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Position near the town – effects of urban areas on rural competitiveness and quality of life

Abstract: *The paper presents the approach to the analysis of spatial relationships between the town and surrounding rural areas. The main objective was to compare the competitiveness and living conditions of the areas located in the surroundings of towns with different number of inhabitants and situated in various regions of Slovakia and Poland. Competitiveness of a given area is understood as the ability to attract young and well-educated inhabitants. In turn the outfit of houses with the basic facilities of technical and communication infrastructure decides the living conditions.*

Keywords: *relationship between urban and rural areas, rural competititiveness, quality of life, Poland and Slovakia*

Introduction

Spatial relationships between rural and urban areas have become the research objective more and more often. It is a result of two facts. The first one is, as Bański (2006) underlines, that so far the scientists have not brought this subject up and it is necessary to fill this gap in the research. The other reason is that modern processes and phenomena that occur in the suburban areas are the most dynamic ones in the whole regional space. However, the increase in number of analyses of the relationships taking place in rural-urban transitional zone is, in great extend, limited to the vicinity of large towns, capitals or other important nods of the settlement network. Studies dealing with smaller towns are more seldom and are characterized by the following features: usually the analysis is focused on the town, the research is rather a monograph of the particular settlement unit, or the focus is on the whole community of small towns (up to 10 thousand of inhabitants the most often).

The paper presents the other approach to the analysis of spatial relationships between the town and surrounding rural areas. The main objective was to com-

pare the competitiveness and living conditions of the areas located in the surroundings of towns with different number of inhabitants and situated in various regions of Slovakia and Poland. Competitiveness of a given area is understood as the ability to attract young and well-educated inhabitants. In turn the outfit of houses with the basic facilities of technical and communication infrastructure decides the living conditions.

The other objectives were to:

(1) Compare the competitiveness and living standard of the rural areas located in the surroundings of towns in the relation to three features: town size and its location in different countries or regions of these countries

(2) Analyze the co-relations between competitiveness and living conditions, that is comparison of the living standard in suburbia and those offered in towns

(3) Determination of good points and drawbacks of international comparative studies.

Methodology and delimitation of research areas

Methodical selection of towns and the contiguous zones consisted of several steps was subject to varied difficulties given by the differing area and consequently different territorial and administrative organizations of Slovakia and Poland. These differences also caused the varied accessibility of statistical data. While *gmina* is the smallest territorial unit in Poland that the data were available for, the smallest territorial unit in Slovakia is the *obec* (commune). With regard to different sizes of the two States though, *gmina* is several times bigger than the *obec* in terms of area and population. This difference also caused unequal delimitation of rural areas neighbouring with the towns. The rural settlement zones around towns are substantially smaller in Slovakia (table 1).

Firstly, it was necessary to select towns with approximately the same size for three size categories from three parts (western, central and eastern) of Poland and Slovakia. As the aim was to study the rural areas in hinterland of towns, individual towns had to be selected regarding the mere existence of the rural hinterland. It was the reason, why tows situated in close neighbourhood with other towns could not be included. Meanwhile, the number of big towns in Slovakia is limited. Consequently, the selection of towns (above all the bigger and medium-sized ones) was complicated. The result is that for the first category of towns with population around 100,000 bigger towns were selected in Poland than in Slovakia (population of the third biggest town of Slovakia, is under 100,000).

In the next step it was necessary to assign the towns their immediate rural hinterland. Settlements with administrative territories in the immediate neighbourhood or administrative territories with at least point touching that of a town were classified into the first zone. If other *obec* or *gmina* with statutes of a town and pop-

Table 1. Selected towns and delimited area of zones in Poland and Slovakia

	Size category of towns	Town	Population (2001)	Surface – km^2		
				Town	1st zone	2nd zone
POLAND	Around 100 000	Zielona Góra	119 152	58	381	1307
		Włocławek	122 886	85	611	1202
		Tarnów	121 091	72	452	1084
	Around 50 000	Nysa	48 452	28	190	944
		Radomsko	50 821	51	219	757
		Ciechanów	47 446	33	280	968
	Around 15 000	Choszczno	16 132	10	237	1451
		Bytów	17 789	9	189	1130
		Olecko	16 661	11	255	608
SLOVAKIA	Around 100 000	Nitra	87 285	108	194	274
		Banská Bystrica	83 056	103	274	314
		Prešov	92 786	71	166	270
	Around 50 000	Nové Zámky	42 262	73	270	225
		Prievidza	53 097	43	138	145
		Michalovce	39 948	53	144	208
	Around 15 000	Zlaté Moravce	15 618	45	161	222
		Veľký Krtíš	14 013	15	106	200
		Stará Ľubovňa	16 227	31	132	178

Source: Statistical Yearbook, CSO

ulation exceeding 5,000 neighboured on the selected town, it was not included in the delimited zone.

