Factors Explaining Prosperity: The Case of Slovak Municipalities

MONIKA ŠISEROVÁ, OTO HUDEC

Technická univerzita v Košiciach
Němcovej 32, 040 01 Košice
Slovak Republic
oto.hudec@tuke.sk, monika.siserova@tuke.sk

Abstract

The standard of living as well as the quality of life can be defined in different ways and they are not representable by an unambiguous indicator because of their complexity. Although a possibility of comparison of these two related terms is expected at the level of residents, households, municipalities, regions or countries. The article deals first with suitable methods to measure the standard of living in relation to the quality of life of citizens and households. Thereafter, the Slovak regions (NUTS III) and districts (LAU I) are studied to identify main factors of regional disparities in the quality of life.

The reasoning leads to geography and causalities of prosperous municipalities representing the lowest possible level of settlements, based on the newly-formed Municipal Prosperity Index combining together six sub-indices - financial, social, demographic, infrastructure, transport mobility and civic participation. The cities were excluded from the analysis as their inclusion would clearly deform prosperity measurement of the municipalities, which represent the main object of the article. The spatial autocorrelation of neighbouring municipalities is examined by the Moran test of spatial autocorrelation to show the spill-overs of prosperity. Finally, all the Slovak municipalities are compared via Municipal Prosperity Index and causalities of TOP 25 prosperous municipalities are analysed to show which factors lead the municipalities to prosperity. The strongest impact on prosperity of municipalities has their location – proximity to the capital of the Slovak Republic (8 of the 25), proximity to regional capitals (6 of the 25), the presence of the large manufacturer in their proximity (6 of the 25), tourism (5 of the 25) and the existence of an industrial park in or close to municipality (1 of the 25).

Key words: Standard of Living, Quality of Life, Composite Indicator, Moran test

JEL Classification: **R11** Regional Economic Activity: Growth, Development, Environmental Issues, and Changes,
R12 Size and Spatial Distributions of Regional Economic Activit

1 Introduction

After the World War II, the philosophers, sociologists, politicians and economists started to study the standard of living and the quality of life more deeply. This interest was triggered mainly by the existing income inequalities and the wellbeing of individuals and households. The population growth and economic issues of countries played its role as well. The formation of the Welfare state concept was one of major impulses to study a number of social indicators and wellbeing in general. Households, professions and free time activities have been researched as well (Erickson, 1974).

The concept of the standard of living was brought closer to the idea of the utility function in the last decades. According to this function, wellbeing is influenced by several monetary and non-monetary factors. The standard of living was derived from material goods and the availability of products and services (Davis, 1945). GDP per capita was always the principal indicator of this concept, although there is a permanent critics pointing that if politicians over-evaluate this indicator,

the economic growth would become their goal instead of a balanced human development (Easterlin, 2000). Nowadays the standard of living is perceived as the wellbeing of individuals and households. It reflects an effort the people have to make to meet their needs. It mirrors the physical living conditions of the citizens, goods and services they can effort and resources they have access to (The social report, 2009).

Indicators of national accounts and regional accounts are being used for measuring the standard of living of citizens of countries or particular countries or regions, respectively. Regional accounts represent the regional projection of the national accounts. They reveal hidden distinctions on a regional level by comparing aggregates such as household income or gross value added. Many of these distinctions are suppressed when comparing only countries. Economic activities and population are spread very unequally among regions. Agriculture and quarrying are still typical economic activities for rural regions. In urban regions, the industry and services prevail. Similarly, topics such as population aging, globalisation, poverty, unemployment, innovation, taxation and environment are considered as regional issues (European Commission, 2010). That is one of the reasons why regional accounts have a legitimate place besides national accounts.

