illustration of these interconnections from the development policy evaluation standpoint. Especially, how the growing availability of data at the finest level of territorial division (such as commune/*gmina-*level data within the Local Data Bank system) may improve decisional processes at the regional and local level, while paying special attention to allocation of resources assuming geographic system of targeting public support or intervention. Three interrelated questions that are empirically treated in the context of both* β-convergence *and* σ-convergence *issues at the local level involve (i) measurement of the level of local (under)development /local deprivation; (ii) assessment of how responsive and equitable are distributive policies in the domain of area-addressed public resources; and (iii) evaluation of their impacts in terms of convergence and social cohesion, which are among chief objectives of development policy (especially in the 'new' EU member states).*

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1. Introduction

Space plays growingly important role in several social science disciplines along with methodological developments in statistics, geography, economics, and urban planning and community studies, to mention the few leading in this respect. Consequently, it became a natural candidate for providing a platform to integrate cross-disciplinary research efforts in social and behavioral sciences in terms of data, methods and problems (Goodchild et al. 2000, pp. 139-149). There are, however, significant differences between the types of spatial analysis employed in particular domains that need to be acknowledged at the outset when interdisciplinary approach is being adopted, especially from a socioeconomic perspective, as in this paper.

One may distinguish between more and less advanced disciplines in terms of the advancement in some or all of the overlapping areas of spatial analysis (SA) encompassing (i) data-driven emphasis of SA: *spatial statistics* (map-related, geometrical presentation of information, points, lines, patterns, and map testing patterns), *ESDA*/Exploratory spatial data analysis (pre-modelling exploration of geo-referenced data); (ii) method-driven emphasis of SA: *spatial econometrics* (tool of *regional science;* spatial *autocorrelation* and *regression* – GWR/geographically weighted regression), *geostatistics* (physical phenomena in spatial data environment – variograms, kriging); and (iii) problem-driven emphasis of SA: *interdisciplinary approach* (cross-disciplinary interaction and *spatially integrated social science)* – see Fischer and Getis (2010, pp. 1-24).

Despite the fact that all social phenomena take place in space, as Georg Simmel noted more than a century ago (e.g. Urry 2004, p. 5), such categories as 'space' and 'place' have, for a long time, been taken for granted, as their obvious attributes. For example, in such schools of thinking as *ecological analysis* in sociology, that is seen by others (mainly, economists) as impressionistic rather than systematic due to not being based on a regular type of geo-referenced data[2]. Things have changed over the past two decades. The question "how do places come to be the way they are?" (Gieryn 2000, p. 463) absorbs sociologists analyzing spatial effect of such phenomenon as inequality, power, politics, interaction, community, social movements, poverty, deviance, crime, life course, science, identity, memory and history.

[2] According to G. Simmel, the difference between an 'empty space' and something meaningful is due to five qualities which form uniqueness of a space: (i) the ways in which a space may be divided into pieces and activities spatially 'framed', (ii) the degree to which social interactions may be localized in space; (iii) the degree of proximity/distance, especially in the city; (iv) the role of the sense of sight; (v) and the possibility of changing location, and the consequences of the arrival of the 'stranger' (cf. Urry 2004, p. 5).

For economists, the regional and local growth and development are of main objects of interest, with special attention being paid – particularly within so-called 'new economic geography' – to endogenous factors, including such as *technological progress* and *knowledge creation* processes. And focusing on *innovation, learning process* and *scale economies* which generate increasing returns in factor productivity (offsetting the effect of diminishing marginal productivity assumed in the neoclassical conceptualization of the production function) - e.g., Capello (2009, pp. 33-43).