The primary criterion in delimitation of the zone 2 was again the contact of administrative territories of rural *obec* and *gmina* in the delimited territory of the 1st zone (again the *obec* or *gmina* with statute of a town and population exceeding 5,000 were not included in the delimited territory of the 2nd zone). In order to confirm the geographical relevancy of the delimited territory, the gravitation of individual communes was established based on the movement of population in pursue of work (this procedure was only applied in Slovakia as no statistics concerning journey-to-work exists in Poland; in turn geographic and administrative realities were taken into account for Poland). This step corrected the mechanical assignment of communes and gminas to the delimited suburban zones in favour of geographically real assignment Fig. 1 brings the resulting delimitation of zones surrounding 18 selected towns.

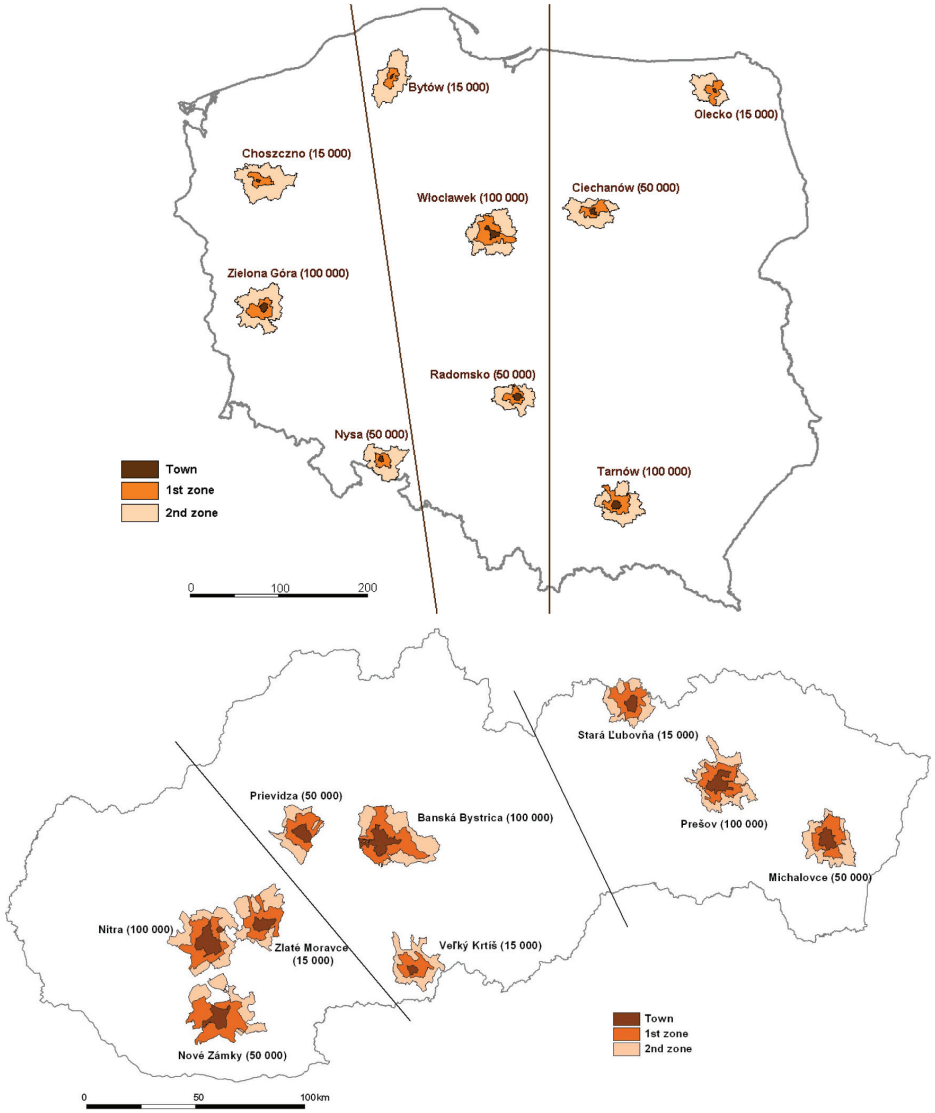

Figure 1. Geographical position of selected towns and delimited zones in Poland and Slovakia

Results of the research

Competitiveness – migration balance and structure of population

Attractiveness of space and its competitiveness can be expressed on the base of very disparate indicators (Székely and Michniak, 2006). In this article, competitiveness of the rural space compared to urban area will be expressed in terms of selection of the permanent residence.

