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The Impact of The Polish-Ukrainian Borderland on The Local Community Well-Being[1]

This article discusses selected results of a comparative study aimed at understanding the relationship between the location – in particular, within the borderland, understood as an area within a radius of 50 km from the Polish-Ukrainian border, on both sides – and the development of the community, on one side, and its impact on well-being of the areas' inhabitants, households and individuals, on the other. As emphasized in the general hypothesis underlying this study, the importance of locating in such areas (both for communities and individuals) results from transborder economic activity, which was quite intensive before the February 2022. The question about the role of 'place' and 'space' for quality of life and well-being – including possible concentration of territorial units (gminas, rayons) of similar levels of development, or 'neighbourhood effect' (or clustering) among individuals/households – needs to be extended by analysis of the cross-level interaction between the community's and individual's respective measures of development and well-being. For this purpose, data from the two types of sources are used: (i) Local Data Bank (Poland) and Rayon Database (Ukraine) to characterize the level of (under)development and local deprivation, and (ii) data from survey of households conducted in parallel way in selected communes in Podkarpacie and Lviv. In the conclusions, confirmed is expectation that border residential neighbourhood/borderland has significant impact on individual and community respective measures, and on interaction between them (e.g., on average higher well-being in less deprived/better developed communities). However, some caution should be exercised when drawing conclusions for policy purposes, given the narrow scope of this type of (non-representative) research. But the methodological advantage of the above approach due to the inclusion of spatial aspects argues for the need for its further exploration, in a comparative perspective.

Key words: *subjective and community well-being; local community development and deprivation; inequality of subjective well-being; spatial effects.*

Introduction: problem and context. The cross-border areas are becoming an object of growing interest from various points of view – either as an important territorial administrative unit in policies about regional and local development (with distinction made between the two [6]), or as a local community and living environment of families and individuals in social and economic studies. What they have in common is their focus on the specificity of such a location – the borderland as a 'place' and 'space' – in terms of the consequences it has for a commune's own functioning and the well-being of its inhabitants, in many respects.

According to the general hypothesis underlying this study, the uniqueness of the location in such areas – both for communities and individuals – stems from the specificity of transborder economic activity, especially that conducted on a daily basis (quite intensive before the wartime), and other location-related opportunities (steady flow of tourists and migrants). As a corollary to this hypothesis, one may expect, that key indicators of community development and of individual well-being – including such subjective measures as satisfaction with life or with specific aspect of own situation – are also related to each other in a different way than in areas outside the border, i. e., beyond 50 km from it. Therefore, the analysis of the role of 'place' and 'space' for quality of life and well-being in local communities – gminas on Polish side (voivodship Podkarpacie/Subcarpathian) and rayons on Ukrainian side (Lviv oblast) – needs to be checked for 'neighbourhood effect'.

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[1] This article is based to some extent on the results of analyses presented at the World Statistics Congress in Rio de Janeiro (2015), and the Scientific Conference "Contemporary Socio-economic Issues of Polish-Ukrainian Cross-border Cooperation", held on November 15–17, 2017 in Rzeszów and Lviv.

In other words, interaction between the respective measures of local community development (or deprivation) and individual (household) measures of well-being ought to be explicitly included in the analysis – either through an interaction term in the Ordinary Least Squares (OLS) regression equation or, ideally, within the appropriate multi-level modelling [17; 28]. This question has only recently been recognized as an important object of empirical analysis [14; 18; 20; 23]. However, due to data limitation, only the first type of approach will be employed for so-called limited dependent variables using multinomial logistic regression (MLR-techniques). The reason for the earlier negligence of this issue – that seems inevitable in the comprehensive analysis of mutual influence of community development (or underdevelopment, community deprivation or community well-being) and individual (subjective) well-being – relates to the complications caused by the nature of the multi-level process of influence. As a precondition to explicitly involve 'spatial effect' [4; 8] it is necessary to have an access to multi-level analytical database containing geo-referenced data (e. g. Multilevel Integrated Database Approach, MIDA [27]), the construction of which provides, however, several methodological and organizational (and also administrative) problems [10].

The analysis of the relationship between subjective well-being and the level of development/underdevelopment of the living environment is important not only for cognitive purposes and for predicting the former based on the level of local development, but also has pragmatic values. In particular, when an optimal strategy for the allocation of public funds is sought accounting for a balance between the objectives of local development and the improvement of living conditions of households. Given the absence of a universal yardstick to determine how an investment in local development translates into benefits for the possibly largest fraction of residents, someone may consider the geographic allocation system as meeting conditions of optimality [17]. Then, the question arises about the role of the borderland and whether the aforementioned opportunities are not accompanied by risk factors that disrupt these mutual influences in a different way than in the non-border areas.

The paper is structured as follows. In the following Section a brief overview of data and measures employed in a double comparative analysis – communities and households within and outside of the 50 km belt (borderland) – is made in an international, Polish-Ukrainian, perspective. A brief overview of the outcome of an elementary spatial analysis is conducted in Section 3 to check a tendency to clustering (autocorrelation) among the communes in compared areas. As the first approximation of the influence of location – inside vs. beyond the border zone – in the next, Section 4, there will be a comparison of the differences in the selected measures of subjective well-being between these two types of location using Allison – Foster inequality measure for ordinal data (which are generally data on subjective well-being). A more detailed insight into these relationships is provided by the results of Correspondence Analysis for cross-categorization of the levels of local development and subjective well-being constituting the contingency tables in Section 5. Section 6 presents the results of MLR for 'satisfaction with life' as an important aspect of subjective well-being, categorized at three levels (high-medium-low), with an interactive term of the vulnerability status and the location within or beyond the border zone included to explore in some way the combined impact of factors operating at individual and community levels, respectively. Concluding remarks contain some suggestions on further research of these kind of relationships, with recommendation to do it within a multilevel spatial evaluation framework.

Research results. *Data and measures.* Information on the two types of units of analysis – households (individuals) and local community/communes (gminas, rayons) – was provided by data from independent sources. Household level data on several aspects of subjective well-being, along with important socio-demographic characteristics are from a small-size sample of randomly selected 410 households in 13 gminas of Subcarpathian voivodship (selected out of 114 gminas). In an analogous way 387 households were selected in 8 districts of Lviv oblast (one adult person per household, in each case). Community level data come from public statistics being compiled by local authority (gmina's) as the Local Data Bank (LDB), in Poland, and by the local (district's) authority in Ukraine, as the Rayon Database (RD). They were used to construct indicators of the level of (under) development or local deprivation: Multidimensional Index of Local Deprivation (MILD) and Index of Local Underdevelopment (ILUd), respectively.

Community-level measures. MILD can be interpreted as either a measure of the level of local community deprivation, or as an indicator of community objective well-being, independently on some 'subjective community well-being' (SCW-B) indices proposed in the literature [6; 26]. Although subjective CW-B is not a topic of interest in itself, it is included here because it is considered an important mediating factor between the community and individual well-being. It is getting in importance along with recognition that some items expressing community subjective well-being – such as 'sense of belongingness' or 'place attachment and identity' and so on – are also occurring among the items constituting scales of community cohesion [13; 17; 24].

As an objective measure of community well-being, MILD was constructed for NUTS5/LAU2

units (2478 gminas). The measure is composed of 11 domain-specific scales constructed by confirmatory Factor Analysis (FA), each domain was pre-defined in it's single-factor version, [19][2]. The following domains of deprivation are included: ecology, finance, economy, infrastructure, municipal utilities, culture, housing, social welfare, labour market, education, and health, and Cronbach alpha exceeded 0.75, allowing for combining them into a composed measure, MILD. As suggested by the term 'deprivation', all the component scales, and MILD which is composed of them, have negative interpretation: the higher the index (scale) value the worse the community situation with respect to the total local deprivation (MILD) or its particular domain.