As regards statistics, specialization is progressing from methods of detecting autocorrelation, autoregression and spatial patterns or clusters offered within general spatial statistics and geostatistics, to methods of exploring complex forms of spatial dependence, heterogeneity and 'causation' in models of growth and dynamics employed in spatial econometrics, ecological or epidemiological studies (Fisher and Getis 2010), to hierarchical models for spatio-temporal data (Cressie and Wikle 2011). Public statistics both responds to increasing demand for geo-referenced data while employing new techniques of generating data for spatial analysis and benefits from the advancement in overall spatial methodology. In Poland, the most significant out of all recently organized activities in this matter was employment of GIS techniques (*digital mapping)* to Census 2011 alongside a new fieldwork technology (GPS-oriented *handhelds*) for obtaining spatial information on households and population. Among the products, in addition to maps of about 35 thousand of statistical subregions and about 200 thousand of enumeration districts it was planned to create vectors of geographic information (borders) for territorial units of all levels in digital version, in the shape format (Dygaszewicz 2007, p. 189-196); however, some of these products are still being under preparation.

So far, as no cartographic automation system has been established yet – at least for socio-economic data at the level of the lowest territorial units, i.e., *gmina* (in terms of the EUROSTAT's NUTS5) – one of the way to perform spatial analysis is to use substitute for geo-referenced data and to explore the Local Data Bank's files (formerly Bank of Regional Data) that is maintained by the CSO (GUS). Given the impressive advancement that has recently been made in broadly-conceived *spatial analysis oriented research*, the utilization of refined methods and constantly richer geo-coded data on a larger scale may require a coordination of a dual-track – academic and institutional (meaning greater involvement of official statistics) – in analysis of real problems.

General thesis of this paper, emphasizing reciprocal influence of the developments both in methods of spatial analysis and in the data generation processes in public statistics remains valid, but as a postulate only, without further elaboration here. The chief intention is to call attention to opportunity

that is being brought about by the emerging *spatially integrated social science* framework and to enhance a bigger involvement of the public statistics in supporting the development of such an interdisciplinary approach.

The paper is structured along the sequence of three interconnected questions which design its contents. The next (second) section is devoted to the issue of measurement of local (under)development. In third section an evaluation exercise is performed for checking the effectiveness (in addition to equity) of the policies distributing public resources to territorial units at the smallest level, *gmina.* Finally, in fourth section, the issue of spatial disparities will be analyzed in the context of *σ-convergence* to check whether and how the inequalities had eventually been reduced over time (between the years 2008 and 2010) due to the employed policy of public resource allocation.

2. Community deprivation as an argument for local development – research problem operationalization and the measurement issues.

Since the choice of a measure of development (underdevelopment) as well as of observational unit in spatial analysis determine to a large extent its results, the typically employed solution is to use highly disaggregated data, both in the context of regional growth (see Abreu et al. 2005, pp.34-35) and of spatial inequality (Rey 2004, pp. 192-193). Therefore, all variables analyzed in this study are observed at the finest level, i.e., *gmina*.

The basic unit of analysis, *gmina,* is treated here as an operationalization of 'local community' (*commune*) being conceptualized holistically. That is, as a kind of a social space that – in addition to standard definitions as a unit of development (cf. Bhattacharyya 2004, pp. 5-12, Cnaan et al. 2008), or as a sociological category (for a survey of such meanings see Vaisey, 2007, pp. 851-60) – is characterized in terms of four types of community-constituting factors or dimensions, embracing: (i) integrated local capital; (ii) community wellbeing; (iii) local deprivation or risk factors; and (iv) community-building activities, agents and programs (see Okrasa 2011, pp. 268-272).

Research ***operationalization*** of the problem involves some assumptions and needs to formulate explicitly the main questions and hypotheses. The chief assumption can be stated briefly: *locality matters.* Along with conviction that *gmina* is the appropriate unit of analysis in studying local development. Especially if it is the end-user of programs or intervention despite the relevant sources might be distributed at other levels (as it is the case in EU-sponsored programs). It is complemented by both policy and methodological observations. The first underlies the usefulness of spatial analysis for policy design and

evaluation of programs that involve distribution of public resources at the local community level. Second makes it clear that in order to assess policies employing geographic targeting mechanism of resource allocation suitable indicators to capture the complexity of a unit's wellbeing are indispensible.

