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Community risk and well-being: Towards a spatially integrated social science within a socio-economic framework

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COMMUNITY RISK AND WELL-BEING: TOWARDS A SPATIALLY INTEGRATED SOCIAL SCIENCE WITHIN A SOCIO-ECONOMIC FRAMEWORK

ABSTRACT

Despite that the two concepts, community risk and community well-being, seem to constitute the two sides of the same coin - community (especially, local community) as a place to live - they rarely coincide with each other in empirical analyses. The main thesis of this paper is that analyzing them jointly seems to be fruitful, especially in a policy-oriented evaluation research conducted in the context of community development. Community well-being is, by its very nature, an example of the truly interdisciplinary notion. When defined in terms of *happiness* and *subjective well-being* it becomes the focus of predominantly psychometric approach. Sociologists prevail in attempts to interpret it in terms of *quality of life* and of *social indicators*. And economists and statisticians are trying to measure nation-wide *material* and *non-material* aspects of well-being with intention to incorporate them into an appropriately re-formulated, or extended, system of national account. As a part of these conceptualizations (moving “beyond GDP”) some approaches are being developed to include the value produced under non-market activities, including the non-profit organizations or third sector (either through utilizing Satellite Accounts methodology or through the labor market research). However, no much attention is given in such frameworks to well-being conceived as an attribute of a local community. The objective of this paper is two-fold. First it is to demonstrate the complexity involved in the relationships in which the concept of well-being remains with local risk and local capital, at the analytical level. Second, how this complex pattern of interaction can contribute conceptually and methodologically to the advancement of the process of integrating social science research in the area of the pro-well-being community development. To create and use the new types of university-community relations in this context seems to be the most promising approach for social scientists, and is recommended here as a way worthwhile to follow.

Keywords: community risk, community well-being

Introduction

The concepts of risk and well-being remain in close thought invert relationship – the latter increases along the reduction in the former (and *vice-versa*). However, they rarely coincide in empirical analyses, although analyzing them jointly seems to be fruitful, especially in a policy-oriented evaluation research conducted in the community development context. This article exemplifies such an approach, and it aims to show how it may contribute to advancing spatially integrated social science.

Community well-being is, by its very nature, an interdisciplinary notion – with dominating psychometric approach when it is defined in terms of *happiness* and *subjective well-being*, or with prevalence of sociological interest when is interpreted in terms of *life satisfaction* or *quality*

of life and other social indicators, and finally, with economics and statistics being involved in measuring nation-wide *material* and *non-material aspects* of well-being, and in incorporating them into an appropriately modernized system of national account. The essence of the appeal to this notion is that "evaluation and the sense of human beings on their life" was included in the decisions in the public sphere - organizational, corporate and government (cf. Diener and Seligman 2009: 201).

Since the concept of well-being became recently a key one within research on 'progress of societies' – an international program initiated under auspice of the OECD (see Stiglitz et al. 2009) in order to embrace other aspects of a society's affluence than are covered by GDP – both its theoretical background and relevant methodological tools are being developed towards ever better representation of it within the newly proposed measurement systems (Trewin and Hall 2010). As a part of these conceptualizations (moving "beyond GDP") some approaches are being developed to include the value produced under non-market activities, including the non-profit organizations, or third sector. Either through utilizing Satellite Accounts methodology (see JHP-UN Handbook – cf. Okrasa 2008), or through the labor market research, such as already being implemented module on voluntary work in the labor force survey (by the Central Statistical Office of Poland), following the recommendations of the ILO (2009), or research of social cohesion as a module in household survey (e.g., European Survey of Income and Living Conditions, EU-SILC).

The second class of approaches focuses on extracting the domains of well-being and on scaling them in multi-dimensional measurement models. Stands out seven major welfare-/ well-being measurement strategies are: (i) Millennium Development Goals, (ii) UNDP Development Index), (iii) the OECD Scheme for measuring the well-being, (iv) Life Situation Index (v) Measures of Progress of Australia, (vi) Canadian Index of Well-Being, (vii) The Gallup Well-Being Index (see the UK Office for National Statistics-<http://www.statistics.gov.uk/> and Okrasa 2011).

