

**Trans-Border Non-Institutional Economic Activities:
Multilevel Assessment of their Impact on Community Well-Being – case of Poland and
Neighboring Countries**

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Abstract

Non-institutional trans-border economic activities and transactions to a large extent avoid (by their very nature) statistical observations. This compels us to confine ourselves to indirect and incomplete information, and to deal with consequences of such a situation for analysis and evaluation at the measurement and data collection stages. The purpose of this paper is two-fold. First and foremost it is to draft a conceptual and methodological framework for measuring the scope and describing the character of the trans-border individual activities (economic, tourist, cultural, etc.) along with efforts to evaluate the impact they may have on the outcome measures at each of the three levels of well-being: micro - household well-being, mezzo - community well-being, and macro - regional development and national well-being. Second, to demonstrate usefulness of the framework 'at work' through presenting preliminary results of both measurement and evaluation questions basing on data from multi-source database, including special survey research that is currently under implementation for gathering information on two-side cross-border activities (Polish and foreign citizens) along the Poland's border with its neighboring countries, with special attention being paid to the non-EU members countries (Ukraine, Belarus, and Russia/Kaliningrad).

Key words: trans-border activities, community well-being, spatial clusters, multilevel modeling.

Problem and approach.

[Assessing the scope of the phenomenon] The gap that exist between actual effects of the trans-border economic activities and officially recognized level of the relevant outcome measures – from national product down to regional development to community and

household well-being – constitutes the point of departure of the first part of this paper focused on descriptive side of the issue. In particular, how important is the spatial aspect – localization and proximity, including the ‘neighborhood effect’ due to cross-border short-distance every-day migration – for the differences in people’s and community well-being? And how these activities contribute to spatial inequalities of community well-being – or, equivalently, to reducing multidimensional indices of local deprivation – or more generally to social cohesion of near-border areas, as contrasted with the rest of the country.

[The impact assessment] The measurement issue complicates however with noting that in addition to differences between local communities (*communes*, like *gmina* in Poland) in terms of social cohesion measures, the cross-level - household and community - interpenetrating factors of dependency and heterogeneity affect the relevant (household and community) well-being measures. Therefore, the question of impact of the trans-border processes calls on two tasks: (i) complementing the data available from public statistics by special survey and (ii) developing a multilevel analytical framework capable of distinguishing border-related ‘neighborhood differences’ from ‘the difference a neighborhood makes’ (Moon et al., 2005) in evaluation of the trans-border effect.

[Data issues] To this aim a multi-source database is constructed, containing: administrative data such as information collected by duty offices, data collected within the Local Data Bank (at the *gmina* level), data from the last census combined with household data of regular surveys (such as labor force and household budget surveys). In addition, a special occasional surveys shown to be indispensable to address the above mentioned questions in a more comprehensive way. A country-wide random sample of about nineteen thousand households is being stratified according to the density of population; similar data are collected in the neighboring countries, within 50 km distance from the border. As of now, the pilot study data are completed for about 800 households in south eastern region of Poland (North-Carpathian) and for 400 households located at the central part of the country (Mazovian) in order to measure household well-being in selected communities characterized by profiles of deprivation (using multidimensional index of local deprivation, Okrasa 2012).

[Multilevel analysis – modeling] A taxonomy of households in terms of their characteristics combined according to spatial cluster and discriminant analysis will precede multilevel modeling in order to identifying covariates in equations for estimating each level specific outcome while taking into account cross-level (interaction) effect. Especially between households and community (*commune*) characteristics while assessing impact of trans-

border activities on household well-being; and between communities and (sub)regions (*powiat* or *voievodship*) in estimating appropriate product measure. Some examples of consequences of this type of statistical research for cross-border cooperation is discussed too.

At the first stage, multilevel regression modeling is applied to analyze the data consisting of individual/ household level variables (level 1) and community level variables (level 2). Since the household well-being measures are nested in communities, traditional regression methods (Ordinary Least Squares /OLS) cannot be used (Goldstein 2003). Multilevel models allow to present micro level outcomes - household well-being - in terms of the micro level parameters remaining however a function of the community level variables. And to show that this relationship can be expressed in terms of the macro level variables (Subramanian 2010). Each of the three constitutive components of multilevel analysis - evaluating sources of variation, describing contextual heterogeneity, and explaining the contextual variations - requires careful assumptions and modeling of the 'neighborhood effect' as either fixed-effect (just for the sampled communes) or random-effect (when variation between communes is of interest). Several alternative approaches is under consideration in order to develop and demonstrate a flexible framework, which would be suitable for both cross-sectional and repeated in time (longitudinal) data.

[Instead of conclusions: further research] Several alternative models are still under consideration in order to develop a flexible framework that would be suitable for multilevel modeling of both cross-sectional and repeated (longitudinal) data. The latter is important if often-migrating individuals are to be treated as having multiple membership to different neighborhoods across the time span. This takes place according to some geographical distribution underlying the impact of nearby context - with nearer areas being more important for the well-being relevant trans-border activities (for instance, in analogy to the impact of disease (Subramanian, op cit.). Therefore, spatial cluster analysis of such activities seems to constitute the indispensable base of a framework needed to assess the impact of such activities in terms of (household and community) well-being.

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