The respective ***questions*** refer to:

i. What is the level of (under)development of *gmina*, taking into account most of the important aspects of local population's wellbeing of? This would require employment of a *multidimensional index of local deprivation.*

ii. How *responsive* is the area-targeting distributive policy to the 'needs for development', taking into account the *equity* issue? In particular, to what extent has the policy about distribution of public resources (represented here by 'total subsidies' to *gmina)* followed the principle of *horizontal equity*, according to which a greater amount of subsidies ought to go to poorer units.

iii. How *effective* is public allocation policy in terms of reduction of the local deprivation over time, specifically between 2008 and 2010?

iv. At which level of groupings of *gminas – powiat* or *voivodship* – is the process of changes toward a greater homogeneity more visible and advanced?

Hypothetically, we may expect that public *intervention* policy follows the principle of both *horizontal* and *vertical equity*, contributing to social cohesion and territorial convergence, while reducing disparities and demonstrating overall *efficiency* through providing relatively more for underprivileged localities. However, such an expectation is not obvious in the context of Central and Eastern European (CEE) countries – this point is discussed in the next section.

The ***measurement of local deprivation*** using Local Data Bank for the years 2008 and 2010 involved process that started with selection of the domains along with the appropriate sets of variables describing *gmina* in the relevant respect. Altogether 11 dimensions have been defined, each containing several dozens of variables, making it necessary to employ factor analysis (PCA) in order to reduce them. Actually, confirmatory version of the analysis was conducted as only the first factor was extracted for constructing the scale of deprivation, and factors loading were used as weights in calculating the composite index; the scale was transformed to have origin at zero and maximum at one hundred. In consequence, the constructed Multidimensional Index of Local Deprivation (MILD) embraces the following domains of deprivation: *ecology – finance – economy – infrastructure – municipal utilities – culture – housing – social welfare – labour market – education – health.* The reliability of the composite measure (MILD) was sufficiently high (alpha-Cronbacha above 0,8).

The index of ***local deprivation*** was used first to assess the ***responsiveness of policy*** about public resource distribution. How close (distant) is the actual distribution of total subsidies accrued to *gminas* to the one expected on the ground of the MILD (that supposes to reflect 'demand for development')? The latter distribution was simulated according to the proportionality formula (see Okrasa et al., 2006, p. 1058):

$$pS_i = \frac{P_i \cdot MILD_{i\cdot}}{\sum_i P_i \cdot MILD_i} \cdot \sum_i S_i \qquad (1)$$

where i – subscript for territorial units, i= 1, 2, 3 . . . n (for *gminas* in Mazowieckie *voivodship* n = 314; in country, n = 2478); pS_i – subsidies accrued to i-th *gmina* according to the proportionality index; $MILD_i$ - Multidimensional Index of Local Deprivation used as index of proportionality; P_i - local population (number of *gmina's* residents); S_i - actual amount of subsidies accrued to i-th unit/*gmina.* The spatial distribution of the simulated and actual values of subsidies per person are visualized on figures 1a and 1b at the level of *gmina* in Mazowieckie *voivodship*; for the whole country the same types of distributions are presented for the level of *powiat* on figures 2a and 2b.

Figure 1a. **Allocation of subsidies to *gminas* proportionally to MILD, Mazowieckie voi. (2008)**

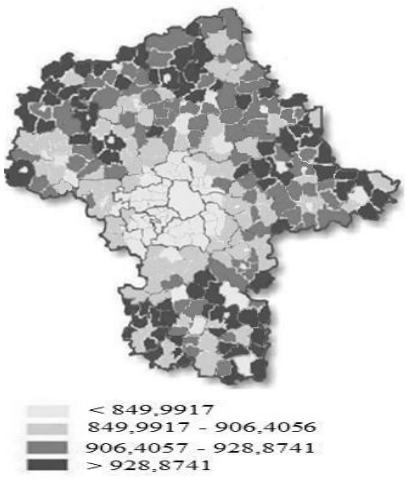


Figure 1b. **Actual distribution of subsidies to *gminas*, Mazowieckie voi. (2008)**

Source: author's calculations.