Within the above mentioned frameworks, however, there is no much room for well-being conceived as an attribute of a local community. But, in addition to being measured in a direct way - at the individual residents' level - well-being may also be measured indirectly, as a community's attribute, based on conceptualization in terms of bipolar coordinator system, with risk being faced by members of a community on the one side, and local capital ascribed to the community, on the other side of the system.

Consequently, there is a two-fold underlying objective of this paper. While accounting for the complex pattern of the relationships in which concept of well-being remains with local risk and local capital, it explores a possibility of using these variables also as a cornerstone of an operationally viable model for integrating the relevant elements of different social science disciplines involved in multi-dimensional analysis of spatially-referenced data, as exemplified by community development and well-being.

Accordingly, this article is organized as follows. It starts with presentation of the first part of the two-stage project underway, encompassing its major components and conceptualization of the key terms, followed by an illustration of their applications in the analysis. In conclusion, the main conceptual and methodological issues of involving university-community relations towards community development, on the one side, and towards integrating social science, on the other, will be discussed.

The project's problem, main concepts and approaches

The above mentioned research program is an object of a larger endeavor, a long-term project which can only be briefly characterized here, with some illustration of its selected aspects and results. It is composed of two phases - within the first, an R&D type of project is being realized (its final stage is just completed) focused on local risk and on development generating a community's well-being, with special interest in contribution from the 3rd sector to this development, and in how to enhance the role of it. In the second phase, which is under preparation, local development - measured in terms of change in community well-being - is conceived as a social change that takes place in a 'locality', and which engages various factors that need to be arranged into a pro-development configuration. To this aim, a new form of involvement of the research team (representing 'university') into collaboration with the key stakeholders of a local problem and/or an appropriate program, needs to be established. This will be done within a *community-based collaborative (participatory) action research* - planned also as a part of the new project (conceived as a follow-up to the first project).

The holistic concept of local community and its development

The central element of the problem formulation is conceptualization of *local community* (LC), and operationalization of the relevant key terms. As regards the former, a relatively complete and useful seems to be the typology of LCs developed by Hunter et al., (2008) based on review of research and theoretical approaches in sociology and urban studies - see. Box 1.