Index of Local Underdevelopment (ILUd) is also a synthetic measure composed in analogous way to MILD and characterizes situation of Ukrainian districts (in Lviv oblast) selected areas of concern being derived from Local Database through FA (in similar one-factor confirmatory version). There are five items included: earning (average), labour market (employment), social services, pensions (average), construction industry.

Subjective Community Well-Being was also constructed as a composed scale based on the one developed by Chavis et al. [7], which covers the following five aspects of satisfaction or attitude: (i) overall subjective well-being: satisfaction with life, happy/unhappy yesterday, sense of life activities; (ii) satisfaction with different aspects of life: health, job, sleep, leisure time, family life, social life, housing conditions, personal income, life prospect; (iii) social and intellectual dimensions of life: feeling of freedom and safety, religious and political beliefs, trust in people, feeling of safety, abilities to manage own life; (iv) satisfaction with everyday life activities: work, transportation to work, housework, education, caring children, volunteering, eating, social meeting, hobby; (v) feeling of belonging / Sense of Community: similarity of values and needs and priorities, good feeling of being part of and wants to be in future, known to other members of community, having influence, place to live).

Individual-level measures of (subjective) well-being. Measures of Subjective Well-being are meant to cover the main aspects of well-being and are based on the scales developed originally within the Survey Modules for the Oxford Quality of Life Index and Dashboard (OXQOL) [3] and adjusted to local conditions [19]. The operationalization of major dimensions of SW-B possible on the basis of this approach accords with most of the recommendations on measuring it in survey research [9; 12; 15; 16].

Spatial aspects of the distribution of well-being. There are many reasons for including the spatial aspect in analyzes of the living conditions and well-being of families and individuals, which have been well substantiated in the literature. For example, sociologists emphasize the role played by space and place (neighbourhood) in analysis of different aspects of people's well-being, treating "...community contexts as important units of analysis in their own right, which in turn calls for new measurement strategies as well as theoretical frameworks that do not simply treat the neighbourhood as a "trait" of the individual" [25]. A tendency to spatial clustering among the territorial units is checked by looking at spatial autocorrelation coefficient, Moran's *I*, for all the four types of localization, specified in Table 1 (source – own calculations). The Moran's coefficient informs about a tendency to concentration of values in space and was calculated with LISA procedure (Local Indicators of Spatial Association) using GeoDa software according to the formula:

$$I = \frac{n}{W} \frac{\sum_{i=1}^{n} \sum_{j=1}^{n} w_{ij}(x_i - \bar{x})(x_j - \bar{x})}{\sum_{i=1}^{n}(x_i - \bar{x})^2},$$

where autocovariance in the numerator is weighted by spatial proximity between each pair of location, i and j, denoted w_{ij}, by n matrix, called the spatial weights matrix (e. g. [2, p. 280–291]).

A tendency to "similarity of values at location to the spatial proximity of the location", to use a succinct expression after Aldstadt [2, p. 280; 11] is rather low, but there are significant differences between the major groups of households (strictly speaking, their locations) as demonstrated by relatively high values of autocorrelation among the members of UA-households (their locations) in the borderland areas (w/n 50 km from the border). In other words, households of certain locations are generally more similar to those in nearby locations, as indicated by significant values of Moran's *I* for each of the five measures, with clearly distinguishable measures characterizing life satisfaction and material (job and location-related) aspects of living, and also overall SW-B.

Since no such a tendency occurs among the households' location on the Polish side of the borderland, the difference between the whole profile of subjective well-being in areas within and outside of the 50 km belt must be interpreted as specific for the Ukrainian locations only, and an explanation for this effect should be sought among other factories in both cases. On the other hand, community level of (under) development or deprivation presents similar pattern of spatial distribution on both sides of the border, with high tendency to (global) clustering among territorial units (gminas, rayons) characterized by respective measures (MILD, ILUd).

Another interesting spatial aspect of location in the border zone is internal differentiations (vs.

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2 The selection procedure consisted of: selection of domains – selection of indicators within each of the areas on the basis of factor analysis (principal component analysis) – standardization in items and transforming each domain's scale to the interval 0–100), for details see [21].

Table 1

Spatial aspects of distribution of the well-being measures and selected characteristics of households and local communities – autocorrelation, Moran's *I*

Measures of subjective well-being and selected characteristics of households and community	Subcarpathian		Lviv	
	w/n 50km	out/ 50km	w/n 50km	out/ 50km
Subjective well-being				
Overall Subjective Well-Being	0.04	0.04	0.21	0.05
Life (aspects) satisfaction	0.01	-0.03	0.23	0.01
Material aspect/job and living environment	0.05	0.00	0.24	0.01
Social and intellectual aspects of life	0.08	005	0.16	0.04
Feeling/sense of community, CSW-B	0.06	-0.03	011	0.00
Household				
Living/financial conditions	0.01	0.20	0.13	0.03
Household size	0.01	0.05	0.05	0.08
Years in residence	0.08	0.01	0.04	0.02
Community				
Level of local deprivation PL_MILD)	0.35	0.97		
Level of underdevelopment UA_ILUd)			0.56	

homogeneity) between the communes (gminas, rayons) in terms of measures of local deprivation or underdevelopment, i. e. in terms of MILD and ILUd, respectively. As shown by the graphs and scatter maps in Figures 1A, 1B (source – own calculations), also in this aspect there is a significant difference between these areas on both sides of the border. Contrary to the tendency for the coexistence (neighbouring) of territorial units of similar levels of (under) development in the Lviv oblast (Moran's I = 0.16), in the Subcarpathian a tendency for neighbouring units (gminas) of different levels of local deprivation (negative value of Moran's I) dominates, suggesting their bigger heterogeneity in this respect.

One of the reasons for such a qualitative difference between communes on both sides of the border is the
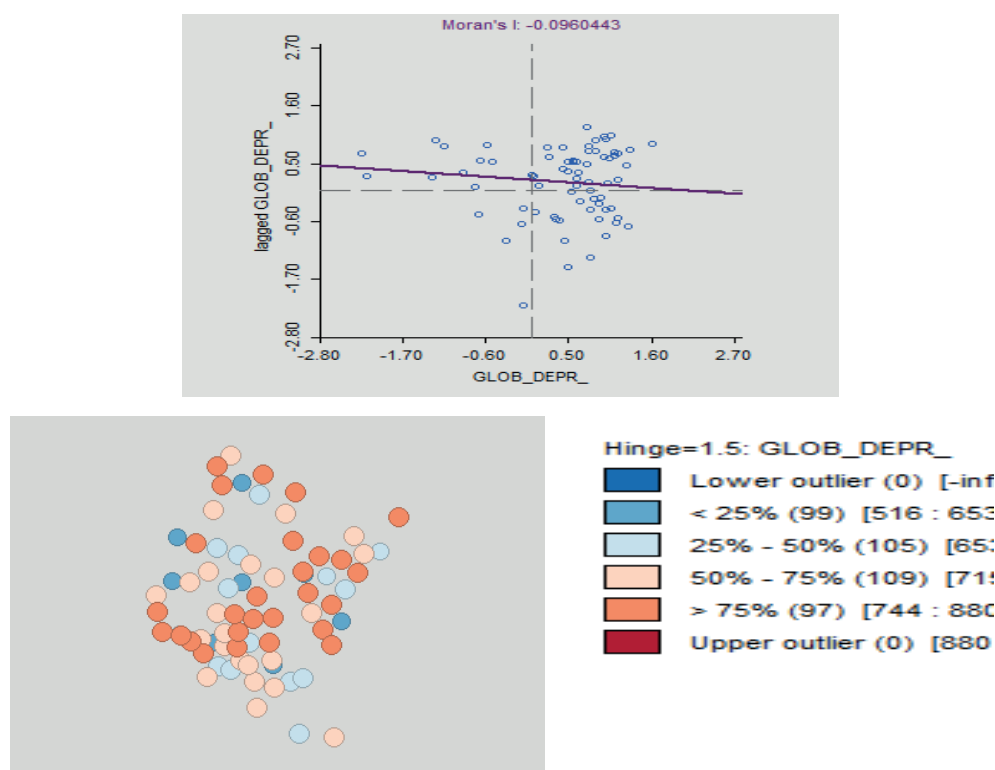