The evident similarity of actual distribution of subsidies to the ones expected under the local deprivation index (MILD) – except for north-east subregion – accords with the assumptions of convergence and social cohesion, as well as the equity principle. With clearly recognizable metropolitan and centre-periphery effects that exists in practically all of the eleven dimensions, analogous comparisons between actual and expected distribution can be made for each of them.

The country-wide distribution of resources – subsidies to *gminas* grouped in *powiats* – expected under the local deprivation-based criterion of allocation, despite showing some spatial resemblance to the actual distribution (in 2008 year), differ from it in several areas significantly. The most under-invested from this point of view are some eastern *voivodships* – especially Lubelskie voi., and central south (Świętokrzyskie voi.); while Małopolskie voi. seems to be 'disproportionally' beneficial.

Figure 2a. Allocation of subsidies to *gminas* grouped in *powiats*, proportionally to MILD in country (2008)

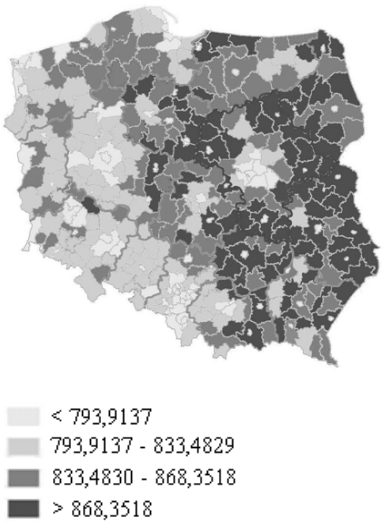
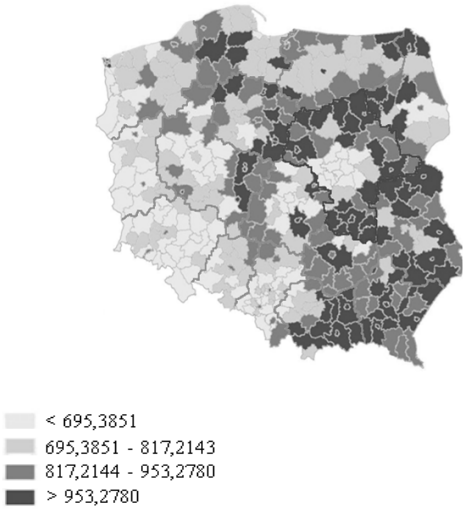


Figure 2b. Actual allocation subsidies to *gminas*, grouped in *powiats*, in country (2008)



Source: author's calculations.

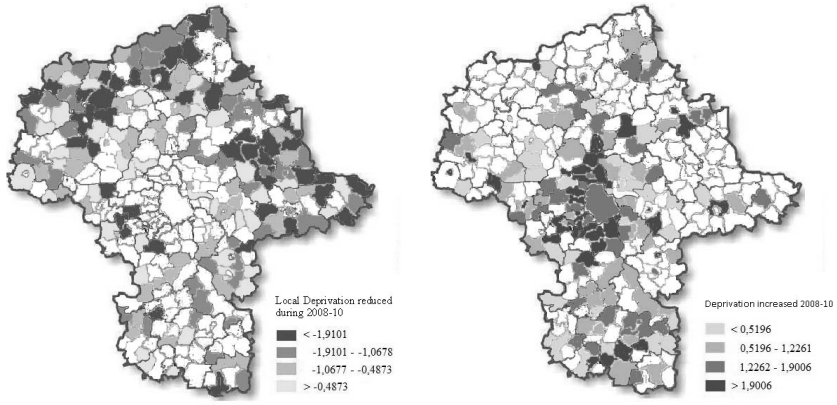
Slightly less, but still noticeably smaller than expected are amounts allocated to *gminas* in western *voivodships*, with Dolnośląskie, Lubuskie and Opolskie voi. showing relatively biggest shortfalls compared to 'deserved' on the local deprivation basis. In addition to the above presented empirical results which, in general, conform to the equity concern in the context of convergence and social cohesion policies, further analysis are needed to address the issue of

how effective they are in this respect. This leads to the necessity of involving dynamic aspect.