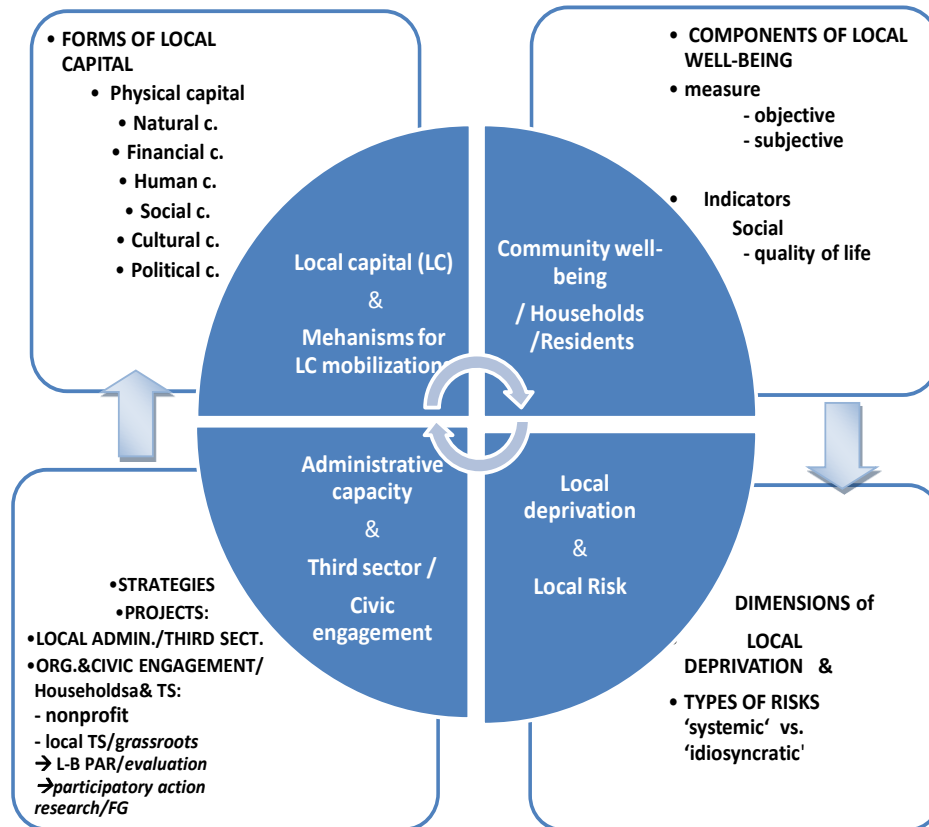
Local community is envisaged here as a holistic concept, embracing its key structural elements along with factors responsible for its dynamics and functioning according to a cyclical process - as depicted at the diagram 1. Variety of resources composing jointly *local capital*, along with mechanisms of their mobilization, generates the community well-being which, on the other hand, subjects to diminishing effect of unfulfilled needs or local deprivation - which can be measured and interpreted as a community's risk factors - motivating activities of both public administration and third sector units (NGOs & civic engagement) for organizing and mobilizing sources of local capital.

Box 1: *The conceptualization of the local community and its theoretical approaches*

- ◆ *community lost*: according to ecologically oriented Chicago School, interested in 'social disorganization' with a focus on social problems and reforms;
- ◆ *community found*: the dominant orientation in the 50. and 60., focused on sub-cultural features of 'inner city' urban enclaves - the city promotes new forms of subculture, rather than be lost;
- ◆ *liberated community*: with an emphasis on the role of communication and modern means of communication, which lead to the historic freedom from limitations of space and the 'spatial friction' and from 'social interaction', along with the growing role of the Internet and virtual communities;
- ◆ *community mislaid*: a metaphorical sounding name for a different interpretation of the LC, as a result of shifting interests based on case studies and holistic approaches – paying attention to institutions, as well as primary objects for interpersonal relationships (such as school, church or shop);
- ◆ *the silence of community*: the concept of covering as meaningful, but usually ignored and overlooked attributes of locality or neighborhood, which manifest themselves (with consciousness of belonging to it), whether in the form of nostalgia for a lost past or in the face of emerging external threats;
- ◆ *community limited*: a community characterized by only partial sense of commitment and willingness on the part of its members, who feel more connected with family or friends, or even more distant reference groups as work, formal organizations or transcendent type (including religious); this includes a theory of collective action to describe the relationship between the individual and the community, the idea of mobilizing local accessible resources skills and knowledge, etc.;
- ◆ *the social construction of community*: the idea grew out of 'symbolic interactionism' in conjunction with the "definition of the situation," in version of interpreting LC as a socially constructed unit rather than as a natural object, 'something given'; the orientation belonging to the so-called 'symbolic ecology SL' (Lyon 1987), that include the meaning and space, is the legacy of marriage of two theoretical orientations of the Chicago School, symbolic interactionism and social ecology;
- ◆ *community transformed- from a social organization for organizing community*: in reference to Tocqueville's idea of instrumentally motivated volunteer activities at local concept of community organizing formulated (by Saul Alinsky (1946)) as a political strategy, consists in moving the organization of production from the workplace to the residence by organizing the poor /disadvantaged community members, having no means of access to market goods and services in order to provide the public goods;
- ◆ *the crafting of community*: in contrasts with the 'constructed', adapted to local specificities pragmatic strategy of 'learning by doing', using the expertise represented by university research centers, combined with the knowledge of members LC, as two complementary forms of human capital (e.g., Policy Research Action Group / PRAG composed of scientists and local leaders in the field of 'organizing LC');
- ◆ *ideological communities*: the traditional division consisted of 'utopian community' and 'social movements', however, without reference to local context, 'community social movement' for naming projects (usually radical), seeking to ideologically motivated (but not utopian) changes in the LC - as illustrated by the movement 'communalism' (Etzioni 1993).