Quality of life is a newer and broader term than the standard of living, reflecting also the fulfilment of spiritual and material needs, overlapping terms such as "level of well-being". In the western terminology the word is used in connection to some consequences of rationalism of science and technology. The American economist J. K. Galbraith introduced the term quality of life into social science. Originally the term reflected worsening of the environment. Over the time, the objective approaches to quality of life have led to measuring its level by indicators in the three main areas:

- *Economic indicators,*
- *Objective or social indicators,*
- *Individual wellbeing indicators.*

However, the economic progress is not always hand in hand with several relevant factors such as the absence of crime. In some cases the economic progress may have even a negative influence on free time or healthy environment (Diener – Suh, 1997). However, the increase of the social indicators values correlates usually with the increase in economic indicators.

Western societies are collecting national and regional statistics which can be used to measuring the quality of life or wellbeing of the people (Kerce, 1992). During the last 30 years many approaches were developed in different countries. Some of them focus on specific areas such as health, economy etc. Other approaches take more areas into the consideration and they use for the measurement composite indicators. There exist already a consensus of past scholarly work (Ferriss, 2000), the composite indicators consists of sub-indexes with assigned weights, e.g. QOL – Johnston's Quality of Life index, HDI – Human Development Index, HLE–Veenhoven's Happy Life Expectancy Scale, GNH – Gross National Happiness and many others (Hagertyet al., 2001).

Economic growth and the development of science and technology are perceived as an engine of improving the living standard of citizens. On the other hand, the economic growth may have unpleasant side effects on living conditions and health of people. The both terms of economic growth and living standard are closely related but cannot be replaced mechanically. Hence, one of the research questions of the article is formulated to study the relationship between the standard of living and the quality of life, evaluated at the regional level of Slovakia. Another research question comes from a challenging shift of the living and/or the

quality of life methods of measuring in the in regions to a subtle level of municipalities. There is only a limited pool of statistical data available for the small units.

The number of municipalities in Slovakia is rather high – 2721. The intention is to evaluate a close term of prosperity of all municipalities with exclusion of 159 cities and 11 military districts, i.e. the data on 2551 municipalities is required for the prosperity analysis. Municipal population in Slovakia varies between 10 residents and a couple of thousands; only 16 municipalities reach more than 5 thousands of residents. There is more known about the averaged values for regions (kraj), only partly about the districts (okres) and major towns. Regions and districts are treated in detail in several publications (Halás 2008, Korec, Polonyová2011, Korec, 2003, Matlovič, Matlovičová 2011, Želinský-Stankovičová, 2012).

Given the shortage in statistical data, we define the concept of municipal prosperity. With regards to this limitation, there is still a possibility to combine rather different sources of information and to define and evaluate prosperity of the municipalities instead of quality of life. The term prosperity represents a successful combination of the economic and social factors with the factors of demography, infrastructure, mobility and citizen participation inspired by approaches applied on cities. (Giffinger et al, 2007, Moreno et al, 2013).

2 Data sources, classification and methodology

The standard of living as well as the quality of life can be defined in many different ways and also, because of their multifaceted nature they cannot be represented by one explicit indicator. Nevertheless a possibility of comparison of these two terms is expected at the level of residents, households, municipalities, regions and countries.

2.1 Regional analysis

The analysis of Slovak regions is focused on confronting of the conventional methods to measure standard of living, objective and subjective quality of life. Statistical Office of the Slovak Republic is monitoring a number of indicators of standard of living at the level NUTS III. The basic analysis of standard of living is usually made by the following indicators of regional accounts of households: *regional gross domestic product, regional gross value added, gross fixed capital formation, distribution of primary income of households, distribution of secondary income of households and unemployment rate.*

The indicators of the objective quality of life are taken from the databases of the Statistical Office of the Slovak Republic and from Census of population and housing 2011. Another source of the subjective quality of life data is European Social Survey 2008. Objective (OQL) and subjective (SQL) quality of life indicators are divided into following areas: *subjective well-being, local environment (crime), health, quality of society, work and family and social relations:*

Indices are calculated as the weighted average of the values of the single indicators. The indicators in a data set have different measurement units, so that a normalisation procedure is needed for bringing the indicators into one unit. The min-max normalisation technique is applied transforming the data into (0,1) scale:

$$Ix_i = \frac{(x_i - \min x_i)}{(\max x_i - \min x_i)}$$, if desired direction of change is increase with increasing value of x_i,

$$Ix_i = \frac{(\max x_i - x_i)}{(\max x_i - \min x_i)}$$, if desired direction of change is decrease with increasing value of x_i.