Figure 1A. Spatial Autocorrelation and Scatter Plot of Local Deprivation (MILD). Subcarpathian, Moran's I = −0.10
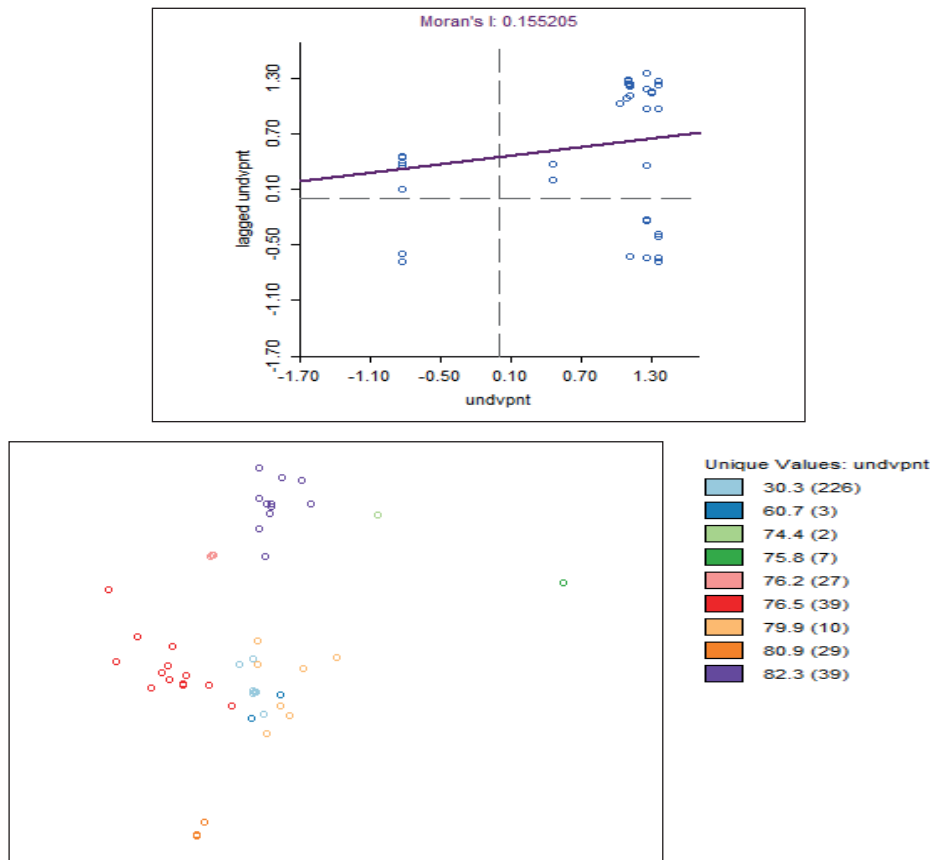
Figure 1B. Spatial Autocorrelation and Scatter Plot of Local Underdevelopment (ILUd). Lvov oblast, Moran's *I* = 0.16

fact that in the case of Lviv oblast, the city of Lviv, which is the place of concentration of households located 'beyond the border zone' was excluded from calculations of the autocorrelation coefficient. This fact makes the analysis of spatial dependence through estimating parameters of the spatial regression model of little use to explain differences in the patterns of co-occurrence of communes / municipalities. In effect, later in this article – once potential predictors of selected measure of well-being, for instance, satisfaction with life, have been identified – MLR will be used instead.

Inequality of subjective well-being. For a better understanding of the impact of the borderland on the well-being of its inhabitants, compared to areas beyond the 50 km band, it seems important to compare the inequality measures of subjective well-being for both types of living environments. It was hypothesized that local communities which are less diverse in terms of a given aspect of well-being show not only greater cohesion / community cohesion (at least in this aspect), but also are higher in terms of general well-being, given similar levels of their development (underdevelopment or deprivation, as indicated by MILD and ILUd). However, the verification of hypotheses suggested by the question about which communities are more homogeneous or diverse should take into account the fact that the

subjective measures of well-being we are dealing with are based on self-reported assessments (according to Likert-format questions), which are qualitative rather than quantitative, i. e., that the scales are of the ordinal type.

Accordingly, the suitable methodology of checking inequality of such measures should deal with qualitative data, such as proposed by [1] due to considering inequality as 'the spread away from the median category'). The idea is based on S-dominance: distribution X has a greater population share in the category below the median and a greater population share in the category above the median, compared with Y, therefore, X has a greater spread away from the median compared with Y (the "spread" of the distribution is lower for Y). The mean happiness of distribution X below the median can be expressed as:

$$\mu_X^L(c) = 2\left(\sum_{i=1}^{k-1} c_i\left(F_X^i - F_X^{i-1}\right) + c_k\left(0{,}5 - F_X^{k-1}\right)\right),$$

and the mean happiness of distribution X above the median is:

$$\mu_X^U(c) = 2\left(\sum_{i=k+1}^{n} c_i\left(F_X^i - F_X^{i-1}\right) + c_k\left(F_X^k - 0{,}5\right)\right).$$

Consequently, a well-being (happiness) inequality measure is a function I and the measure of inequality is a measure of "spread" of the distribution (based on the concept of S-dominance), as follows:

$$I_X^{AF}(c) = \mu_X^U(c) - \mu_X^L(c) .$$

The measure takes values from zero to $c_n - c_1$. Is possible to convert its values to the interval $[0, 1]$ (restricted to scales of the same types):

$$I_X^W := \frac{I_X^{AF}}{c_n - c_1} \in [0, 1].$$

Inequality of subjective well-being (Allison – Foster measure) – satisfaction with selected aspects of life – in areas beyond the borderland (two left bars above the name of the aspect) and within the 50 km from the border (two right bars above the name of the aspect) is presented in Figures 2A and 2B (source – own calculations) for Subcarpathian and Lviv oblast respectively in unstandardized and standardized version. This measure of inequality was calculated for a set of subjective well-being order-level indicators, covering the following aspects of happiness or life situations (Figure 2A): health (A1), job (A2), sleep (A3), leisure (A4), family life (A5), social life/relations (A6), personal plans (A7), living conditions/housing (A8), income (A9), and personal prospects (A10), whilst such aspects for Figure 2B as paid work (B1), commuting (B2), child care (B3), various errands (B4), housework (B5), education and training (B6), volunteering (B7), meals (B8), social meetings (B9), hobbies/leisure (B10).

