

ARTICLES

THE ROLE OF CREATIVITY IN GEOGRAPHIC STUDYING OF HUMAN RESOURCES IN SLOVENIA

AUTHOR

Marjan Ravbar

Scientific Research Centre of the Slovenian Academy of Sciences and Arts, Anton Melik Geographical Institute, Gosposka ulica 13, SI – 1000 Ljubljana, Slovenia
marjan.ravbar@zrc-sazu.si

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ABSTRACT

The role of creativity in geographic studying of human resources in Slovenia

The article analyzes the spatial dispersion of creative occupations in various municipalities in Slovenia. The main conclusion, drawn from the article, is the very uneven distribution of creative occupations, which are most dominant in national employment centres and suburban areas of urban regions. Creative social groups undoubtedly represent a strong impact on the regional development, which is seen through GDP per capita. The areas with higher levels of creative occupations are more innovative and their social and economic development more dynamic. The analyses also show a positive correlation between the share of employed people in creative occupations and innovativeness based on the average number of patents per capita.

KEY WORDS

geography of human resources, creative social groups, Slovenia

IZVLEČEK

Vloga ustvarjalnosti pri geografskem preučevanju človeških virov v Sloveniji

V prispevku analiziramo prostorsko razprostranjenost ustvarjalnih poklicev v Sloveniji po občinah zaposlitve. Ključna ugotovitev je, da so ustvarjalni poklici zelo neenakomerno razporejeni. Z najvišjimi deleži izstopajo zaposlitvena središča nacionalnega pomena in okoliške obmestne občine v nastajajočih mestnih regijah. Ustvarjalne socialne skupine imajo nedvoumen učinek na regionalni razvoj. Primerjave s stopnjo bruto družbenega proizvoda na prebivalca to potrjujejo. Območja z visokim deležem ustvarjalnih poklicev so tudi bolj inovativna in njihov ekonomski in družbeni razvoj je bolj dinamičen. Opravljene analize izkazujejo še pozitivno povezanost med deležem v ustvarjalnih dejavnostih zaposlenih prebivalcev in inovativnostjo, izmerjeno s številom patentov na prebivalca.

KLJUČNE BESEDE

geografija človeških virov, ustvarjalne socialne skupine, Slovenija

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1 Introduction

Today different forms of social effectiveness are becoming regular debate topics. Research studies, which try to explain the correlation between basic elements of social (in)effectiveness, are coming to the foreground. Among these research studies the most common ones, in recent times, have been studies on functional correlation of economic structure with landscape characteristics (natural resources), infrastructure, and the educational level of the population. There have also been numerous studies on innovative characteristics of society, which are regarded as key developmental factors in the rise of the life quality of people living in geographically closed areas. Different economic and natural geographic conditions are in many cases the reason of regional disparities, which are mosaically formed by individual landscape areas with different levels of development and different speeds of transformation regarding the structural and social-economic changes.

The expression »society of knowledge« was first mentioned as a social-economic developmental idea by the Austrian-American theoretician of management, Drucker (1970), at the start of the 1970s. This expression first had the meaning of economic regulation, where knowledge, in comparison to money, work and materials gained in its role. Its effects had positive impacts on the economic growth as well as on social differentiation.

In the 1990s the term »society of knowledge« was equalized with the term »information society«. Research studies were based on a widely spread computer and internet work. This brought changes in the way of living, especially in the rise of population's mobility. The term »society of knowledge« has in the past decades coincided with other comprehensions of contemporary social happenings. Some similar expressions were used, especially in correlation with discussions about the effects of post-industrial (»post-Ford«) production on the society. They are encouraged mainly by the analyses of the »creative environment« as metaphors for the ability of a successful transfer of new knowledge into practice and for intensive connecting of scientific-technological centres with economic networks and societies. The term was in the 1980s promoted by the group of Francophone researchers »*Groupe de Recherche Européenne sur les Milieux Innovateurs*« (GREMI), who have, from the theoretical perspective, greatly contributed to the implementation and acceptance of this term (Maillat, Quévit and Senn 1993; Fromhold-Eisebith 2004).