In the 1980s, the rural areas in Poland and Slovakia were still considered less attractive compared to towns. Rural areas were loosing their young and educated

population that left to seek jobs and residence in towns. However, this situation began to change in the 1990s when the former socialist countries entered the political transition followed by the socio-economic change. The rural area as the place of permanent residence is normally attractive above all for persons whose life had been connected with the life in countryside in the past while the cost of living is also taken into account. However, only settlements with favoured geographical position (position in hinterland of big towns or position in easily accessible and tourist attractive regions) are attractive for migrants. Their populations increase by migration movement.

The trend of migration from town to countryside also continued in 2001–2005 both in Slovakia and Poland while it was more intensive in Slovakia (fig. 2). The reached results suggest that the present town-depopulating trend fed by migration is common both for Poland and Slovakia but also for the individual town categories and existing macroregions.

Results of research concerning inner migration in Slovakia have shown that the majority of migrations take place in distances smaller than 20 km (Bezák, 2006). Similar behaviour of migrants (the dominating distance is longer in case of Polish towns) can be also expected in Poland (Gawryszewski, 2005). It is no surprise then that the migration balance of communes and gminas in the immediate hinterland of towns (1st zone) is always positive (with the exception of two small

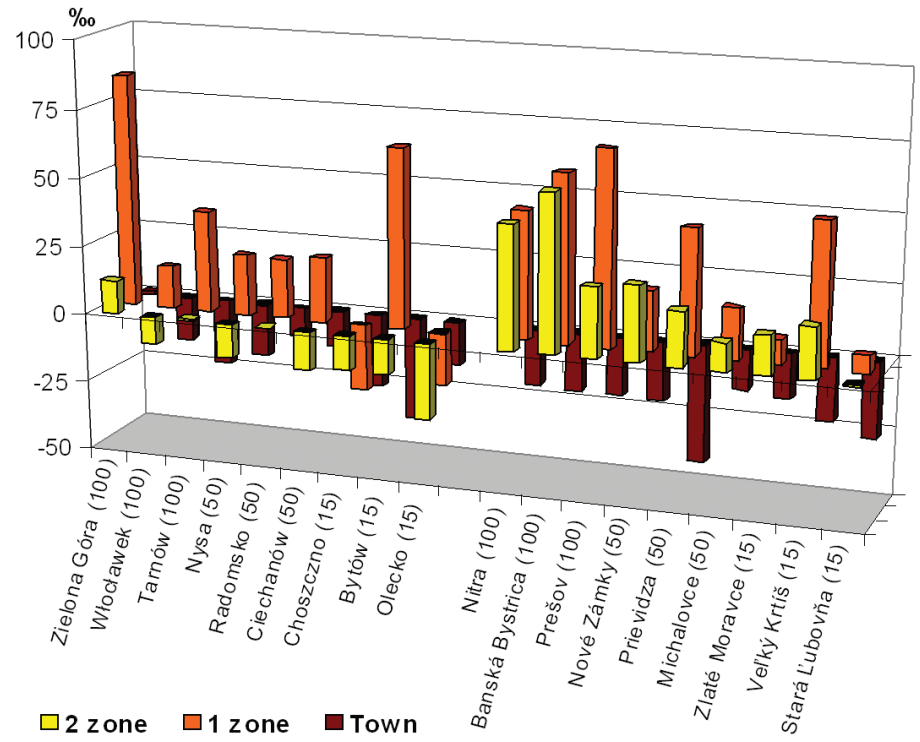

Figure 2. Balance of migration in the years 2001–2005 (relative change – in ‰). Source: Own calculations based on data from Central Statistic Offices of Slovak Republic and Poland.

Polish towns: Choszczno and Olecko). No regular differences in the relative rate of migration balance depending on size of town surrounded by the rural communes or gminas in the 1st zone, and on different economic performance of macroregions were identified. The biggest differences between Poland and Slovakia in migration balance were found in rural settlements in the delimited 2nd zones. While these territories in hinterland of towns are also attractive for migrants in Slovakia, in Poland they are territories serving as population source areas for towns and villages situated beyond the borders of the 2nd zone.

The age structure of population in urban and rural settlements is worth studying from the point of view of competitiveness and developmental ambitions. According to Mládek et al. (2006), the age structure and the process of its formation can be considered a highly comprehensive demographic phenomenon. Communes and gminas with a high share of population in the post-productive age and low share of population in the pre-productive age face potential problems associated with their liveliness, competitiveness and options of the future endogenous development. The relationships between these two population components can be expressed by what is referred to the *ageing index*, which represents the ratio of post-productive population component and the preproductive one. The lower the ageing index the more progressive is the population and hypothetically prerequisites of endogenous development are present.