3. Local development – dependence in deprivation and efficiency of resource allocation

Two aspects of the question of how *effective* is public allocation policy in the local development context – descriptive and inferential – are discussed below using the same type of data as previously, but for the years 2008 and 2010, to make some comparisons in time. Descriptively, an efficient use of public resources ought to be reflected in greater reduction of local deprivation in more disadvantaged units/*gminas* (i.e., higher on the MILD scale). In particular, in such a case as illustrated by figure 1a for Mazowieckie voi. we might expect a kind of 'photo-negative' effect: the lighter were the localities on this map marking smaller deprivation at the previous moment of observation (year 2008), the heavier they ought to be marked (the bigger changes recorded) at the next moment (year 2010); and *vice versa*. The figure 3 presents results of the changes for one *voivodship* – on the left map reduction of local deprivation is shown (darker means bigger reduction), while the right map depicts increased deprivation.

Figure 3. Changes in local deprivation (MILD) at the level of *gmina* during 2008-2010, Mazowieckie voi



Source: author's calculations.

Indeed, *gminas* located at the central metropolitan area (including the capital city) show relatively biggest increase in local deprivation, while *gminas* located at the periphery show the relatively biggest reduction in it, with

significant exceptions in the south part of the *voivodship* where several underprivileged communes suffer from persistent deficiencies. The term 'relatively' is critical here because the increase in deprivation observed in *gminas* like Warsaw and nearby occurs at much lower level than its reduction at the border-periphery units.

In order to shed light on the relations between the levels of local deprivation over time a simple regression was run for the MILD in 2010 on its values in 2008. For the whole country (2 478 *gminas*), the slope was 0,7968082 (sign. at $p < 0,0001$); and RsqAdj = 0,82; there is high dependence of the deprivation, supporting the above observation of its persistence at the absolute level (deprived areas remains deprived over time, at least at the short time perspective). On the other hand, in a given dimension of deprivation changes could occur in one direction (for instance, reducing the level of deprivation in labour market) but in the opposite direction in another (for instance, increasing in the domain of health); therefore, such an exercise was performed for all domains. The results are illustrated below, for Mazowieckie voi. (all models significant).

Table 1. Selected parameters of the linear regression of local deprivation in 2010 on local deprivation in 2008

Domain of deprivation	Rsq_{Adj}	Slope
MILD Total deprivation	***0,87***	***0,773***
Ecology	0,76	0,661
Economy	0,96	0,990
Infrastructure	0,08	0,315
Culture	0,33	0,478
Municipal utilities	0,99	1,002
Housing	079	0,667
Social welfare	0,19	0,324
Labour market	0,43	0,653
Education	0,89	0,939
Health	0,93	0,994

Source: author's calculations.

The scope of auto-determination in the different domains of local deprivation over time – that is pretty high for the joint measure (MILD) – varies considerably, towards a bipolar pattern: from very low 'dependence' in the case of infrastructure, social welfare, labour market and culture to high for the rest, peaking for economy, municipal utilities and health. This underlies analytical importance of 'sector' (all parameters of the above model significant).

In the context of ***efficiency of allocation*** policy analyzed from spatially oriented evaluation perspective, focused on the convergence and social cohesion issues, both aspects of changes – growth (β-convergence) and disparities (σ-*convergence)* – are of objects of research interest. The former is addressed below, the latter in the next section.