The value 1 represents the best value of the indicator and the value 0 the worst value respectively, where Ix_i= transformed value of the variable x_i, x_i= value of the variable, $max\ x_i$ = the highest value, $min\ x_i$ = the lowest value.

I. wellbeing indicators:
OQL
- *Total net income of households in the regions,*
- *Household deposits in banks (EUR),*

SQL
- *People who would say they are happy (%),*
- *People that live comfortably on present income (%),*

II. local environment (crime) indicators
OQL
- *Number of violent crimes in the region,*
SQL
- *People worrying about becoming a victim of violent crime (%),*

III. health indicators
OQL
- *Number of medical facilities in the region (per capita),*
- *Average percentage of inhabitants on a sick leave in the region,*
SQL
- *The proportion of population hampered in daily activities by illness / disability / infirmary / mental problem (%),*
- *People with a good subjective general health in the region (%),*

IV. quality of society indicators
OQL
- *Average monthly amount of pensions paid,*
- *Unemployment benefits calculated per unit of unemployment rate,*
SQL
- *People having trust in the politicians, the police and the legal system (%),*
- *People satisfied with the way democracy works in country (%),*
- *People positively thinking overall about the standard of living of pensioners (%),*

V. work and family indicators
OQL
- *Unemployment rate,*
- *Average wage in the region,*
SQL
- *People think overall about the opportunities for young people to find their first full-time job in (%),*
- *Total number of hours worked per week including overtime hours (%),*

VI. social relations indicators
OQL
- *Official percentage of divorced,*
SQL
- *People meeting often socially with friends, relatives or work colleagues (%),*
- *People ever been divorced (%).*

2.2 Municipal analysis

The analysis of the Slovak municipalities (cities excluded) is focused on measuring their prosperity. According to Slovak National Council Act on Municipalities no. 369/1990 Coll. as amended, there are three types of municipalities in Slovakia (Nemec et al, 2000):
- the cities of Bratislava and Košice - which are city municipalities with the subdivisions of municipalities,
- the city municipality with a municipal council and lord mayor; The city status corresponds to economic, administrative and cultural centres with the population at least 5,000 inhabitants and represent the urban part of the country,
- standard municipalities, not possessing the city status

The focus of the article is primarily on 2551 standard municipalities and representing non-urban life of Slovakia.

Indicators for the Municipal Prosperity Index have been selected as follows:

I. economy
- Municipality net assets per capita
- Current assets of the municipality
- Total municipal debt per capita
- Statement of financial position of the municipality
- Profit and loss statement of the municipality per capita

- Number of firms per capita

II. demography
- Highest level of education attained
- Total increase/decrease of population in the municipality
- Average age in the municipality
- Aging index in the municipality

III. social factors
- The registered unemployment rate in the municipality,
- Number of residents that receive benefits in material need in the municipality per capita

IV. mobility
- The presence of bus station in the municipality,
- The presence of train station in the municipality

V. citizen participation
- Voter turnout in the parliamentary elections in 2012

VI. infrastructure
- The presence of sewerage system
- The presence of gas connections in the municipality

According to shortage of statistical data on the municipalities, the only possibility is to combine manifold sources of information to be able to define and evaluate prosperity of the municipalities. Hence, data on municipalities are gathered from the database of INEKO (Institute for Economic and Social Reforms), the offices of the Ministry of Labour, Social Affairs and Family, Census of population and housing in 2011 and from the Urban and Municipal Statistics Information System provided by the Statistical Office of the Slovak Republic. Each indicator value is calculated in the same way as for regions and districts. Afterwards the indicators are assigned weights as follows:

A. Economy – 0,4
B. Social factors – 0,3
C. Demography – 0,2
D. Mobility – 0,1
E. Citizen participation – 0,1
F. Infrastructure – 0,1

The method of weighted sum of order was used to determine the final composite index. According to this method, the value for a municipality (*i*) is being calculated by the formula: $y_i = \sum_{j=1}^{k} I_{ij} . w_j$, where I_{ij} is the normalised value of the factor *j* for a municipality *i* and w_j is the weight of the factor *j* (OECD, 2008). The resulting Municipal Prosperity Index enables comparison and ranking of the municipalities and to identify main factors of their prosperity.