Comparison of Polish and Slovak towns and their delimited hinterlands from the point of view of the ageing index (fig. 3) reveals several interesting things. First of all, it is the evident difference in the ageing index values of selected Polish and Slovak towns as well as their rural hinterlands. The relationship is reverse. While the Polish urban population is relatively old, the Slovak urban population is contrastingly young. While the rural population living in hinterlands of the Polish towns is relatively young, the rural population in Slovakia is relatively old. There are several reasons to this situation. The results suggests that the processes of suburbanization concentrated in the hinterland of towns in the Polish territory are associated with young generation, young families with small children. In Slovakia, the post-productive population composes a comparatively large group of migrants from towns to the countryside. While the towns of Poland grow older by departure of young people, departure of population in post-productive age from towns in Slovakia rejuvenates their age structure. While the young families living in the rural area of Poland reach higher natality and natural increase, the population increase from natural sources is distinctly limited in Slovakia in the consequence of unfavourable age population structure. These are the basic causes that determine the differentiation of the ageing index between the selected towns and their rural hinterlands in Poland and Slovakia.

Another interesting difference observed in values of the ageing index is the existence of spatial dichotomy between the western and eastern parts of the State which however manifests only in case of Slovakia. Similar spatial differences that should characterize the western part of Poland as the territory with older

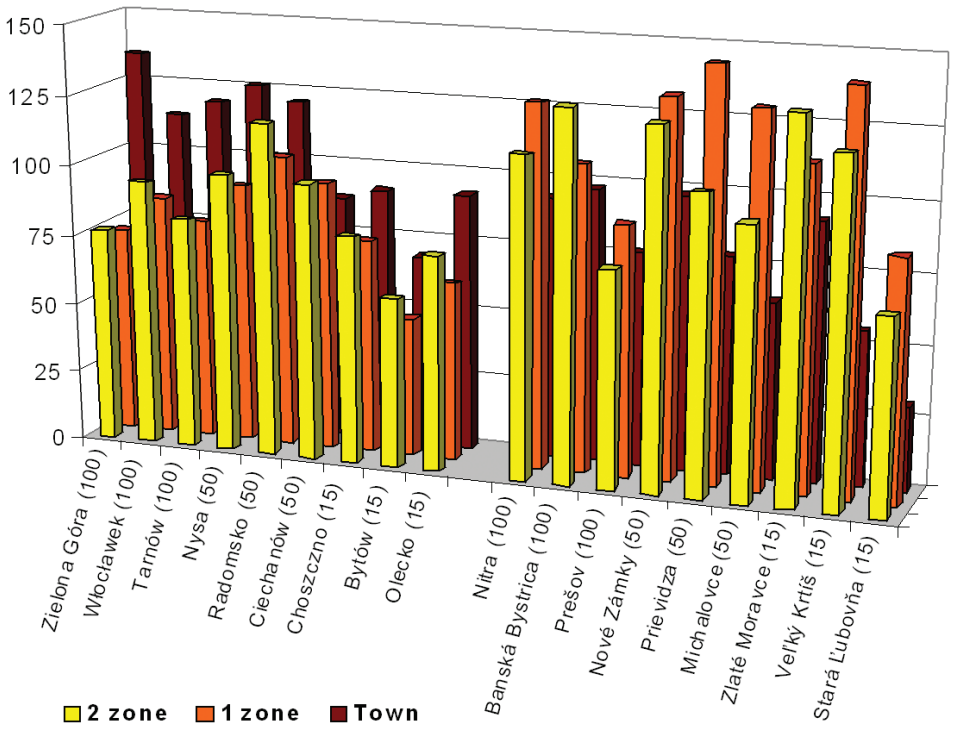

Figure 3. Ageing index (Slovakia – 2001, Poland – 2001). Source: Own calculations based on data from Central Statistic Offices of Slovak Republic and Poland.

population and the eastern part as the one with young population (like in Slovakia) were not observed in Poland. One of possible reasons is the specific demographic behaviour of the Roma population (high natality expressed by the high share of the pre-productive population component and the low post-productive population component), which concentrates above all in the eastern part of Slovakia. Low ageing index values of the eastern-Slovakian towns Prešov, Michalovce and Stará Ľubovňa and of their rural hinterlands can be then partially also explained by the existing ethnic population structure.