Terminologies, where knowledge takes over the leading role in social development, differ in their details within different social science disciplines, which deal with this issue, as for example sociology, which primarily focuses on the development, the expansion and the realisation of knowledge within the institutional context. Economic findings are a result of the theory of growth, which is accelerated by the stimulative political and spiritual aspect (Keynes 1936). Later research was based on the technological development, mainly on innovations, researching and accumulating of man's knowledge as the source of growth. The correlation between new knowledge and entrepreneurship results in the commercialization of new ideas, which are a driving force of economic progress and regional development (for example Schumpeter 1911; Feldman 2000).

Theoretical and empirical research of human resources geography (Läpple 2001) is also gaining in its meaning. Spontaneous burst of knowledge can be seen from various perspectives. Globalisation makes global networking of production, which depends on regional inclusion into a closed geographic environment, less and less possible. Connecting of subjects into different international units can have important impacts on spatial structures. Conscious formation of the network of transport corridors and communications has long-lasting consequences for the development of city networks as developmental generators, as well as the expansion of their outskirts, and for the rise in mobility. Urban regions are becoming a polygon of the reconstruction of social processes, where economic, political, social and cultural transformations are most visible in the changes of urban and regional economies. This affects also the level of spatial interactions, with which new possibilities for networking and the changed paradigm of regional politics come to the foreground. The regional politics is in charge of accelerating the favourable economic atmosphere for human and social capital, with an array of attractive settlement

locations, with the expansion of material and non-material infrastructure, etc. Knowledge accumulation has mutual and two-sided impacts on the formation of city regions and the transformation within economic activities. In these conditions are cities, as developmental generators, forced to adapt to the changed factors which encourage competitiveness. Modern technologies enable a different geographic flexibility from the one locational factors once had (for example: the closeness of materials, energy, capital, etc.).

2 Aims and methodological explanations

Creativity (lat. »*creatio*«) represents a successful and innovative solving of various tasks in society, which is not the domain of only scientists and artists. Creative groups are extremely hard to identify, as their activities can be quite different. The most difficult thing is to identify the »contents« of creativity. Generally speaking these groups are able to recognize the problem at hand and on its basis form new ideas or their combinations, with creating new products. Their activities derive from several areas of social life. The correlation between human resources and the levels of economic growth has been studied by many researchers (Meusburger 1998; Florida 2005; Landry 2006; Kroehnert, Morgenstern and Klingholz 2007; Lorenzen and Vaarst Andersen 2006), who all see the existence of highly qualified workplaces as a decisive factor in modern settlement development. The renowned researcher, Florida (2005) in his studies shows that locational factors, within the group of creative occupations, play an important role regarding the decision on the place of residence. Their common characteristic is that they are mainly situated on the wide outskirts of the economically successful urban centre. The concentration of creative population is centred only in certain city agglomerations, which boast technical and social innovations and with them accelerate the economic growth.

For the purposes of this article the databases on work-active population were used, differentiated according to the units of occupation-fields, the level of education and the municipality of work-place or place of residence for the period from 2005 to 2008. Databases were taken from the Statistical register of work-active population (SRDAP), which is organized by Statistical Office of the Republic of Slovenia (SURs). For the research it is vital that from the whole array of different occupations only representative categories are taken into account, according to the level of creativeness, which is in many regards a risky task. Regardless of the expected obstacles and research risks, this article is based on the typology by Florida. The distribution is based on the internationally comparable standard classification of Occupations ISCO-88.

3 Geographic evaluation of mutual correlation of developmental factors

The analysis of statistical data for 2008 has shown that the percentage of creative occupations in Slovenia amounted to 7.4% of all the population, or 18.1% of the entire work-active population. Among the three subgroups of creative occupations experts present the biggest group (5.23%), while on the other hand the percentage of »Bohemians« (»cultural creators«) is only a mere 0.23%. The distribution of creative occupations according to developmental regions shows a distinctive concentration in the Central Slovenia developmental region (*Osrednjeslovenska regija*), where almost half of all creative occupations in Slovenia are located. Due to the extraordinary concentration in regards to the population number in each region, the share of creative occupations in all other developmental regions is lower than the country's average. More than 3 times less work-places of creative occupations (28%) are located in the region of Podravje, followed in number and percentage by the Savinjska developmental region (8.6%) and the Gorenjska developmental region (7.4%). Around 5% of creative occupations can be found in the Obalno-kraška region as well as in the regions of Dolenjska and Goriška. The comparisons of