In a study of social cohesion and convergence policies across EU member states – for instance, as reported in the World Bank-organized paper (Kochendorfer-Lucis and Pleskovic, 2009) – a serious difference was stressed between the 'old' and 'new' member states. While the former demonstrated the β-convergence – pattern of growth (defined as a negative relationship between initial income levels and subsequent growth rates), in the CEE countries quite opposite tendency was observed: a positive relationship between the initial level of development and its dynamics, with capital and metropolitan regions developing faster than border-peripheral regions (Gorzelak 2009, pp. 259-264).

As noted by Quah (1993 p. 5) the term *convergence* refers to different things, even in the context of comparative analysis of income growth (with "Barro regression" as its core). But leaving aside its possible interpretations, this notion is being evoked here to simply validate the commonly employed and usually empirically confirmed pattern of income dynamics, checking at the same time the above conclusion at the level of *gmina* (other calculations were made at the NUTS3 level). To this aim, a common OLS approach was employed with the local deprivation (MILD) measure used instead of income – with converted value of 'growth rate' (since reduction in deprivation may indicate development), as follows:

$$[(Y_{t1} - Y_{t0})/Y_{t1}] = \alpha + \beta Y_{t1} + \varepsilon; \qquad (2)$$

where Y_{t1} and Y_{t0} stand for values of MILD in 2008 and 2010, respectively.

The obtained results: *Beta* = 0,56 (t=33,85; p <0,001; Rsq_{Adj} = 0,32) – despite using somewhat different, indirect concept of growth (decrease of local deprivation) – look rather surprising. The positive value of *beta* coefficient confirms the above quoted findings, indicating two things. First, that discussed earlier distribution of subsidies, despite being made according to 'demand for development', and apparently to the convergence and social cohesion policy objectives, may in fact contribute further to gaps between advanced and disadvantaged areas, also at the local level. Second, slightly weakening this argument, one may claim that the overall impact of subsidies is too small as a factor of development, while others influence the level of deprivation more effectively – in the direction of divergence rather than convergence and

cohesion. This observation yields the need to look at the second aspect of convergence/divergence in terms of local deprivation, i.e., trends in spatial disparities over the same period of time.

4. Spatial disparity in local deprivation – does 'between' or 'within' inequality prevail?

Spatial disparities in regional and local growth measures become an increasing object of interest along with shift from international income dynamics to intranational dynamics in recent literature (Rey 2004, p. 193). When local deprivation is used instead of income, the main question concerns the level of territorial units – *gmina* or *powiat* or *voivodship* – at which a tendency to greater homogeneity (heterogeneity) can be expected in terms of a measure of overall development, such as the multidimensional index of local deprivation (MILD).

Inequality of local deprivation is here measured by the Theil index (Theil 1967) which is commonly used to describe spatial disparities (cf. Rey 2004, p. 194), according to formula:

$$T = \sum_{i=1}^{n} s_i \log(ns_i) \tag{3}$$

$$s_i = y_i / \sum_i y_i \tag{4}$$

where: n is the number of *gminas*; y_i is local deprivation in *i-th gmina* and: (i = 1, … , n).

The first impression from the results calculated for inequalities of *gminas'* deprivation for the years 2008 (T_{2008} = 0,00137) and 2010 (T_{2010} = 0,00102), respectively, was their low level. Partly at least, it might be attributed to very large number of the observational units (2 478 *gminas*). But, more importantly, the clearly declining tendency – by one-fourth of overall inequality in local deprivation between 2008 and 2010 – raises the question about the level of grouping at which this reduction is primarily taking place. Specifically, are there *powiats* or *voivodships* of that level of aggregation at which the apparent processes of homogenization is becoming more visible? For this, spatial decomposition of the T index – into intra- and inter-regional components – was performed.