Competitiveness of spatial units is greatly determined by their human capital. Its quality often manifests itself in an unconventional approach to problems, entrepreneurship, and capacity to reach economic benefits and simultaneously ensure the sustainable local and regional development, is hardly measured. This is the reason why the data about population's educational structure as products of regular population censuses were used as the population quality index (figure 4).

The fact that the increasing distance from the town is accompanied by the decreasing share of population with university education is true both for Poland and Slovakia. In the consequence of the present migration trends though, the assumption that the share of rural population with the highest achieved level of education would increase is justified. This change would strengthen the competitiveness of rural settlements. Another general rule that applies to both countries

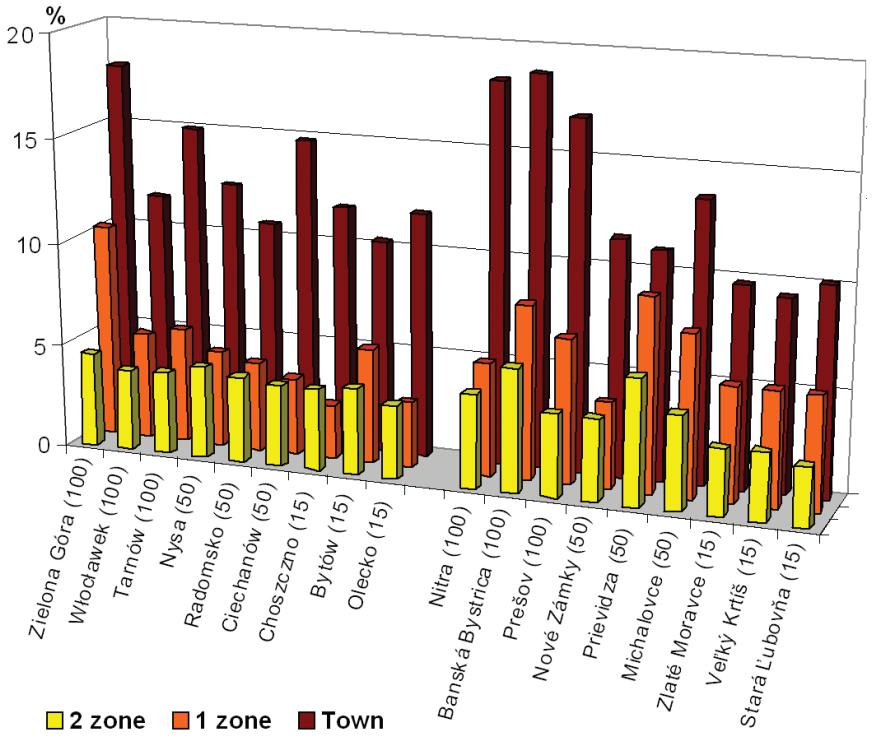

Figure 4. Share of population older than16 years with university degree (Slovakia – 2001, Poland – 2002). Source: Own calculations based on data from Central Statistic Offices of Slovak Republic and Poland.

is the dependence of population with university education on the size category of the town. The larger the town, the higher the share of population with university education. However, such regularity has not been identified in rural zones.

The most striking difference observed in comparison of the towns and the neighbouring rural zones of Poland and Slovakia is the higher representation of population with university education in big towns of Slovakia compared with the towns in a similar size category in Poland. One has to bear in mind that if these are (population around 100,000) large towns and centres of economic growth for Slovakia, the same towns in the context of Poland are considered medium sized ones. The different position in the hierarchic structure of settlements also means their differentiated attractiveness for the establishment of universities and location of economic activities that require a highly qualified labour.

Quality of life

The standard of living is a result of both inner and outer factors. The technical possibility of fit the flat out with a chosen infrastructure facility belongs to the most important exogenous conditions. Although, in great measure, the inhabitants create the standard of living themselves, it is impossible to equip the house with particular appliances without water and sewage systems in a locality. In

turn, the financial limitations should be pointed out as the most crucial endogenous factors.

Spatial diversity of the percentage of houses with toilet facilities with the cistern is related to the spatial diversity of the share of houses connected to the water systems. According to Kovács (2004), the index presenting the outfit of houses with water closets is a good measure to depict the increase in regional disproportion in settlement system and to describe the qualitative conditions of the housing. The analyses show no significant differences among towns as far as the outfit of the houses with the toilet cisterns is concerned (figure 5). Interesting variations occurred when the surroundings of towns were analyzed. Firstly, while no significant differences in percentage of houses with the WC were observed between first and second zone for Polish cities, the value of that index was higher in first than in the second zone for the majority of areas in Slovakia. The reasons of observed differences ought to be sought in the first place in the diversity of delimited study areas mentioned at the beginning. The other thing is the disproportion between the areas around towns in western Poland (Zielona Góra, Nysa, Choszczno) and those in eastern and partly central parts of the country (Włocławek, Tarnów, Ciechanów). These results may be related to the historical conditions from XIX century, which in great measure shaped modern pattern of the settlement structure in Poland.