3 Analysis of Standard of Living and Quality of Life at the Levels NUTS III and LAU 1

The following table shows the calculated indices of living standards, subjective and objective quality of life of the citizens of Slovak regions:

The table shows that the highest standard of living is in the Bratislava region (the value of standard of living index = 100%). Bratislava region is the region with the best values of indicators, which in most cases exceeds twice the value of other regions. In Slovakia, there is a sharp regional difference in the standard of living between the Bratislava region and the rest of the regions. An example of disparities is the unemployment rate between BSK– Bratislava region (5.41%) and BBSK-Banská Bystrica region

TABLE 1 Standard of living and Quality of life indices in the Slovak regions (in %)

	Standard of living index	Subjective quality of life index	Objective quality of life index
BSK	100	53	88
TTSK	24	77	41
TSK	17	49	39
NSK	18	61	29
ZSK	23	72	32
BBSK	4	41	15
PSK	5	59	19
KSK	16	58	23
Average	**26**	**59**	**35**

Source: Eurostat, SOSR, SODB 2011, ESS, own processing

BSK – Bratislava region   *ZSK – Žilina region*
TTSK – Trnava region   *BBSK – BanskáBystrica region*
TSK – Trenčín region   *PSK – Prešov region*
NSK – Nitra region   *KSK – Košice region*

(19.83%). Three regions with the highest unemployment rate are Banská Bystrica, Prešov and Košice regions with the values appr. 19%. Region with the lowest standard of living index is BBSK – Banská Bystrica region.

Curiously, the best value in the subjective quality of life index has TTSK- Trnava region with the index value of 77, the lowest subjective quality of life index is again observed in BBSK-41. The point is, supported by the analysis, that the objective quality of life may significantly differ from the subjective quality of life. The biggest difference between the subjective and objective comparisons is in the making ends meet and net household income. As an example, in TTSK, households have the second highest total net income, but the subjective opinion of the people living there shows a difficulty to make ends meet. Similarly, in health and crime, the highest rate of violent crime is in BBSK, but subjectively citizens of Bratislava region worry the most about becoming a victim of violent crime. Correlation index (Spearman's rank correlation coefficient) between standard of living and subjective quality of life is only 0.5 (FIGURE 1).

Bratislava region differs markedly from the other Slovak regions, so a closer relationship can be visible when skipping it from the sample. Also, BSK citizens have a tendency to compare their quality of life with cities such as Vienna or Prague. Indeed the value of the Spearman's coefficient is **0.8571,** showing much higher correlation between the objective and subjective measures without BSK.

FIGURE 1 **Relation between the standard of living index and subjective quality of life index**
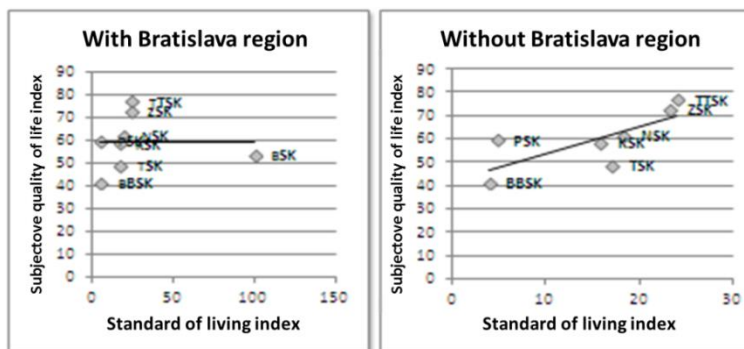
Source: ŠÚSR, ESS, own processing