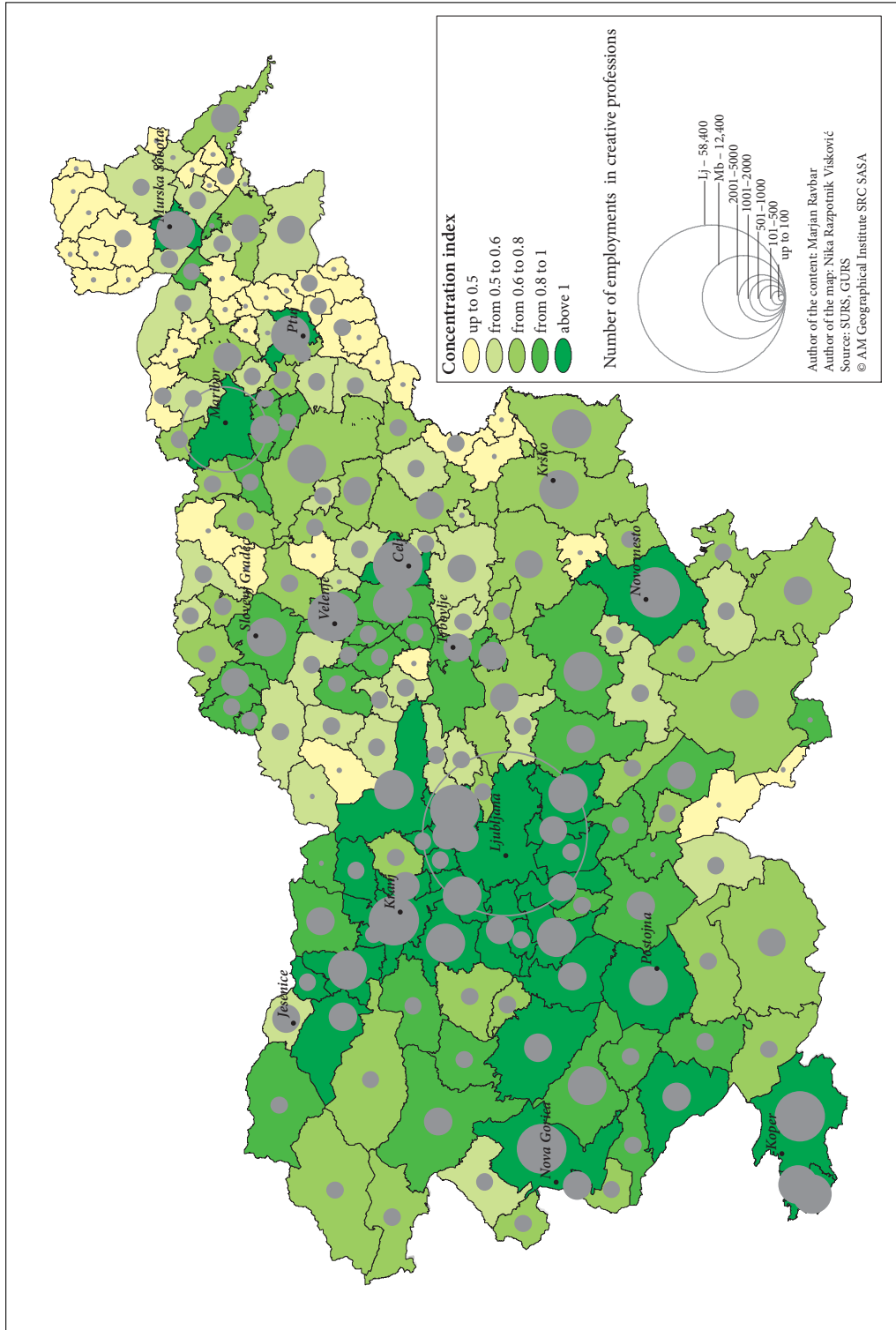
percentages of creative occupations with the work-active population show a somewhat favourable distribution among developmental regions. The percentage in the region of Central Slovenia still represents more than a fourth, whereas in the developmental regions of Koroška, Notranjska, Pomurje, Savinjska and Posavje an eighth of the entire share.