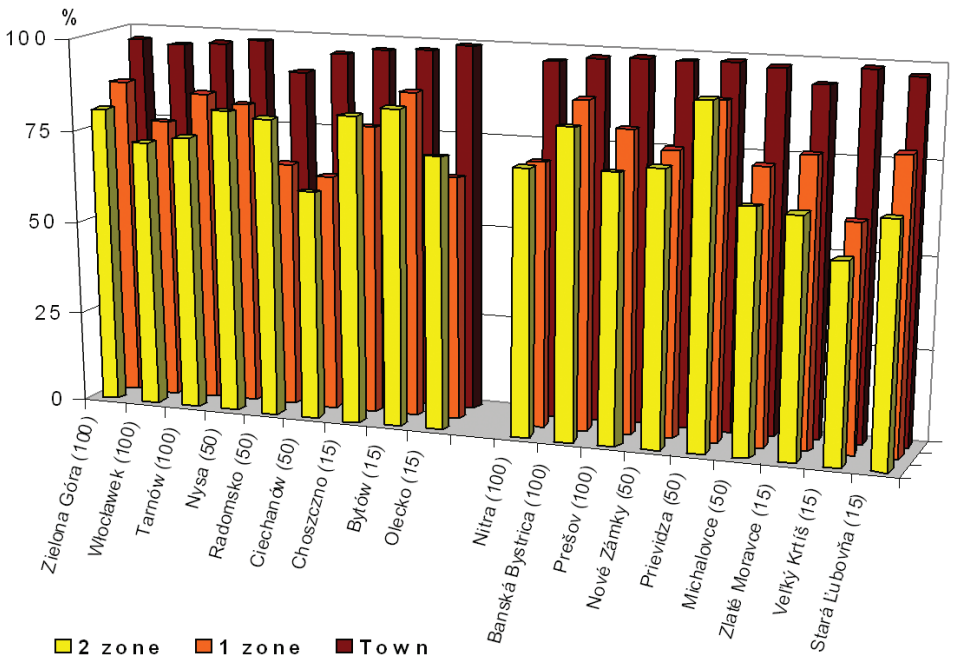

Figure 5. Percentage shares of dwellings with flush toilet (Slovakia – 2001, Poland – 2002). Source: Own calculations based on data from Central Statistic Offices of Slovak Republic and Poland.

Similar conditions decided the results of the analysis of the percentage of houses connected to the central- heating system (fig. 6). Much higher share occurs in towns, which obviously results from the type of the buildings. To connect to the boilers, is easier and costs less for the dense estate of the multi-storey blocks than for spatially diverse village inhabited by some hundreds of people. Again, little diversification of the analyzed features is characteristic within the town community. As far as outfit with basic infrastructure facilities is concerned, localization in various regions of Poland and Slovakia and the size criterion seems to be of less and less importance. Only in case of Olecko (Poland) as well as Nové Zámky and Veľky Krtíš (Slovakia) the percentage of houses connected to the central heating system reached 80% in the first and 70% in the second zone.

The third feature analyzed to describe the standard of living — percentage of houses with a telephone showed the greatest diversity (figure 7). The values of that index were two times higher in towns than in surrounding areas in Poland. In turn, the situation is more equal in Slovakia. Observed diversity, in great measure, results from the methodology of statistical sampling. In Poland, all telephone connections were counted, while in Slovakia only telephones in private houses were included omitting those from enterprises and institutions. It