Comparing the inequalities in Figure 2A and 2B, a much more homogeneous profile on the Subcarpathian side than on the Lviv side emerges.
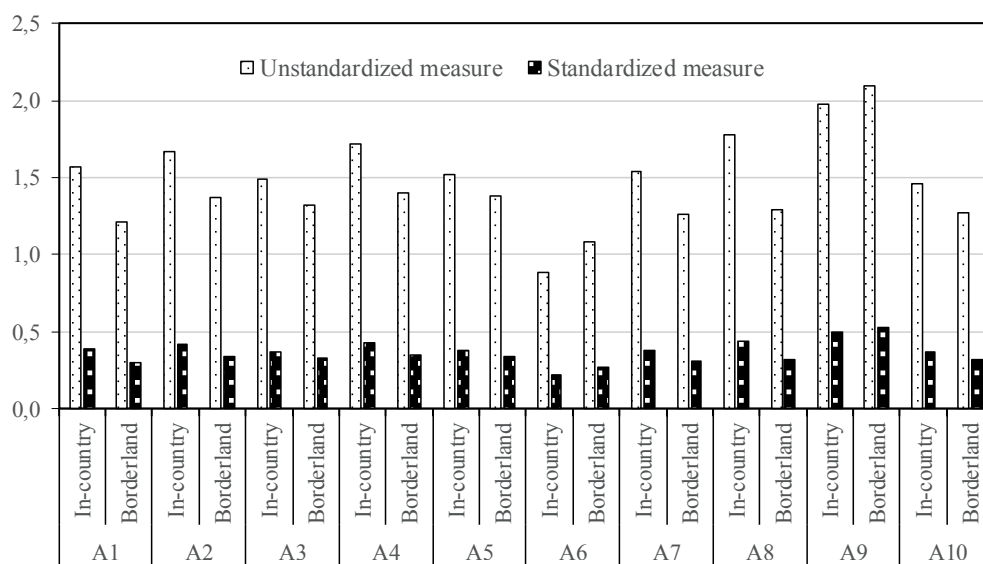
Figure 2A. Subcarpathian
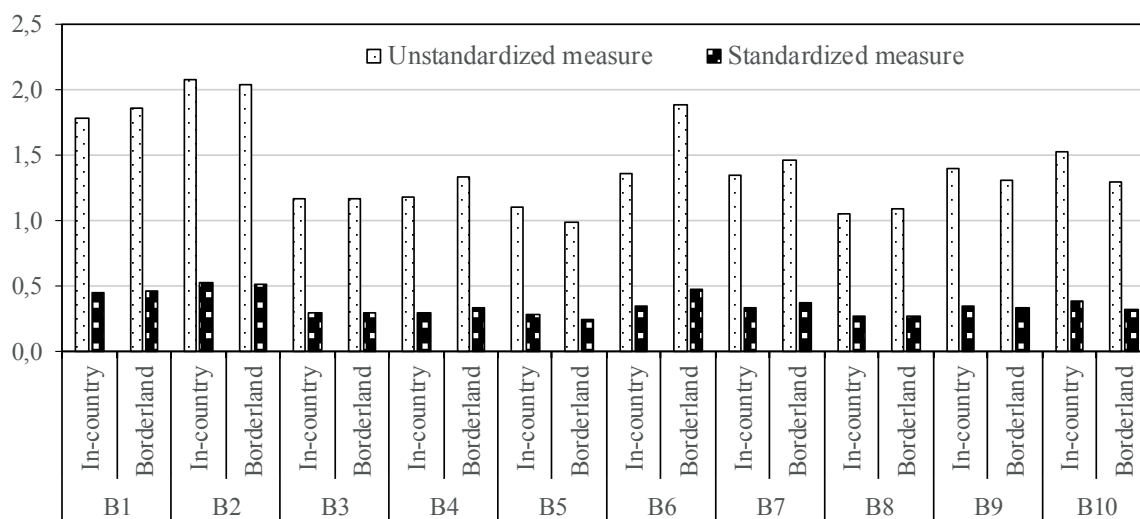
Figure 2B. Lviv oblast

Although these items are not identical in both cases, as they are adapted to local conditions, in the first case only in terms of two items – 'your social life' and 'your income' – the differences between communes are slightly smaller in the borderland zone, and for all other items (aspects) of inequality are greater among gminas located beyond this zone. On the other hand, among the communes in the Lviv oblast, the communes inside the border zone are more diverse than outside this zone in terms of exactly half of the items. In terms of directly comparable items – i. e. paid work and social relations – the patterns of inequality are exactly the opposite: in the Lviv region, communes in the border area are more diverse in terms of work and less in terms of social relations, while in the Subcarpathian these patterns are reversed. In order to test the net effect of border location on subjective well-being, in addition to the compared areas, Subcarpathian province and Lviv rayon, the central province, Masovian, was included. Omitting distinction between the border zone and the areas beyond, results are in Figures 3 (source – own calculations).

At a glance, the prevailing patterns of well-being inequality in Lviv and Subcarpathian regions, and also in Masovian, respectively, seem quite similar. However, relatively biggest differentiations occur in 'satisfaction with everyday life activities' and 'feeling of belonging to community' among gminas in central voivodship presenting clearly highest level of differentiations

On the other hand, 'evaluation of selected aspects of work and living' seems to be the least sensitive to the type of location, as its differentiation remains
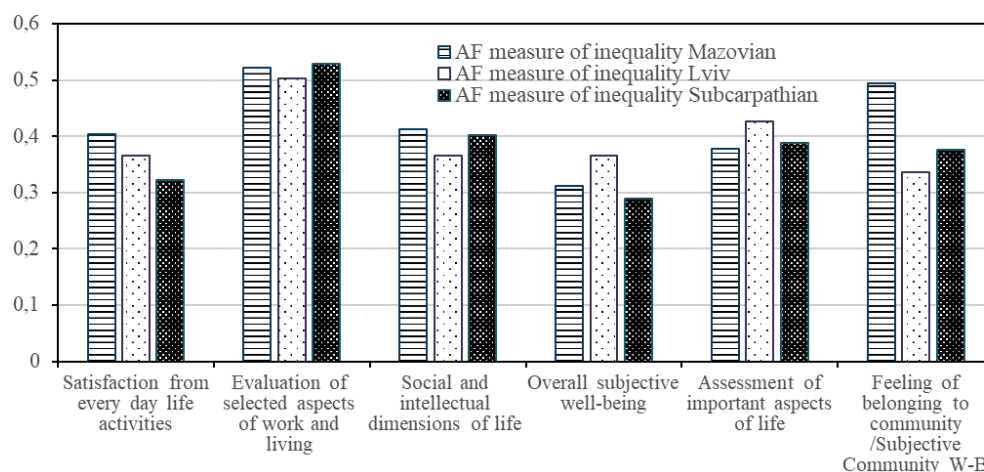
Figure 3. Inequality of subjective well-being (Allison – Foster measure) in Subcarpathian and Lviv oblast compared with a central (Masovian) voivodship

practically the same in each of the three types of locality. In conclusion, the net effect of the type of location analyzed here is fundamentally dependent on the well-being aspect under consideration. There are, however, noticeable differences between respondents living in border zone and beyond it, especially in several well-being domains in Lviv region where inequality of 'feeling of belonging to local community' is much higher among residents of the latter than in the border zone, followed by satisfaction with important aspects of life and by overall subjective well-being [18]. Practically the opposite is true about the same residents and domains in the case of Subcarpathian region where, in general, residents of transborder neighbourhood areas are somewhat more differentiated (in this same domains of well-being). Finally, when put together all the three regions the emerging pattern of well-being inequality seems to differ between residents of Lviv regions, on one side, and the residents of either Subcarpathian or Masovian [18].

Cross-categorical patterns of well-being and selected features, within and outside of the border zone. In order to more precisely recognize the nature of the interdependence between the level of subjective well-being and the level of development/deprivation of communes in border regions, as compared with external regions, the Correspondence Analysis (CORA) was employed to the selected pairs of variables in categorical form. The results are shown in the series of Figures 4–6, below, for Subcarpathian and Lviv oblasts.