Table 1: The number of creative occupations regarding the place of residence and work-place and their shares according to the developmental regions of Slovenia, 2008 (SURs 2008).

developmental regions	number of creative occupations	% of creative occupations according to the place of residence/ work-place	% of creative occupations in regards to the population number of the region	% of creative occupations in regards to the work-active population of the region
Dolenjska	19,430	4.9/5.6	5.2	10.3
Gorenjska	13,657	7.4/9.8	5.6	10.8
Goriška	7,764	4.6/5.6	5.8	11.1
Koroška	3,118	2.2/2.8	4.4	9.1
Notranjska	1,861	1.4/2.1	4.1	8.8
Obalno-kraška	8,132	5.1/5.5	7.3	11.9
Osrednjeslovenska	71,892	46.5/36.8	13.9	18.1
Podravje	7,522	12.7/13.6	5.9	11.5
Pomurje	2,314	3.3/3.9	4	9.4
Posavje	5,080	2.0/2.5	4.2	9.4
Savinjska	11,462	8.6/10.0	5	9.1
Zasavje	3,384	1.2/1.7	4.1	9.8
Slovenia	155,616	7.0	7.4	12.9

The comparisons of creative occupations between the location of the work-place and the municipalities of residence in regards to developmental regions show big differences, which point to the fact, that in all regions, with the exception of the Central Slovenia region with the surplus of 14,503 (20%), there is a lack of such work-places. This consequently leads to massive interregional daily migrations, with the focus mainly on Ljubljana. The most distinctively is the negative balance seen with the regions of Notranjska, Zasavje and Gorenjska. Differences are even more visible from the perspective of municipalities. In the case of the municipality of Ljubljana there is a surplus of 24,029 work-places among creative occupations regarding the work-place, with the striving towards concentrations still growing, as the difference regarding the surplus of work-places among creative occupations in the period from 2006 to 2008 grew for 2,204 or 9.2%. On the other hand, some municipalities in the immediate Ljubljana hinterland (Grosuplje, Medvode, Kamnik, Vrhnika and Domžale) are hit by the lack of work-places among creative occupations for more than 2,000 work-places of »Bohemians« in each of these municipalities. The empirical cases clearly point to the above-average level of suburbanization in this social-geographic group and consequently significantly contribute to a higher share of daily work-migration from these municipalities to Ljubljana. On average, daily migrations represent one seventh of the work-active population, while the share in the developmental region of Central Slovenia is one fifth.

Figure 1: The distribution of workforce in creative occupations. ►



In the next step we included in the system of evaluation the following: (1) the size of the gravitational hinterland of most important urban centres, or better said, the level of centeredness in correlation with the level of urbanization, (2) the state and the development of the workforce, especially regarding the educational structure and the number of researchers, (3) the level of economic development on the basis of investments and the development of entrepreneurship. This will offer the possibility of realizing the analysis of developmental factors with clearly defined and measurable indicators. A more detailed representation of developmental indicators is shown in the Table 2.