Source: Cnaan, Milofsky and Hunter (2008)

Diagram 1: A holistic model of local community and the integrated community-based development: local capital & community well-being → local deprivation & local risk reduction → civic engagement, participation & institutions (Third Sector & Local Public Administration)



Source: Own elaboration

For the research purposes it is convenient to conceive LC as a variable, considered by some authors as "the most fundamental and important" the social variable (Nisbet, 1966: 47). Defined in three-dimensional space, represented by the axes (x, y, z), allows the characterization of the (any) group of people from 'weak' to 'strong', on a scale, in the sense of constituting a "community". These three coordinates are occurring in varying degrees in the above-cited 10-item Hunter's taxonomy of LC (and related approaches) - as follows (cf. Cnaan et al. op. cit.):

- *shared ecology*: spatial location (place) is an essential element distinguishing LC, such as neighborhood, from the other, like new online communities, etc., which do not require the location or identification with the place, as a condition or factor in social life and the means and resources associated with it;
- *social organization*: network and processual forms of community action in terms of initiating and coordinating projects, including informal and formal organizations and networks of such organizations - in particular manifestation of this variable is social capital and community capacity to mobilize for action and self-representation;
- *shared cultural and symbolic significance*: the commonality of values and sense of identity with a particular locality, both in psychological terms and of the dynamics of transformation

of acquaintances into the relationship and the culture of LC, it turns on religious and cultural institutions and the extent to which they affect the "commonalities".

Community located high on all three dimensions (scales) is by definition a strong community. Examples of such communities should be, according to Cnaan et al., the established neighborhoods, where residents share the interests in securing needs associated with work, family, education, friendship, etc., and who actively participate in cultural and symbolic institutions (the church) or other occasionally organized celebrations.

Operationalization of local capital – based on its holistic comprehension (cf. Emery and Flora, 2006: 19-34) – embraces the following types of indicators:

- human capital - the resources represented by people associated with education, skills and health of residents, and their creativity and organizational skills;
- financial capital - resources associated with the gmina's budget, income, their size and stability (in terms of not only absolute but relative to the necessary expenditure);
- physical capital - resources associated with the tangible property and community infrastructure (including the value of the facilities at the disposal of the municipality);
- natural capital - resources / natural resource and environmental quality, both in terms of population health and touristic attractiveness;
- social capital - resources related to the nature of interpersonal relationships characterized by mutual trust and willingness to participate in projects for the benefit of others, including in matters of community / neighborhood;
- cultural capital - specifically local values worthy of cultivation, but taking into account the differences in the LC-homogeneous, a diversified culture, while giving meaning and respect for such diversity is in itself an element of cultural capital;
- political capital - is represented by access to, and participation in, political activity (such as participation in municipal referendums, etc.), as a result of welfare for their own community.

The local risk: The notion of risk, adopted in the project, as a measure assigned to the LC, is consistent with its understanding widely shared in the literature (see Proske 2008), with particular emphasis on "social risks" (see Holzmann and Jorgerson 2000: 1005-1027). "The risk we face when our well-being depends on the events which occur we cannot predict with certainty" (Burkett, 2006). At the same time, for the purposes of risk measurement and management we use the concept of probability, so that the "risk" can be interpreted as a combination of the probability of the event and its consequences, at least one of which is undesired – this is the most widely accepted interpretation of the risk. Consequently, one can formulate a logical model of risk, the *risk equation* (see Okrasa 2009), as follows:

$$Risk \equiv_{df} Threat \otimes Vulnerability \otimes Consequences (loss).$$

The risk, apart from its descriptive function (the state of things in LC) plays another important role, associated with the evaluation of their respective subjects or management units - both third sector organizations and local government units - in terms of their contribution to its reduction.