FIGURE 2 **Relation between the standard of living index and objectove quality of life index**
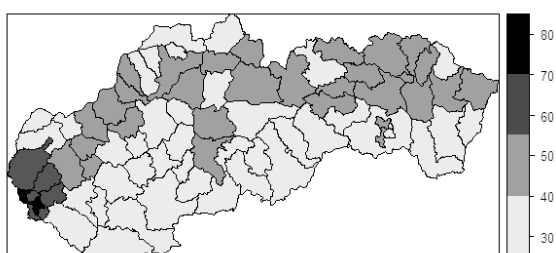
Correlation between standard of living and objective quality of life is higher than **0.9.** In this case, the removal of the Bratislava region does not have an influence –of the Spearman's coefficient is **0.8929** (FIGURE 2).
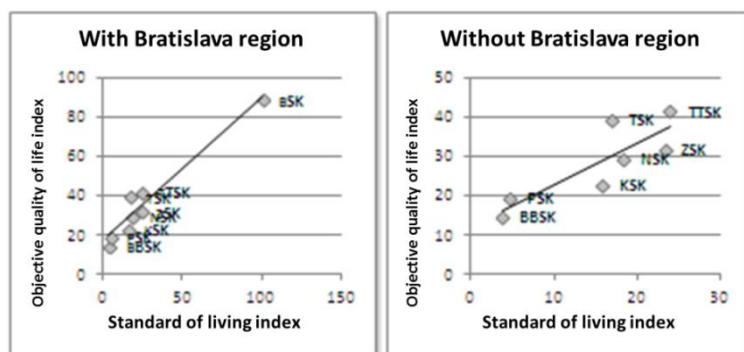
Source: ŠÚSR, own processing

Quality of life in Slovakia at the level LAU 1

MAP 1 Objective quality of life in Slovak districts

Source: Eurostat, SOSR, SODB 2011, own processing

Districts (LAU 1) constitute 79 administrative units between the regional and municipal levels, named after the biggest town in the district. This suggests the core-periphery position, with exception of the capital of Bratislava being divided into 5 districts and the city of Košice into 4 districts. The cluster analysis of quality of

life index at the district level resulted in four clusters as it can be seen on the Map 1:

Bratislava I and Bratislava II form the first cluster with the highest value of the objective quality of life above 70. The second clusters with the values in the range of 55 – 70 are located around the first cluster districts: Bratislava III, IV and V, Senec, Pezinok and Malacky. The third cluster corresponds to district with the values between 40 and 55. The map shows a curve from the southwest to north east, from Trnava as far as to Snina district. Districts with the lowest quality of life form a long strip in the Southern Slovakia and a few of them are districts at the border with Poland or Czech Republic.

Causalities of the prosperous regions can be explained according to theory of cumulative causation (Myrdal, 1957, Hirschman, 1958). Regional disparities are supposed to be caused by two opposing forces – spread and backwash effects. Bratislava, the capital city of Slovakia, is clearly a growth pole influencing positively neighbouring regions – districts. Backwash effect means persisting stagnation of peripheral regions caused by development of the core region. An example of backwash effect can be identified with the second biggest city of Slovakia, Košice. Its neighbouring district Košice – okolie remains among the districts with the lowest quality of life in Slovakia.