A different pattern of convergence of the SW-B category and the level of (under)development in each of the two dimensions of comparison – cross-border and border zone (bz) vs. beyond bz – is shown in Figures 5A and 5B for feeling of belonging / sense of community (similarity of values and needs and priorities, good feeling of being part of and wants to be in future, known to other members of community, having influence, place to live) and the level of local deprivation/MILD, also considered a good indicator

Households outside 50 km

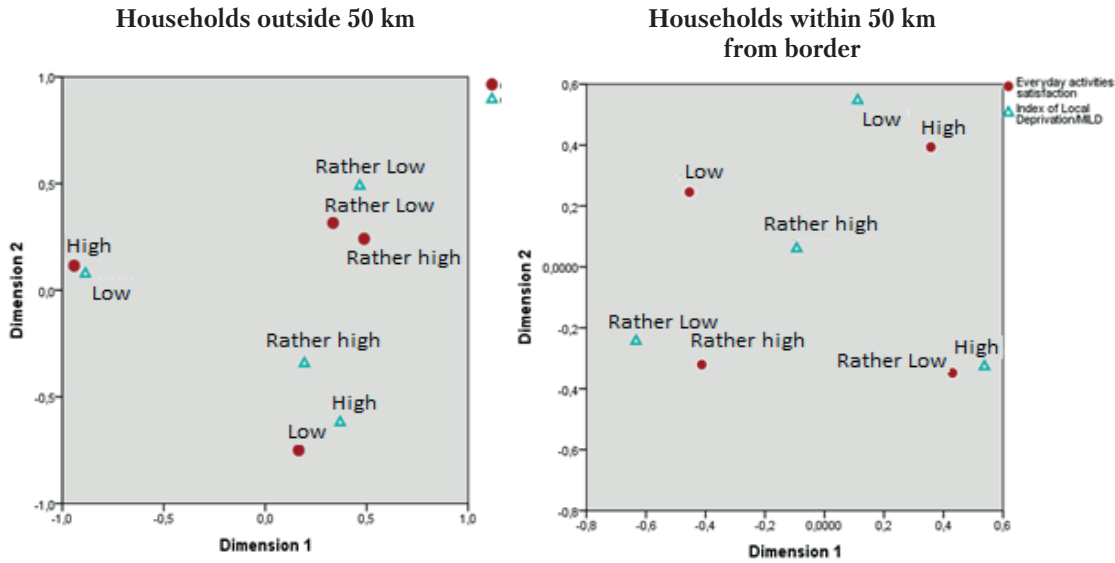Households within 50 km
from border

Figure 4A. Satisfaction with everyday life activities by the level of local community deprivation (MILD) in gminas within and beyond the border zone, Subcarpathian

All households
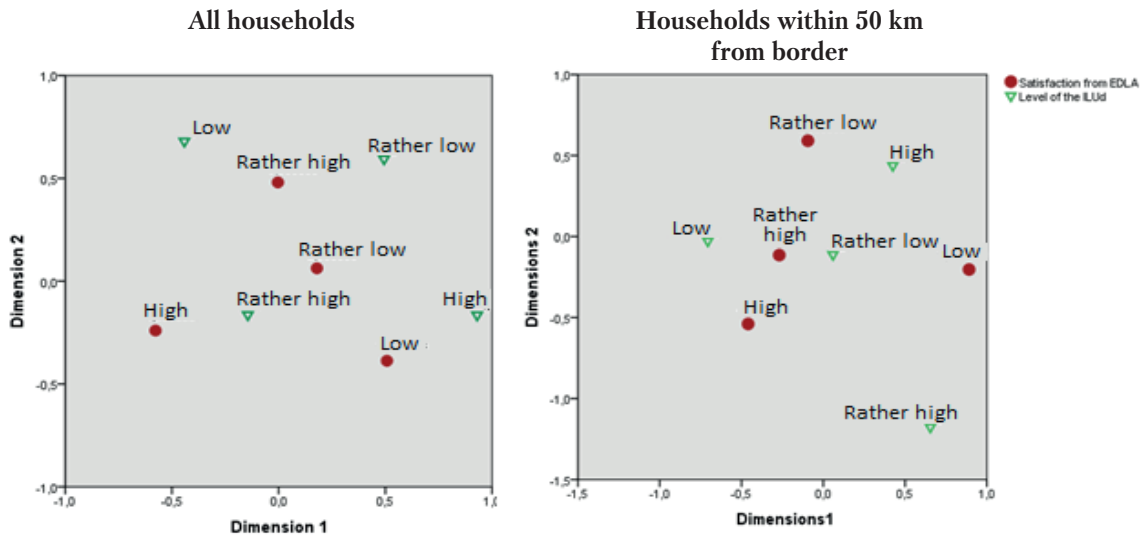
Households within 50 km
from border

Figure 4B. Satisfaction with everyday life activities (work, commuting, housework, education, child care, volunteering, eating, social meeting, hobbies) by the level of local community underdevelopment (ILUd), Lviv oblast

of the community subjective well-being (CSW-B) as below.

While the pattern of dependence similar to the above – higher feeling of belonging in better-off communities (less deprived areas) – prevails in Subcarpathian communes outside the borderland, residents of less affluent communes generally present a higher sense of identification with their surroundings within the border zone, on both sides of the border.

Subjective Well-Being and Subjective Community Well-Being. Having recognized the direction and intensity of the influence of the main factors of subjective well-being in the context of local communities, inside and outside the border zone, an important complement seems to be the mutual pattern

of interaction of both types of subjective well-being, namely, individual SW-B and community CSW-B. According to the so-called spill-over hypothesis [5] the environment in which individuals live is one of the main factors affecting individual SW-B - especially, of such its aspects as the individual personal life and people's leisure activities. According to the patterns of dependence between categories of individual SW-B and community CSW-B presented in Fig. 6 (source – own calculations by [18]), there is a strong convergence of well-being levels on both scales: a higher level of individual well-being is associated with higher indicators of subjective well-being of the local community. This is a consistent trend, dominating both among communes in Subcarpathian and in Lviv

Households outside 50 km

Households within 50 km from border
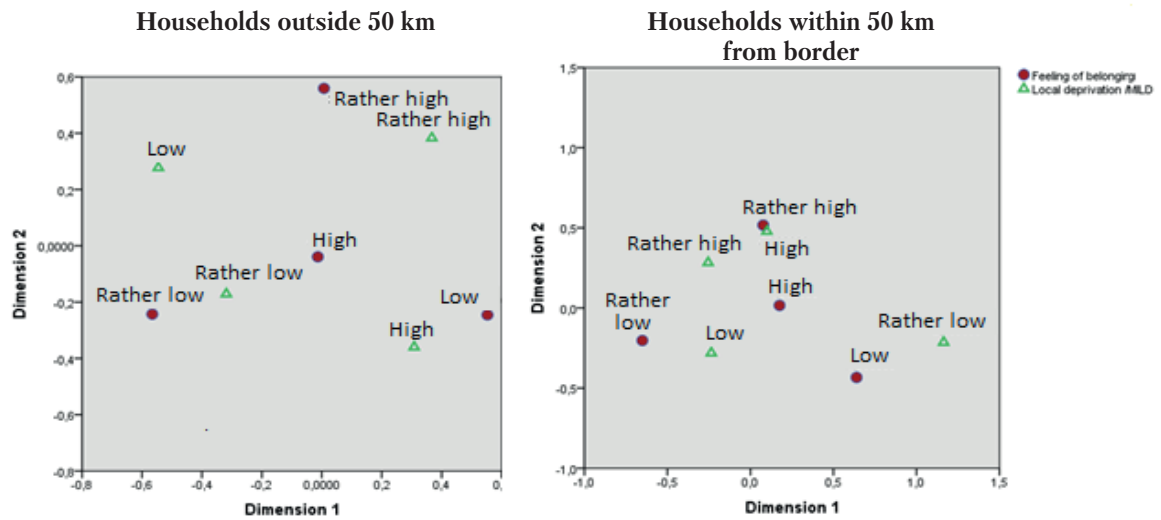
Figure 5A. Feeling of belonging / sense of community[*). Subcarpathian

*) 12 item scale based on Sense of Community [7]