There are several types of approaches to measuring risk, usually in connection with a specific risk management system. Within an approach based on rating of the risk equation's parameters one of the most effective showed to be the 'risk management matrix' (developed by

NASA) built in terms of ‘probability of risk event’ and ‘severity of consequences’ (cf. Proske 2008). This approach was used in the data collection phase, both in the questionnaires for interviewing representatives of administrative offices and of third sector units (and also with the involvement of focus groups). The four major domains about which respondents were asked for assessing the possible threat were economic (8 items), social (8 items), infrastructure (8 items), and environment (4 items).

For the purpose of illustration only, while confining ourselves to one item per domain being indicated by representatives of local administrative offices as such for which the third sector units’ activities are considered relatively the most significant and useful in terms reducing risk, the following items showed to be mentioned at first: unemployment – poverty – transport and communication – natural disaster (Okrasa, 2011).

The community well-being: A distinction can be made between ‘distributive’ (individual) and ‘collective’ (systemic) approaches to measuring community well-being. The first one consists of subjective assessment by individuals of several aspects within the selected domains. In the project, the version suggested by Anand et al. (2009) has been used, embracing Sen’s *capability approach* with five dimensions (modules): activities – opportunities and constraints – satisfaction with life – personality traits and social capital – socio-demographics. The second or indirect approach, that is employed here (in the vein of the approach described by Trewin and Hall – op. cit.), uses data from public statistics – in particular, Regional Data Base that remains under responsibility of the Central Statistical Office of Poland.

The data allowed for operationalization of the concept of *local deprivation* as represented by 11 dimensions (identified on the basis of assumptions and confirmatory factor analysis), which are composing jointly the Multidimensional Index of Local Deprivation (MILD - Okrasa et al., 2006). The list of domains (or separate scales) of local deprivation, contains the following: ecology – finance – local economy – infrastructure – culture – municipal facilities – housing – social assistance – local labor market – education – and health (Okrasa 2011, op. cit.).

Spatial analysis: some applications

The index (MILD) has been used for two purposes. One was to describe the distribution of local deprivation, country-wide and to determine if there is a tendency to clustering and, if so, where the clusters are located. Accordingly, the spatial clustering analysis involves both *global* and *local* clustering methods (Aldstadt 2010), starting with the first (global) by constructing (for *n-gminas*) *n*-by-*n* matrix of spatial proximity **W**, with elements W_{ij} called weights and completed by *n*-by-*n* matrix of similarity **S**, with elements S_{ij} reflecting similarity between pair of values, x_i and x_j (which are values of MILD for *i*-th and *j*-th *gminas*, respectively).

Clustering is indicated when spatial proximity and similarity are positively related, and the statistics analyzed for this is their cross-product (Aldstadt, op. cit.: 280):

$$\sum_{i=1}^n \sum_{j=1}^n W_{ij} S_{ij}.$$

If the null hypothesis of spatial randomness (i.e., lack of clustering) is rejected, local clustering method is employed, based on the product of spatial weights vector and a similarity vector (with same elements as above, W_{ij} and S_{ij}). Although calculations are still under way, there are already some indications to reject the null hypothesis for the country (see below), both at the level of *gminas* and the level of *powiats*. For the illustration purposes, the further analysis is

confined to the level of *gminas* and to one selected region, mazowieckie voievodship. The second reason to undertake the spatial analysis using the MILD index was a social policy motivated question concerning the principle of allocation of public resources – whether or not is the amount of subsidies allocated to a *gmina* related to its needs, as expressed by the level of deprivation (the MILD's value)?