4 Analysis of Prosperous Municipalities of Slovakia

The indicators of the Municipal Prosperity Index (MPI) serve to comparison and ranking of the municipalities as well as to identification of the main prosperity factors. The sub-indices Economy, Social factors, Demography, Mobility, Citizen Participation and Infrastructure help to explain different facets of prosperity. The following Table 2 contains 25 municipalities of Slovakia with the highest prosperity rankings –MPI value. Municipalities are differentiated by the colour referring to regions they belong and also the abbreviation of their district is in the brackets.
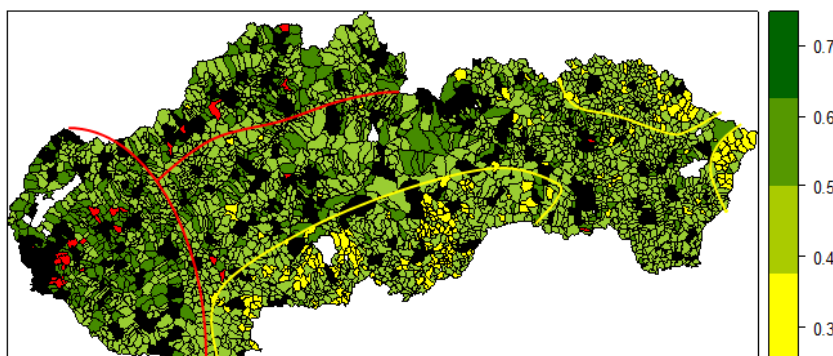
TABLE 2   Top 25 municipalities in Slovakia

Top 25 municipalities in Slovakia				
1. Dunajská Lužná (SC)	6. Miloslavov (SC)	11. Trenčianska Turná (TN)	16. Beluša (PU)	21. Hurbanova Ves (SC)
2. Chorvátsky Grob (SC)	7. Kechnec (KS)	12. Varín (ZA)	17. Kalná nad Hronom (LV)	22. Krahule (ZH)
3. Ivanka pri Dunaji (SC)	8. Pečeňady (PN)	13. Marianka (MA)	18. Šelpice (TT)	23. Ľubotice (PO)
4. Bernolákovo (SC)	9. Boleráz (TT)	14. Šenkvice (PK)	19. Brestovany (TT)	24. Trenčianska Teplá (TN)
5. Jaslovské Bohunice (TT)	10. Rovinka (SC)	15. Malinovo (SC)	20. Čierne (CA)	25. Báhoň (PK)

Source: Analysis results, own processing

The following map reveals all Slovak municipalities capturing geographical relations. The dark space belongs to city municipalities and military districts which are not a part of the research. The colour from yellow to green represents the scale of municipal prosperity from its lowest level to maximum prosperity. The TOP 25 prosperous municipalities are noted in red.

The most of the TOP 25 prosperous municipalities are located near

MAP 3   Municipalities of Slovakia by their prosperity – concentration

Source: own processing

Bratislava and along the Váh River. The least prosperous municipalities are located in the south and northeast, what corresponds to previous research at the district level (Korec, 2003, Želinský - Stankovičová, 2012).

The analysis at the lowest possible municipal level is showing several new trends, hidden at the upper territorial levels (MAP 3). There is a vivid spread of prosperity from Bratislava to broader region than observed before. Also, mountainous municipalities in the north-central part of Slovakia are getting more prosperous than the average in Slovakia.

The mutual proximity of the municipalities is appearing in the map as an important aspect of prosperity. **Moran spatial autocorrelation coefficient** was used to analyse the spatial dependence between the neighbouring municipalities. Moran coefficient is set by the formula:

$$I = \frac{N}{\sum_i \sum_j w_{ij}} \frac{\sum_i \sum_j w_{ij}(x_i - \bar{x})(x_j - \bar{x})}{\sum_i (x_i - \bar{x})^2} \qquad \text{where:}$$

N is the number of municipalities,

w_{ij} denotes spatial weights:

$w_{ij} = 1$, if municipalities i and j share border,

$w_{ij} = 0$, if municipalities i and j do not share borders,

x_i is the value of the observed phenomenon in the municipality i,

x_j is the value of the observed phenomenon in the municipality j,

$\bar{x}$ is the arithmetic mean of the variable x.

Moran spatial autocorrelation coefficient can have values in the interval (-1; 1). Positive value indicates clustering of the municipalities with similar level of prosperity. The corresponding hypotheses H0 and H1 say:

H0: There is no spatial clustering of the prosperity values (spatial distribution of prosperity is random.

H1: There is a positive autocorrelation; there are spatial clusters of similar level of prosperity.

The value of Moran spatial autocorrelation coefficient is I = 0.227, showing positive autocorrelation among municipalities (neighbouring municipalities have similar values of prosperity). The positive autocorrelation is obvious from the Map 3.