All households

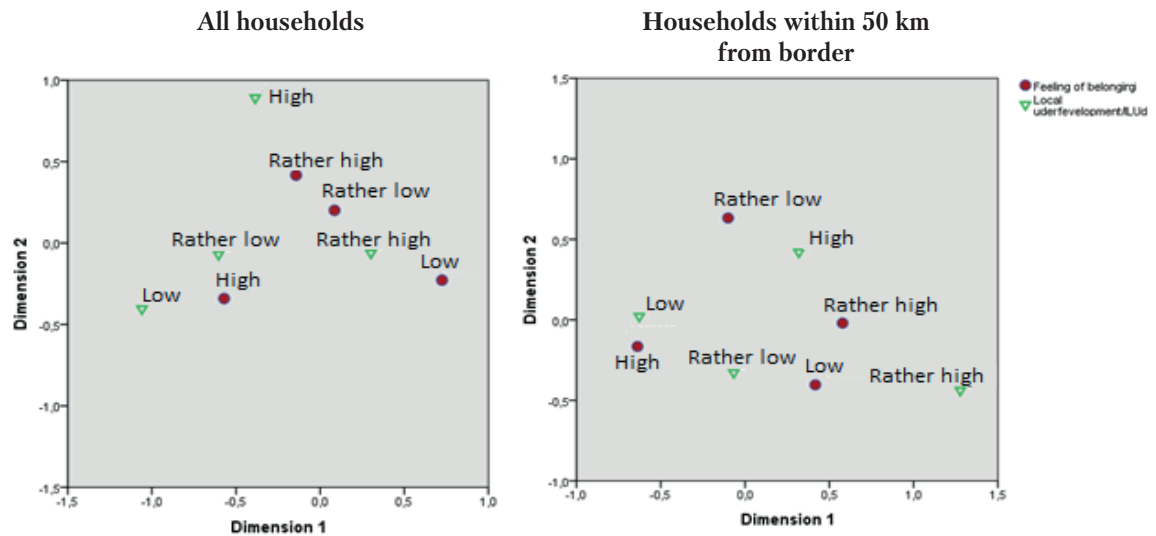**Households within 50 km from border**

Figure 5B. Feeling of belonging/sense of community and the level of local underdevelopment. Lviv oblast

oblast. It should be mentioned, however, that some items constituting the CSW-B scale are also present among individual SW-B items (e. g. satisfaction with the place of residence). This also agrees with above mentioned efforts in the literature to build individual SW-B measure through incorporating in its residents' satisfaction with environment and community (the so-called DEA-Like Model, [5]).

This is a consistent trend, dominating both among communes in Subcarpathian and in Lviv oblast. It should be mentioned, however, that some items constituting the CSW-B scale are also present among individual SW-B items (e. g., satisfaction with the place of residence). This also agrees with above mentioned efforts in the literature to build individual SW-B measure through incorporating in it residents' satisfaction with environment and community (so-called DEA-Like Model, [5]).

In addition to the already recognized patterns of influence of the level of development/local deprivation on individual well-being, it is reasonable to expect that also the type of main source of household maintenance may have a significant impact on selected aspects of well-being, on both sides of the borderland, the results are in Figure 7.

Practically all the above results of the CORA-based calculations (see Figures 4–7) confirm expectations concerning association between the household level raw-variables and subjective measures of well-being, as column-variables. According to the last figure, the role of main income source, such as dominating among all households earning, seems to weigh heavier among households located in the border zone, on both sides of the border, than in other locations, presenting especially unclear pattern on the Ukrainian side. From among other sources, farm
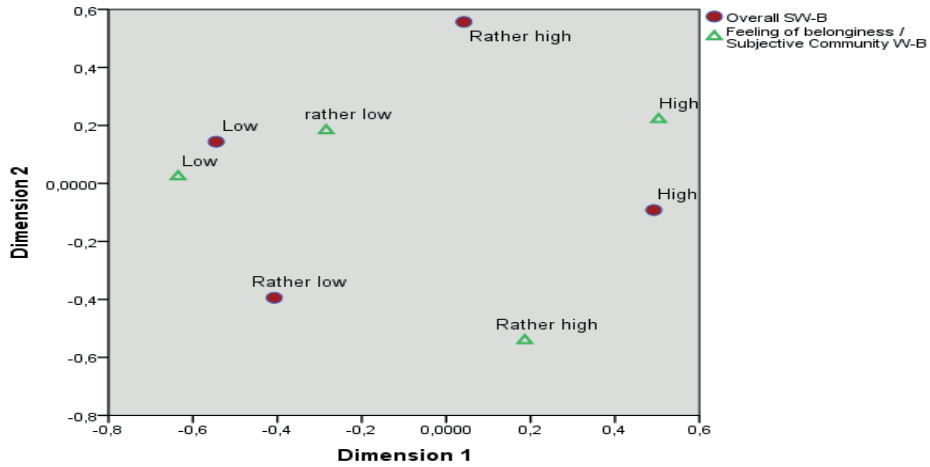
Figure 6A. Subjective Well-Being and Subjective Community Well-Being. Subcarpathian
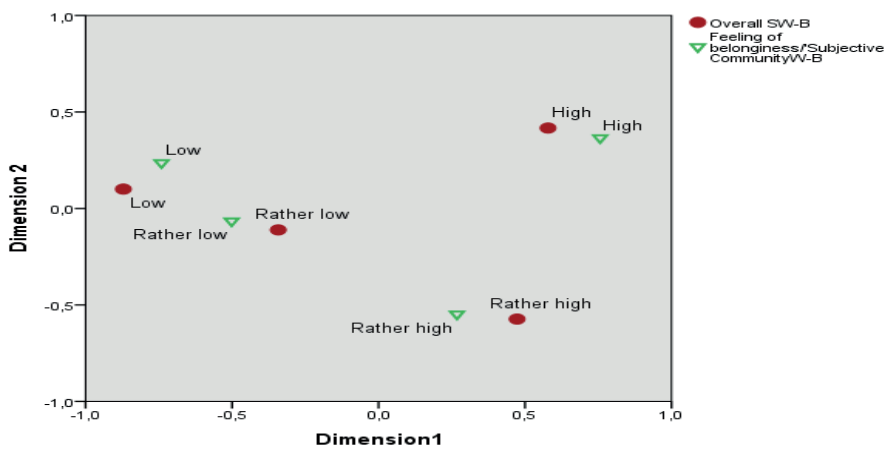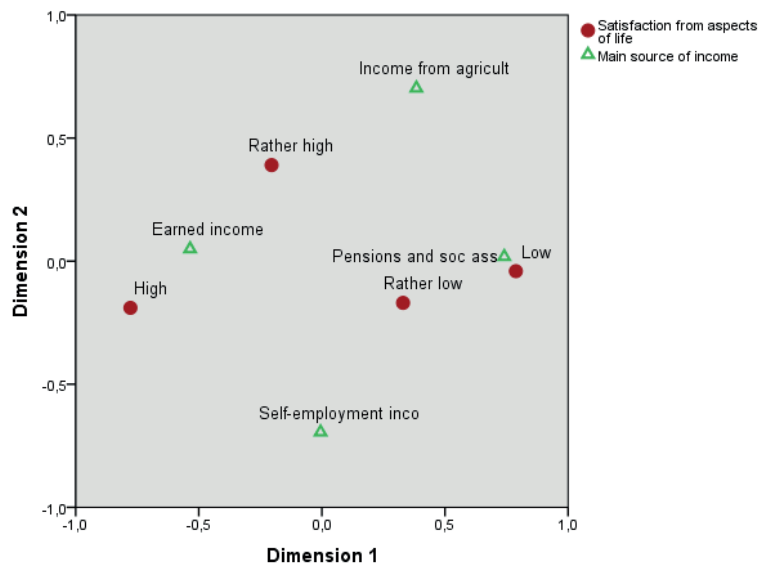

Figure 6B. Subjective Well-Being and Subjective Community Well-Being. Lviv oblast