To this aim, simulation of the distribution of public resource – i.e., total subsidies acquired to all *gminas* - under counterfactual assumption of full responsiveness of the allocation policy (i.e., that the amount was proportional to the level of local deprivation).¹ The other measure was simply an actual amount of subsidy (per 1 person) acquired to the *gmina*.

Distributions of resources according to the two above described measures are presented in Figures 1 and 2, respectively – for the case of mazowieckie voievodship (314 *gminas* – Okrasa and Witek 2011).

The two figures show high similarity of patterns of spatial distribution of actual and simulated values of public sources at the *gminas*' level. This is especially clearly seen in the central, light-colored parts of the maps presenting the metropolitan Warsaw sub-region, which is low on both deprivation-based and actual allocations. To a less degree, colors of the north sub-region, known for its overall low economic activity, also accords but being predominantly dark on both maps: *gminas* high on deprivation-based allocation are also high in terms of resources actually obtained. Still several others stay in more or less sharp contrast – high (dark) on actual and counterfactual. But, apparently, the results lead to the conclusion that deprivation matters.

The visual similarity is confirmed also by correlation coefficient (r -Pearson's = 0,66).

Figure 1. Allocation proportional to Multidimensional Index of Local Deprivation, at the level of *gmina*

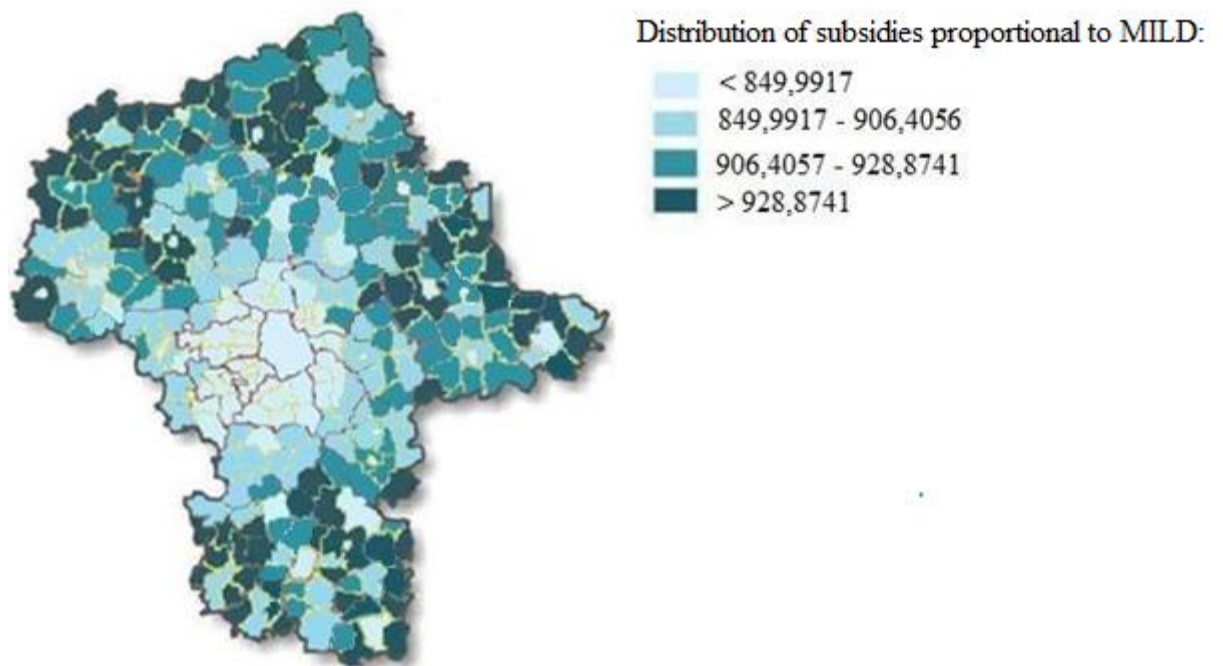
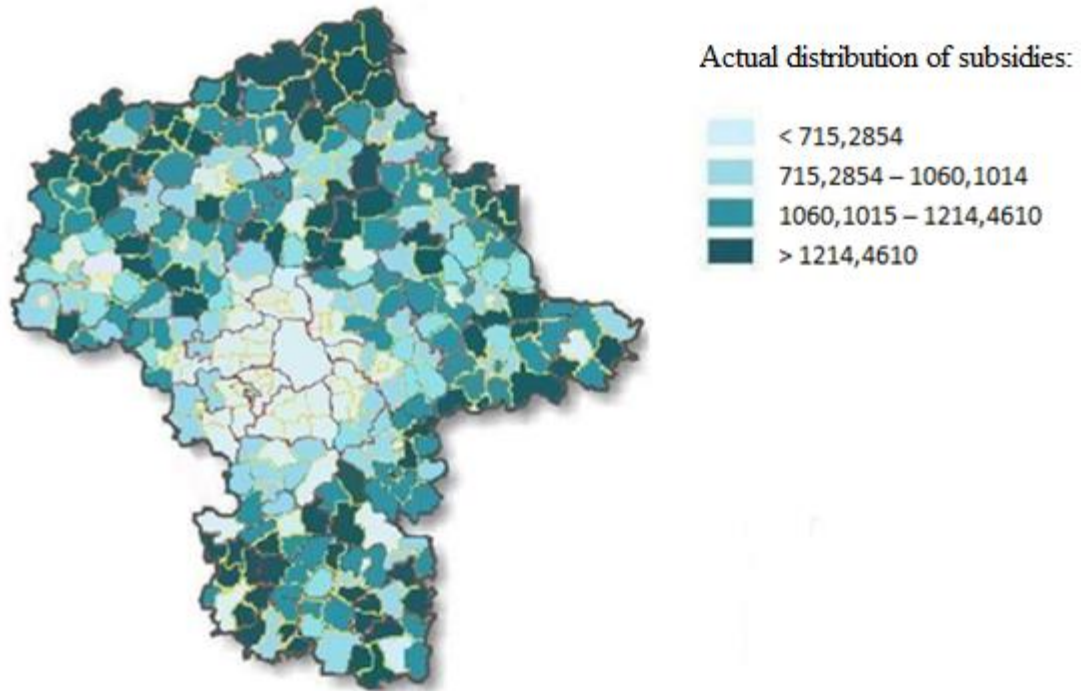