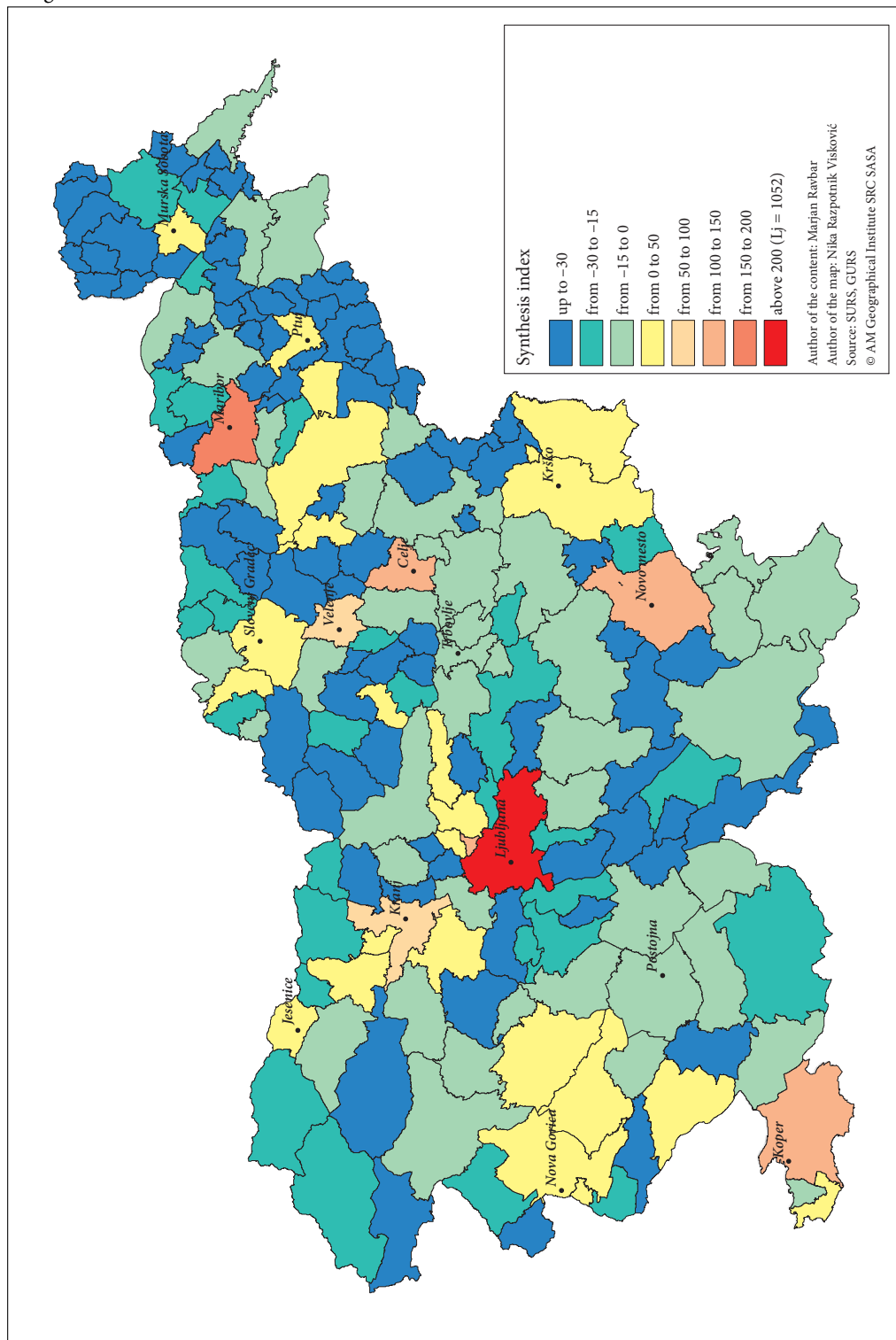
Table 2: Indicators for measuring developmental factors.

Indicator	Measuring
Area size	urbanization level, the size and growth of the population in the gravitational hinterland between 2000 and 2008
Workforce	the changes in the number of employed people per 1000 inhabitants between 2000 and 2008 (employment index), the number of employed people in creative occupations in 2008 (creativity index) and the number of researchers per 1000 employed people between 2000 and 2008 (talent index)
Investment extent	the investment value and investment per inhabitant between 2000 and 2007 (investment index), the development of companies between 2000 and 2007 (the developmental index of entrepreneurship)

First, developmental factors were classified according to developmental indexes in three fields, which define the size of the influence area in the gravitational hinterland and its dynamics, the workforce in correlation with the number of employed people in creative occupations and research activities, and the extent of investments in correlation with the development of entrepreneurship. Within the presented methodology, indexes of developmental successfulness on each individual level were calculated. In the next step, we defined the average value for each of the aforementioned indicators and then, for each local community, determined the difference to the average value. Then we calculated the index values for all territorial units by adding to them the difference value between the average value and the actual value. The values of some indexes can be negative. The values of an individual territorial unit depend on the difference to the average value on the state level. The acquired result, the index of developmental successfulness, is therefore a joint, synthetic indicator of developmental factors of all the aforementioned dimensions.

The last dimension of developmental factors, on the basis of the employed methodology, consists of the synthesis selection of developmental indicators. As it can be determined from the development of indexes of developmental factors, among the value of investments, the current state and the trend index of creativity (or talent) and the index of employment and entrepreneurship, five sixths (84%) of Slovene municipalities have sub-average values. Their collective investment share is only 25% and their share of creative occupations only 20%. These 84% of Slovene municipalities include roughly one half of all the population of Slovenia. The density of investments and creative occupations can be seen only in six Slovene cities and towns: Ljubljana, Maribor, Celje, Novo mesto, Koper and Kranj, where a half of all investments in Slovenia are located, as well as two fifths of creative occupations, almost a half of work-places in creative occupations and four fifths of all researchers. Elsewhere, due to extreme centrality, the share of investments and creative occupations in comparison to the number of inhabitants is below state average.