All households

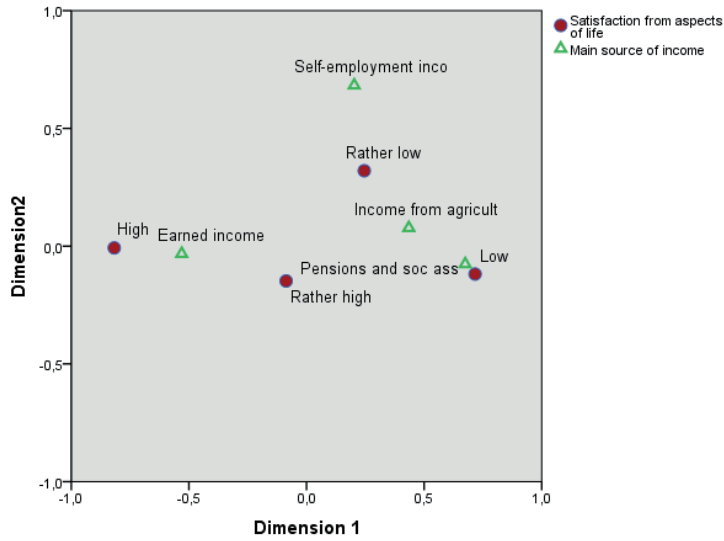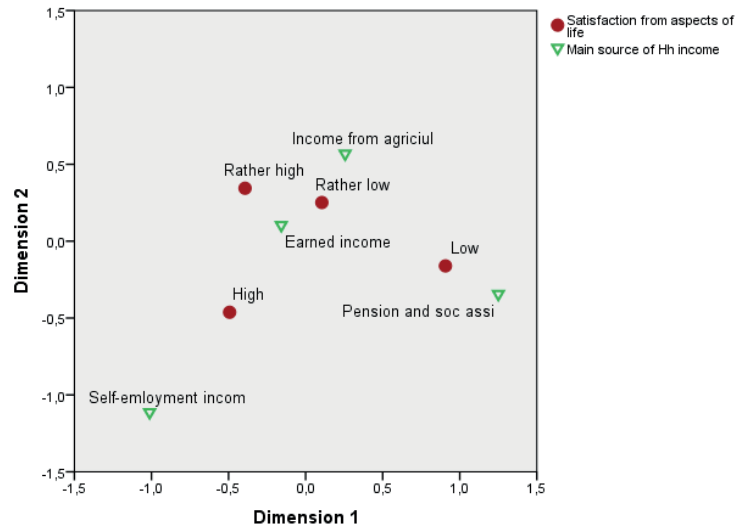**Households within 50 km from border**

Figure 7A. Satisfaction with life by main source of household income. Subcarpathian

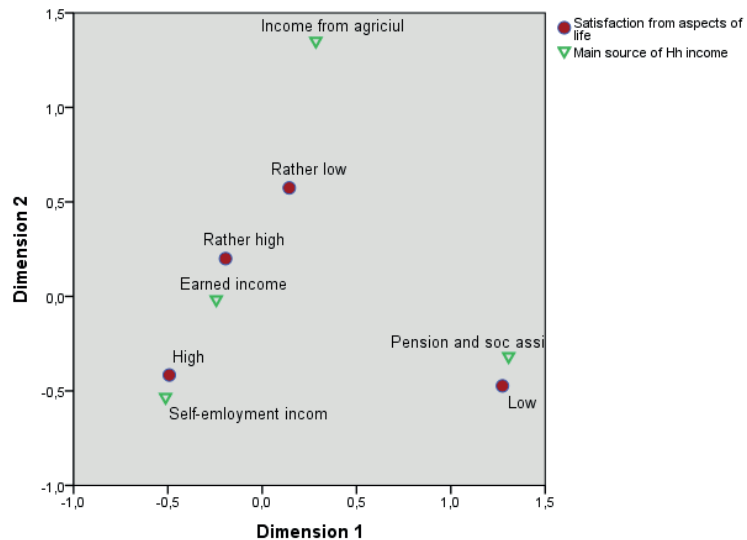**All households**

Households within 50 km from border

Figure 7B. Satisfaction with life by main source of household income. Lviv oblast

income and income from self-employment seem to have relatively least clear association with SW-B/ satisfaction with life except for Ukrainian households located in the border zone as the self-employment income brings highest satisfaction to them. Other sources seem to be equally conducive for SW-B both in Subcarpathian and Lviv rayon, with especially analogous pattern for pensioners with generally low level position on the SW-B scale, in both regions, including households in the border zone.

Determinants of the level of SW-B – Satisfaction with life. Due to the qualitative nature of the data (SW-B scales) excluding the use of OLS regression to identify sources of influence; in this case, satisfaction with life – MLR was used [22] for the three levels of satisfaction: high, medium, low, taking 'medium' as the reference category to contrast the profile of factors influencing those who are most likely and those who are most unlikely to belong to the category of satisfied (happy) with their lives.

The MLR model include the following categorical variables as predictors: household-level characteristics – main source of income and type (composition) of household; community-level data – MILD / ILUd; and cross-level interaction term – in / out of the border zone (50 km from the border) and household's vulnerability status (based on low income and 'at-poverty-risk' indicator). It is shown that 65% households in Subcarpathian province and 53% in Lviv oblast were 'vulnerable' (cases with the lack of data on income were omitted). The emerging four cross-level categories are: 'vulnerable HHs within 50 km' – 'vulnerable HHs outside 50 km' – 'vulnerable HHs outside 50 km' and 'not vulnerable HHs outside 50 km'. The results of the calculations are presented in Table 2A and 2B, for Subcarpathian and Lviv regions, respectively (source – own calculations).

Limiting the interpretation of these results to the comparison of key coefficients, i. e. B and estimated

Table 2A

**Multinomial Logistic Regression of satisfaction with life
by selected characteristics of household and community level, Subcarpathian**

Predictors	Low[a)]					High				
	B	Std. Error	Wald	Signif.	ExpB	B	Std. Error	Wald	Signif.	ExpB
Constant	.557	.706	.624	.430		.080	.738	.012	.914	
1. Main source of HH income										
Earning	−.750	.677	1.227	.268	.472	.152	.698	.047	.828	1.164
Self-employed	−.202	.805	.063	.802	.817	.186	.835	.050	.824	1.204
Pension	.139	.681	.042	.838	1.149	−.466	.726	.411	.5	.628
Agriculture omitted	0					0				
2. Type of household										
Married couple	−.102	.418	.060	.807	.903	−.046	.394	.014	.907	.955
Married and children	−.269	.733	.135	.713	.764	−.250	.633	.157	.692	.778
Other – omitted	0					0				
3. Level of local deprivation / MILD										
MILD – low	.455	.405	1.261	.261	1.577	−.237	.405	.342	.559	.789
MILD – rather low	.441	.383	1.324	.250	1.554	−.336	.380	.780	.377	.715
MILD – rather high	.522	.391	1.782	.182	1.685	.226	.383	.349	.555	1.254
MILD – high omitted	0					0				
4. Household vulnerability status and location										
HH outside 50km* not vulnerable	−1.50	.734	4.221	.040	.221	1.386	.491	7.957	.005	3.998
HH outside 50km* vulnerable	−.258	.353	.532	.466	.773	−1.14	.489	5.497	.019	.318
HH within 50km* not vulnerable	−1.53	.423	13.15	.000	.216	.878	.321	7.481	.006	2.407
HH within 50km* vulnerable omitted	0					0				

a) The reference category is medium.

Table 2B

Multinomial Logistic Regression of satisfaction with life by selected characteristics of household and community level, Lviv oblast

Predictors	Low[a)]					High				
	B	Std. Error	Wald	Signif.	ExpB	B	Std. Error	Wald	Signif.	ExpB
Constant	.320	.763	.176	.675		−4.203	1.021	16.96	.000	
1. Main source of HH income										
Earning	−.165	.604	.075	.785	.848	1.661	.736	5.096	.024	5.266
Self-employed	−.468	1.017	.212	.646	.626	2.344	.906	6.695	.010	10.43
Pension	.718	.707	1.031	.310	2.051	1.279	.913	1.962	.161	3.594
Agriculture omitted	0					0				
2. Type of household										
Married couple	−.221	.384	.332	.565	.802	1.572	.565	7.739	.005	4.814
Married and children	−.607	.371	2.684	.101	.545	1.588	.538	8.703	.003	4.894
Other – omitted	0					0				
3. Level of local deprivation / MILD										
MILD – low	−1.065	.810	1.730	.188	.345	.377	.695	.294	.588	1.458
MILD – rather low	−.228	.583	.153	.696	.796	−.767	.708	1.172	.279	.465
MILD – rather high	−1.291	1.110	1.352	.245	.275	−1.22	.931	1.719	.190	.295
MILD – high omitted	0					0				
4. Household vulnerability status and location										
HH outside 50km* not vulnerable	−.047	1.099	.002	.966	.954	2.742	.923	8.832	.003	15.52
HH outside 50km* vulnerable	1.740	1.062	2.684	.101	5.697	1.080	.952	1.288	.256	2.946
HH within 50km* not vulnerable	−.680	.682	.993	.319	.507	2.169	.586	13.69	.000	8.753
HH within 50km* vulnerable omitted	0					0				

a) The reference category is medium.

odds ratio exp(B), the emerging profiles of the influence of factors (categories of the considered features) can be presented as favourable/unfavourable to low vs. high level of satisfaction with life in summary (Table 3).