Figure 2. Distribution of public resources (total subsidies *per capita*) at the level of *gmina*



In the discussed example of spatial analysis, the developed index of local deprivation may be interpreted, on the one hand, as a measure of community well-being *a rebour*, or ill-being, and as possible risk factors, on the other. Actually, local deprivation can be used as an instrumental variable for community risk in a an evaluation model for assessing impact of an 'agent' /'actor' (such as third sector) on community development and well-being in terms of its risk-reducing contribution. Such a model is currently being under elaboration, combining public statistics data (as mentioned Regional Data base) and data collected for selected gminas of mazowieckie voievodship, including interviews from above four hundred households (as a part of above mentioned project).

The importance of space and place: Although postponed is here discussion of the concept of 'local development', it needs to be emphasized that several elements distinguish it from 'regional development'. According to the traditional recognition (for example, Coffey and Polèse 1984), the distinct feature of the first (local development) is typically being sought in fact that it is a kind of endogenous development - such as human or social capital, including 'entrepreneurial spirit' of inhabitants - rather than in exogenous factors, such as raw materials or other natural resources (cf. Capello and Nijkamp 2009, op. cit.). Another term, emphasizing the local character of the factors of development is 'community-based development', which dominates in conjunction with such terms as 'local initiative' - especially, in the context of inter-sector relationships, taking into account the role of the third sector vis-à-vis the public administration.