Figure 2: Synthesis index of developmental factors in 2007. ►



Indicators of investment activities and the qualifications of human resources, social capital and innovations show, that urban centres stand out, especially the Ljubljana urban region as the most urbanized area in Slovenia. Ljubljana is home to all the ministries of the Republic of Slovenia and the majority of government offices, which means that the city also attracts numerous complementary activities, which are in close correlation with public administration. Ljubljana is therefore also the most attractive centre for building a company, as the close vicinity of administrative bodies enables a smooth information flow among companies and state agencies. As the capital city, Ljubljana has, with its central position, numerous advantages, which strengthen its location attractiveness and with that raise its location value. Seeing that in public administration and in companies with higher added value, the majority of employees have higher education, which guarantees higher wages; this also shows in the income of the city. In 2010 the average gross wage in Ljubljana surpassed the average gross wage in Slovenia by 18.2%. Highly above average is also the gross basis for the personal income tax per inhabitant, which surpasses the state average by 38.9%. As a strong employment centre, Ljubljana has for a long time attracted people from all over the country, also from the bordering areas of Slovenia, as mainly people with the highest levels of education found employment in the Slovene capital.

4 Conclusion and the evaluation of the assessment of developmental factors

The goals of regional politics have for more than four decades been based on the acceleration of the polycentric development. In realizing a balanced polycentric development, the key role is played by the acceleration of diversity of basic economic elements, especially in those urban regions, which are highly dependent on one single activity. The formation of network and partner relationships between Slovene urban regions represents a transformation of current strategies in speeding up regional development. A balanced development in the modern paradigm includes the formation of new relationships between urban and rural areas. What is important is the distribution of knowledge and innovations, which contributes to a higher level of general education and occupational particularities in depressed areas, as a constituent part of combining individual units into bigger areas, with which the minimum standards of accessibility to developmental-innovative generators are met.

Social-cultural conditions, social factors and developmental capabilities, which determine the extent of knowledge, are, from the geographic perspective, unevenly distributed and centered only on some of the biggest Slovene urban agglomerations, which boast technical and social innovations and with that contribute to new economic growth. Contrary to information, which is nowadays accessible in every given moment and in almost all parts of Slovenia, knowledge, creativity and experience, which are connected to concrete creative social groups, are focused mainly on the central part of Slovenia. According to our analysis they focus mainly on six urban regions (Ljubljana, Maribor, Koper, Celje, Kranj and Novo mesto and partly Nova Gorica together with Šempeter), while smaller employment centres and secluded towns are in many cases pushed to the side. Their inhabitants depend on long daily commuting to the aforementioned urban centres.

City regions and their influence areas boast at the same time the spatial distribution of production capacities and especially the centrality of financial and other managerial functions. Striving towards the de-concentration of economic geographic function doesn't reflect only in the spatial distribution of »flexible« work-places of creative occupations, but also in the dispersion of locations with modern technologies. These »laws« are employed mainly with the uneven distribution of human resources, which are also subdued to dispersion, especially regarding the place of residence, which is influenced mainly by infrastructure, the quality of living outside urbane centres, quality information sources and modern factors of attractiveness. Under the pressures of an even competitiveness, cooperation is gaining in its importance.

Slovenia is a country with lots of responsibilities on the level of 12 developmental regions. In real life these regions play a vital part in the establishment of regional politics. Indicators show, that func-

tional reality doesn't follow institutionalized regional borders, which therefore cannot be regarded as real functional areas.

Functional regions are those areas where a great part of daily activities in the field of economic and social activities of citizens and companies intertwine. They are defined by many indicators. The most important are daily migration flows, which surpass the borders of developmental regions, as well as the effects of knowledge flow and economic correlations. More could be done in the field of harmonizing interregional political aspects. Regional politics, based on the flow of knowledge, demands the improvement of cities' competitiveness on the national and regional level, as well as the enforcement of mechanisms for connecting smaller urban centres into a unified urban system. It also strives towards the formation of sustainable »regional« bodies or associations for the strengthening and development of regional awareness and the ability to connect in joint tasks, which leads to the formation of innovative and flexible management regions.

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