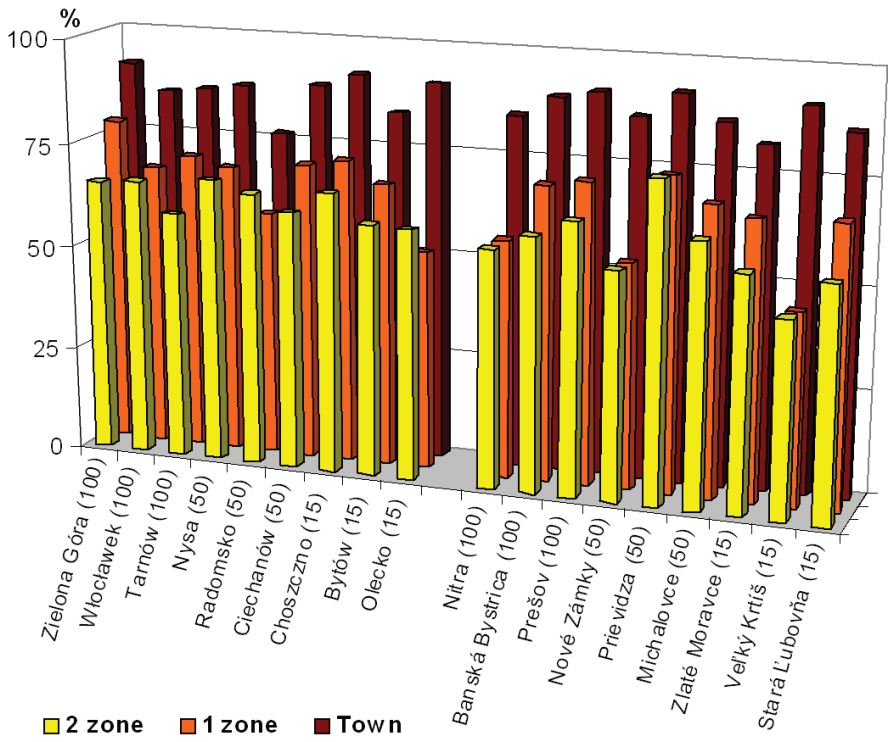

Figure 6. Percentage shares of dwellings with central heating (Slovakia – 2001, Poland – 2002). Source: Own calculations based on data from Central Statistic Offices of Slovak Republic and Poland.

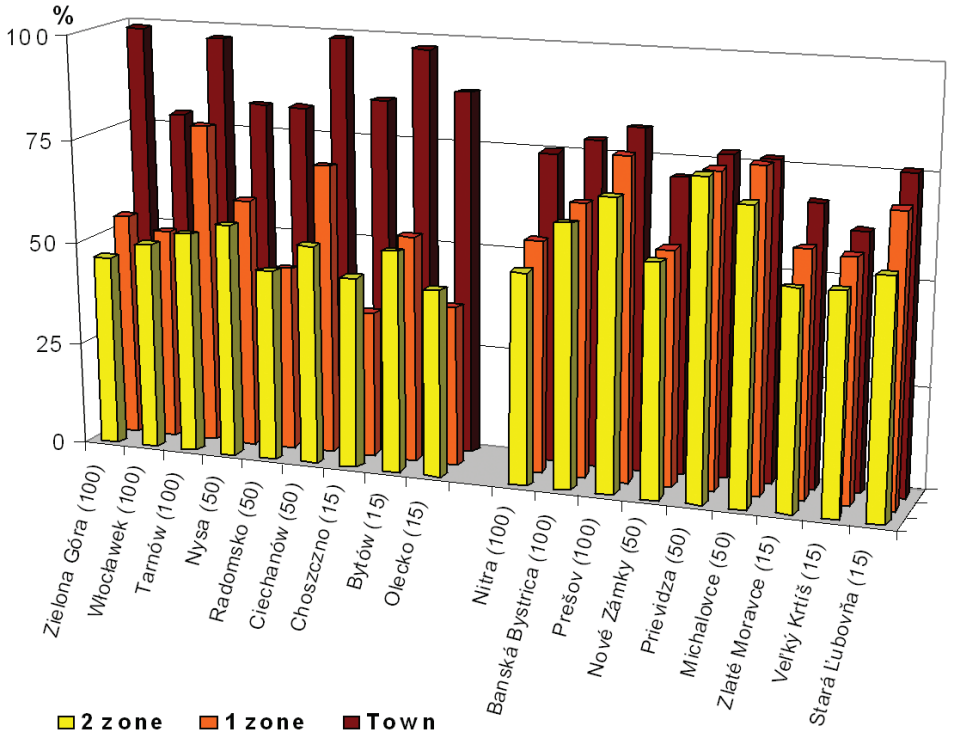

Figure 7. Percentage shares of dwellings with telephone (Slovakia – 2001, Poland – 1999). Source: Own calculations based on data from Central Statistic Offices of Slovak Republic and Poland.

caused significant increase of the index value for Polish towns because of the obligatory inclusion of official telephones. We may assume that it did not influence the result obtained in the zones remarkably. Analyzed rural areas in Slovakia have relatively better level of the connecting the households to the telecommunication networks than those in Poland. However we must emphasize that this measure being analyzed nowadays is less and less important in the assessment of the living standard because of the dynamic development of mobile telecommunications.