In the dynamic (geographic) analysis of the distribution of resources and of decisions on the spatial allocation of production factors distinguished are *location theories* and theories of development. The first treat the place as a 'relational space', with its characteristics externalities, as proximity and lower transaction costs, etc.). Conversely, theories of growth, also containing elements of location theory, known as the *new geographical economics*, operate with the concept of

'stylized space' - they devoid of the characteristics of territoriality (including externalities Capello 2009).

Toward spatially integrated social science: Contemporary efforts to found policy-relevant socio-economic analysis on the concept of locality, making space and place important categories in explanation of patterns of social processes and phenomena – such as concentration of crime or social pathology, or underclass, or designing communities, etc. – have a long tradition in sociology (e.g. Chicago School) and policy analysis (e.g. World Bank poverty mapping approaches). Not to mention regional and geographical sciences, such as urban or economic or regional development. However, the major motivation for choosing locality as the key element in integrating social science is tied to its inherent virtues for advancing the *interdisciplinary* of community-focused research (especially, when local community is conceived in a holistic perspective).

Conclusions and a new research agenda

The main conclusion of the above considerations, i.e., that *locality matters*, leads to conceptualization of a strategy of providing research support to community development and well-being from the several relevant disciplines arranged in an integrative mode. In practice, it calls for specification of a new research agenda embracing the suggested at the outset a move towards an integrated social science. Regardless of the level of 'theoretizing' involved, a preferred type of such an intervention would require co-operation between the academia and its social surrounding. In particular, co-operation within a community-based collaborative participatory action research framework.

Two groups of approaches seem to be available (as emerging from review of the literature). The first one can be called an *empirical-modeling* or exploratory; the other *theory-modeling* or confirmatory. The primary objective within the first approach would be to construct 'empirical models', while in the second case it will be validation of alternative 'theoretical models'.

Experimental fieldwork procedures - in fact, quasi-experimental (see Reichardt and Mark 2004) - will include not only different forms of inter-relationships (Okrasa 2011). But also different approaches within the same action research methodology, in general, and cooperative action research, in particular (Reason and Bradbury 2009); including social actions and volunteering for social change (Omoto 2005), and support in the form of civic engagement, and capacity building, necessary for effective participation in the development projects of the pre-selected partners /stakeholders (see Jongbloed B., Enders J., Salerno C. 2008).

On the other hand, created by the rules of 'purposeful program theory' (cf. Funnell and Rogers 2011), the model-based theoretical approaches - in particular, the evaluation of various approaches to research-support-of-local-development (RSLD) - will be confronted with a variety of data sets to evaluate their empirical validity.

At the level of 'descriptive analysis', detection of spatial clusters, allowing for geographical referencing of the appropriate dependencies (see Rogerson and Yamada 2009, op cit.), will be supplemented with their causal-oriented exploration using simple path analysis models (see Morgan and Winship 2009). They will provide, together with the results of qualitative analysis, input to the appropriate modeling analysis using LISREL (Schumacker & Lomax 2010).

At the 'inferential' level, the two types of models -structural models of 'causes' and evaluation models of 'effects' (in the sense of distinction by Heckman 2010) will be the subject of statistical analysis (estimation of their parameters). Although adoption of the evaluation

perspective will result in dominance of technical analysis by the second strategy, the final significance of one or another types of model will be decided based on their relative validity, in relation to the actual situation starting with the accuracy (and therefore the scale of use) of possible theories. In this also included are the qualitative data and knowledge of participants of collaborative action research (CAR).

Endnotes:

¹ The MILD was here employed as an factor of proportionality for distributing resources using the following basic allocation formula (b.a.f.) (Okrasa et al., 2006):

$$b.a.f. \equiv \forall r \left[A(r) \approx \frac{I^r * P^r}{\sum_{i=1}^S I_i * P_i} \right]$$

- where I_i and P_i stand for an indicator and population size, respectively, of i -th group or geographic stratum (village); $i = 1, \dots, S$; while r refers to the group/stratum for which the allocations is being specified, $A(r)$; S is composed of r -parts geographic stratum.

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