The choice of the T index for ***spatial inequality decomposition*** is due to its convenient characteristics – as a member of *generalized entropy class of*

inequality measures – such as being additively decomposable (Shorrocks and Wan 2004; Rey 2004, pp. 194-198). And there is a possibility to employ it to determine the extent to which total inequality *T* can be attributed to each of two types of sources of differentiations, one operating inter- and other intra-regions: $T = T_B + T_W$, where T_B is inequality "between" and T_W is inequality "within" a given set of appropriately partitioned territorial units. In particular, such as *powiats* encompassing *gminas* as their own units. Accordingly, T can be decomposed, as follows:

$$T = \sum_{g=1}^{\omega} s_g \log(n / n_g s_g) + \sum_{g=1}^{\omega} s_g \sum_{i \in g} s_{i,g} \log(n_g s_{i,g}) \tag{5}$$

That is, all *n gminas* (2 478) are partitioned into ω mutually exclusive and exhaustive sets of *powiats* (379). The results of such decomposition are listed below, in Table 2.

Table 2. Decomposition of the Theil index of local *(gmina)* deprivation into inequality 'between' and 'within' components, for (A) subregions/*powiats* and (B) regions/*voivodships* [values are rescaled by 10^{-2}]

Years	A. Inequality of local (*gmina)* deprivation decomposed into between (T_B) and within (T_W) *powiats;* country			B. Inequality of local deprivation decomposed into between (T_B) and within (T_W) *voivodships;* country		
	Total	**T_B**	**T_W**	**Total**	**T_B**	**T_W**
2008	0,1371	0,0708	0,0663	0,1371	0,0229	0,1142
2010	0,1029	0,0497	0,0532	0,1029	0,0127	0,0902

Source: author's calculations.

Figures suggest that generally diminishing inequality of local deprivation over time (confirming overall tendency to convergence and social cohesion) shows some differences in its structure – i.e., in proportion between and within components – at *powiat* and *voivodship* levels, as well as in pattern of changes, respectively. However, since the T–measure reaches maximum at log*n*, the number of units of observations counts for the value of the components. In other words, results of inequality decomposition are highly sensitive to the scale of the observational unit and their partitioning (see Rey, 2004, p. 198; Abreu et al., 2005, p. 34). Therefore, the problem of homogeneity/heterogeneity – and especially of spatial convergences in terms of the local deprivation – ought to be interpreted cautiously. But due to the fact that employed here decomposition involves the same units of observations, *gmina*, in both types of partitioning, this bias seems to be significantly less harmful. Hypothetically, one should expect that between units component will prevail over within component at the lower

level of aggregation (e.g. NUTS4, compared to NUTS2). Some simple indicators proposed in the literature – such as: $P = T_B/ T_W$ and $R(B) = T_B/T$ (see Rey, 2004, p 197-198) – may facilitate qualitative assessment of the relative importance of between and within inequality; results are in table 3.

Table 3. Patterns of changes in local deprivation during 2008-2010 using ratio indicators

Years	$P = T_B/ T_W$	$R (B) = T_B/T$
between and within ***powiats*** **,** country-wide		
2008	1,067	0,516
2010	0,934	0,483
between and within ***voivodships*** **,** country-wide		
2008	0,200	0,170
2010	0,140	0,120

Source: author's calculations.

In the light of these results, the above expectations are generally met: when county/*powiat* level aggregation is used, the inter-subregional inequality seems to be more important. The opposite can be said for higher level aggregation, *voivodship*, where within region differentiation plays more important role. Despite similarity of the patterns of changes at both levels, this suggests a tendency towards a less homogenous *voivodships* due to greater heterogeneity among *powiats*. To shed light on this question, the same type of analysis has been conducted for each *voivodship*, for the years 2008 and 2010 – see Figure 4a and b.