To sum up, a quite similar pattern of the effect of HH's income source for satisfaction with life dominates in almost all categories of households, except for pensioners who face lower odds of being 'satisfied' compared to households living on farm income (omitted category) remaining consistently most disadvantageous group on both sides of the border. Although family households in Subcarpathian show unclear picture as being less likely to be either low or high on the SwL-scale, they have clearly bigger odds for being satisfied with their lives, compared to others (omitted). A somewhat mixed profile shows the impact of the level of local deprivation / underdevelopment in both regions, albeit in different ways in each. While Subcarpathian households of all categories (compared to those in highly deprived areas, excluded) are more likely to be low on the SwL-

scale, households belonging to the same categories of underdevelopment in the Lviv region have a very low odds of being unhappy (low on the SwL-scale). As long as in Subcarpathian province all households but vulnerable and located within 50 km from border face lower odds of being among the unsatisfied with their lives (low on the SwL-scale), in the Lviv region only vulnerable households located beyond the border zone present such a low position on this scale.

Concluding remarks. Overall, the results of the analyses presented in this article – especially those obtained using multinomial logistic regression and correspondence analysis – are consistent with the main assumption (hypothesis) underlying this study. Namely, that the boundary matters. Especially in terms of the effect the location in the borderland (50 km wide border zone) has for SW-B of its residents, individuals and households. At least as far as such selected aspects of SW-B as satisfaction with life or feeling of belonging (sense of community) are taken into account.

Table 3

Summary of the MLR results for satisfaction with life (SwL-scale)

Subcarpathian		Lviv oblast	
SwL – low (L)	**SwL – high (H)**	**SwL – low (L)**	**SwL – high (H)**
1) Earners and Self-employers have lower relative risk of being low on the SwL-scale ('L'), opposite to Pensioners, as compared to farm income-based HHs.	1) Pensioners are least likely to be 'high' on the SwL-scale, in contrast to Self-employers and Earners (compared to those receiving farm income).	1) Earners and Self-employers have lower relative risk of being in 'low' compared to farm income households, in contrast to Pensioners.	1) Compared to Farm income-based HHs all other are more likely to be 'high' on the SwL-scale.
2) Compared to Other HHs, all HHs have lower odds to be 'L' on SwL.	2) Couples w/t kids and Married w/kids are less likely than Others to be 'high' on SWL-scale.	2) Other HHs more likely to be 'low' on the SwL-scale.	2) Couples w/t kids and Married w/kids more likely to be 'high' compared to Others.
3) All categories of local deprivation, compared to 'high' are more likely to be low on SwL-scale	3) Mixed but higher local deprivation more conducive for 'high'	3) All categories of local deprivation but highest more conducive for 'L'	3) Only HHs in less deprived areas are likely to be 'high' on the SwL-scale, compared to HHs in ILUd-high areas.
4) Compared to HH within 50 km* vulnerable all other HHs have much lower relative risk of being low on SwL scale	4) Not vulnerable HHs w/n or out of 50 km from the border more likely to be in 'high' on SwL-scale	4) Not vulnerable HHs either w/n or out of 50 km distance from border have much lower relative risk of being 'L'	4) Compared to HH within 50 km and vulnerable the odds of being high on the SwL scale are strongly bigger (including vulnerable)

However, the borderland as a socio-economic space is not homogeneous. Nor from the point of view of the main characteristics of the units that make it up – such as the level of the development / local deprivation (gminas in Subcarpathian or rayons in the Lviv region). And nor in the sense of co-occurrence / autocorrelation between communes (more pronounced on the Polish side (although the validity of comparison in this regard is weak due to some variation in the data). Compared using the Allison – Foster measure (for qualitative data) the inequality of subjective well-being also shows significant differences. Both between Polish and Ukrainian households and between patterns of differences among them due to location within vs. beyond the border zone. While in the former only income and social relations are differentiated more in gminas within the border zone than beyond it, in the latter there is no pattern that prevails in one of the two types of location (however, several aspects differ from those used in both cases).

Apart from some similarities in the impact of certain factors on subjective well-being – such as main income sources (generally unfavourable position of retirees followed by households living on farm income) or partly also the level of local underdevelopment – significant differences occur between communes located within – vs. outside of the 50 km zone, in both regions (Subcarpathian and Lviv). They are particularly clear in the case of impact profiles of certain predictor categories - as family type or household vulnerability status – for being low or high on such an aspect of SW-B as satisfaction with life.

In the light of the above observations on the complex and heterogeneous pattern of influences and relationships, it is reasonable to recommend that more in-depth research should explicitly include spatial aspects within the statistical spatial analysis framework. This, however, would require having appropriate geostatistical data, with X, Y coordinates not only for communes (gminas or rayons), but also for households, which should be selected in the appropriate numbers from them (as clusters). This would provide a hierarchical structure of the nested data enabling the development of appropriate models within the Multilevel Spatially Integrated Framework.

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Вплив польсько-українського прикордоння на добробут місцевих громад

У статті обговорюються окремі результати порівняльного дослідження, спрямованого на розуміння зв'язку між розташуванням (зокрема в межах прикордоння, що розуміється як територія в радіусі 50 км від польсько-українського кордону з обох боків) та розвитком громад, з одного боку, та його впливу на добробут мешканців районів, домогосподарств та окремих осіб, з іншого. Як підкреслюється в загальній гіпотезі, що лежить в основі цього дослідження, важливість розміщення в таких районах як для громад, так і для окремих осіб є результатом транскордонної економічної діяльності, яка була досить інтенсивною до лютого 2022 року. Вирішення питання про роль місця та простору у формуванні якості життя та добробуту – включаючи можливу концентрацію територіальних одиниць (ґмін, районів) однакового рівня розвитку або "ефект сусідства" (або кластеризацію) серед окремих осіб/домогосподарств – необхідно розширити шляхом аналізу міжрівневої взаємодії між відповідними показниками розвитку та добробуту громади й окремої людини. Для цього використовуються дані з двох типів джерел: 1) місцевий банк даних (Польща) та районна база даних (Україна), щоб охарактеризувати рівень (недо)розвиненості та місцевої депривації; 2) дані опитувань домогосподарств, що проводилися паралельно в окремих ґмінах Підкарпаття та Львова. У висновках підтверджено очікування, що прикордонні житлові райони / прикордоння справляють значний вплив на відповідні заходи окремої людини та громади, а також на взаємодію між ними (ідеться, наприклад, про у середньому вищий добробут у менш знедолених / краще розвинених громадах). Проте для цілей політики висновки слід робити із певною обережністю, зважаючи на недостатній масштаб цього дослідження (його нерепрезентативність). Але методологічна перевага вищезазначеного підходу із залученням просторових аспектів свідчить про необхідність його подальшого опрацювання в порівняльній перспективі.

Ключові слова: *суб'єктивне та суспільне благополуччя; розвиток місцевої громади та депривація; нерівність суб'єктивного благополуччя; просторові ефекти.*