Conclusions

What is the short-term vision for the future development of rural areas in Poland and Slovakia? Presumably, it will be markedly differentiated. Rural settlements situated in the vicinity of the biggest towns will be affected by the dramatic changes due to the ongoing concentration of economic activities in growth poles. Requests of qualified labour will reflect in the interest to work in these centres. Part of the original migrants motivated by job search (who are not permanently residing in towns) will eventually consider the permanent stay in space where the wages are higher. Probably the majority of them will decide over the place of permanent residence also based on comparison of prices.

Assumption that the lower prices of land and real estates in rural areas will project into their increased attractiveness not only for the potential rural immigrants but also for businessmen is justified. As it is not expected that independent economic groups will be formed in the rural hinterland of big towns, contacts with the town will be still very important for the lives of the locals. Smooth functioning of the whole system will require construction or improvement of the technical (especially transport) and social infrastructure. In order to discourage inefficient migration of population the development of rural areas must be balanced. Adequate civic amenities in rural areas in (big) town hinterland will also attract the population in post-productive age preferring the more settled way of life. Co-action of all factors (Myrdal´s theory of cumulative causation) will most probably find reflection in the demographic and economic boom of rural areas in hinterland of (big) towns.

Situation will be probably different in rural areas with unfavourable geographic position. It is supposed that these peripheral areas will not be able to stop the population decrease. The quality of their human potential – the capacity of the local population to seek unconventional and innovative ways how to make their territory attractive for immigrants, businessmen or tourists – will become the decisive determinant of their development. Chances of the rural areas with attractive landscape potential to join the regional "winners" are great. As far as the remaining disfavoured rural areas are concerned, the solution lies in finding the political will (at the level of the EU, at the national level) to support their sustainability, because the progressive degradation or even disappearance of their cultural and historic heritage may be a regrettable and not accepted mistake from the side of civilized world..

Discussion – multinational project experiences

Apart from the scientific aspects, the article aimed also to work out the good points and drawbacks of international comparative studies. Significant growth in number of research projects focused on the majority or on all of the European countries is presently observed together with the spatial enlargement of the European Union. That is why this study is a try of a model analysis concerning particular matters only in two countries. The following list highlights the most important obstacles we met during the research procedure:

(1) different methodology of gathering the statistical data (e.g. number of telephone subscribers) or different definitions of size, or demographic categories (e.g. in Poland the group in post-productive age consists of men elder than 65 years old and women elder than 60 years old, in turn in Slovakia these thresholds are 60 and 55 years respectively). It was possible to recalculate Polish data according to the Slovak methodology in case of the analysis of the post-productive age. However, it was not possible for many other measures, which caused that they were not utilized in this study.

(2) different availability of the data from various levels of spatial disaggregating (e.g. data about enterprises in Poland is available at the NUTS 5 level, while for Slovakia it is to some extend limited. In turn, the information about to-work--commute can be obtained for Slovakia, while for Poland it is impossible to get it at any spatial level). This limited the possibilities of the choice of the measures for comparative analysis much.

(3) different way of delimitation of the smallest spatial units (NUTS 5) — a town or a village in most cases for Slovakia, while a group of villages or group of villages with town or the town itself for Poland.

(4) different relative position of an individual measure in national and international systems (large, hundred-thousand towns chosen for Slovakia are from the third to fifth in the urban system of this country, while three "large" Polish towns are at from 33rd to 35th place on the list). The problem of the analysis of relative position is important within majority of international studies.

Moreover, various historical past and geographical conditions of the regions are very often not included in explanatory analysis at the European scale. Climate, soil or relief features as well as cultural, ethnic or historical matters are of great importance especially in case of analyses concerning the rural areas and agriculture. For example, the division of Poland into partitions in the XIX century and border changes after the World War II influence the infrastructure patterns untill now. Similarly, high percentage of Roma minority in eastern Slovakia affects directly demographic issues.

Because of the abovementioned reasons, the presented study is a compromise between authors' primary intensions and existing circumstances. However, despite many limitations international spatial researches bring a lot of interesting conclusions. As it was pointed out in a factual summary, similar course and intensivenes, modified by the national and local conditions characterise processes taking place in Poland and Slovakia.

Acknowledgement

This article was prepared as part of the Project No. 2/6038/26 "Economic performance and competitiveness of localities and regions", funded by the Slovak VEGA Grant Agency. The author thanks to the Slovak VEGA Grant Agency for its financial support. The article is also part of the Project No. N306 025 32/1135 "Endogenous factors stimulating rural areas of Mazovia Region" funded by Polish Ministry of Science and Higher Education.

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