Figure 4. Decomposition of local deprivation inequality into between and within *powiats* components, by *voivodship*, for the years 2008 and 2010

Figure 4a - 2008

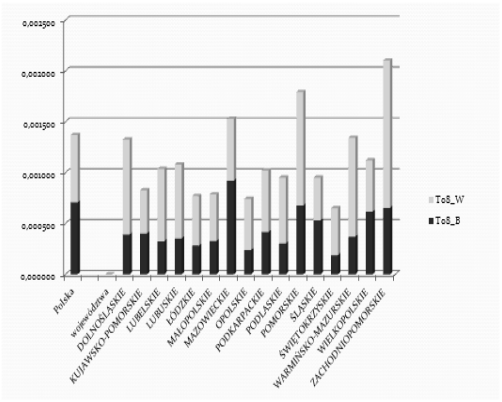
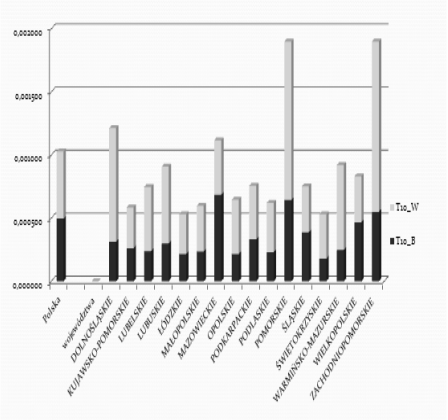


Figure 4b - 2010



Source: author's calculations.

In addition to generally smaller inequalities of local deprivation in 2010 than in 2008 – in all *voivodships* except for Pomorskie – the most impressive information carried out by the above figures is very big variation of disparities in local deprivation among *voivodships*. Some *voivodships* (Zachodniopomorskie, and Pomorskie) surpass 3 to 4 times the level of disparities in others (Kujawsko-Pomorskie, Łódzkie, Świętokrzyskie). There is also a tendency of more discernible differentiations among *powiats*, along with declining inequalities among *gminas* within them, meaning a likely shift of *powiats* (if this short time trend continue) toward a greater homogeneity in terms of overall measure deficiencies (MILD).

5. Conclusions

Official statistics has contributed a great deal in terms of the appropriate data to the progress of spatial analysis and its relevance for policy purposes. Especially in regional growth and local development areas of research that are increasingly involving micro-level aspects of such issues as convergence and social cohesion, along with evaluation-focused interest in patterns of spatial disparities. Some of these issues were analyzed in this paper starting with a holistic approach to measuring community (*gmina*) level of (under)development (with

a multidimensional index of local deprivation (MILD) created for this purpose) and using data from Local Data Bank to address the question of *equity* and *efficiency* of public resource allocation (subsidies to *gminas*). Bearing in mind the complexity of the relationship between development and inequality, the Theil index was employed to check the impact (weak, as showed by data) of the resources accrued to *gminas* (subsidies) on reducing disparities in measures of local deprivation. Decomposition of the T index revealed a tendency to homogeneity of *powiats* but also to their greater differentiations within *voivodships* which, subsequently, are much more differentiated intraregionally than between themselves. In addition to some policy suggestions for public resource allocation policy, this results call for explicit involvement of 'sector' approach and for factor-based (by the dimensions) decomposition of inequality.

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Streszczenie

PRZESTRZENNA INTEGRACJA BADAŃ SPOŁECZNYCH I STATYSTYKI PUBLICZNEJ - UWAGI METODOLOGICZNE ORAZ WYNIKI BADAŃ ROZWOJU LOKALNEGO

Celem artykułu jest podkreślenie współzależności pomiędzy rozwojem nowoczesnych metod analizy przestrzennej a podażą odpowiednich danych generowanych w ramach statystyki publicznej. Przedmiotem rozważań jest sposób w jaki rosnąca dostępność danych na poziomie jednostek terytorialnych (gmin), może zwiększyć efektywność procesów decyzyjnych zachodzących na szczeblu lokalnym i regionalnym, ze szczególnym uwzględnieniem decyzji dotyczących alokacji publicznych środków rozwoju (lokalnego) poprzez tzw. geograficzne adresowanie interwencji publicznych.