The MPI can be aggregated at the district level as the average MPI district value. In this way, a map of district prosperity can be constructed. The most prosperous municipalities are concentrated in the districts Senec, Trnava, Pezinok and Malacky. Their average MPI value is 0.52 and they are in dark green on the following Map 4.The least prosperous municipalities are located in the districts Revúca, Rimavská Sobota and Medzilaborce with average value MPI0.37, coloured in yellow.

MAP 4 Districts of Slovakia by prosperity of municipalities
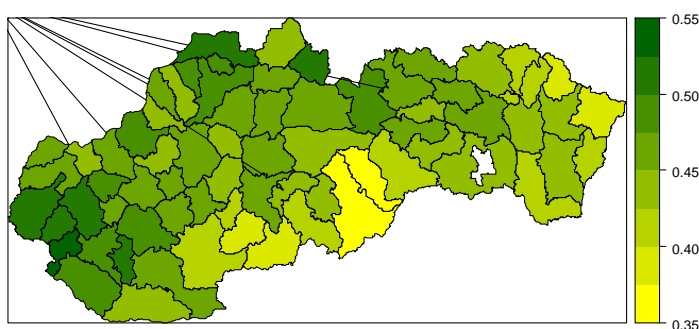
Source: own processing

First, the districts with the highest concentration of prosperous municipalities have a good strategic position towards the capital city of Slovakia. The most advanced industries are automotive (PSA Slovakia in Trnava) and the heavy industry related to the automotive production (e.g. technological park Záhorie – Eurovalley near Malacky and Plavecký Štvrtok). The five biggest firms employ approximately 11% of working population in these

districts. The average registered unemployment rate is 7.01% and the education level above average. Also tourism and agriculture are well developed. The road infrastructure density is 20%, above the average of the country. The density of highways is 169% above the average. On the contrary, the districts with the least prosperous municipalities are located in the regions with a limited possibility to run a business. Their location is in the mountain area with a low quality of the road infrastructure. The average density of the road network is 12% and the density of highways 54% is rather below the average of the country. There is high unemployment rate (average registered unemployment rate is 27%) and low level of education. This goes hand in hand with the migration of workers to advanced regions of Slovakia or abroad.

Causalities of the prosperous municipalities

Analysis of the most prosperous (TOP 25) municipalities results in five most important causalities: proximity to the capital of the country, proximity to regional capital, the presence of an industrial park in the municipality or in its proximity, the presence of a large manufacturer in the municipality or its proximity and tourism (Figure 3). In some case there is a combination of several factors.

Bratislava, the capital of the country, has a strong spread effect - 8 of 25 prosperous municipalities are located in its neighbourhood (7 municipalities in the Senec and 1 in the Malacky district). The distance to Bratislava ranges between 15.9 km (Rovinka) and 23.6 km

FIGURE 3   **Causalities of the prosperous municipalities in the**

Source: own processing

(Chorvátsky Grob). The following 6 of 25 villages are located near the regional capital. The distance from a municipality to the regional capital is always less than 15 km. A rather singular example is the municipality Kechnec, which has built an industrial park on its territory and now belongs to TOP 25 municipalities with excellent values of economic and social indicators.

A large manufacturer gave a rise to prosperity in 6 municipalities. Jaslovské Bohunice, Pečeňady and Kalná nad Hronom have a nuclear power station at a distance. Varín is located nearby the large automotive company Kia Motors Slovakia, Marianka nearby Volkswagen Slovakia and Rovinka at the chemical and petroleum refinery Slovnaft.

Tourism and history explain prosperity in 5 municipalities: Varín, Beluša, Čierne, Krahule and Hurbanova Ves. For example, Čierne in nor this an intersection the borders of three countries, Krahule is well-known ski centre.

The opposite question can be stated - is the location near the capital city or regional capital already a kind of warranty for municipal prosperity? The municipalities located up to 20 km to Bratislava belong to the group of 5.6% of the most prosperous municipalities, with the average rank of 39. The same approach applied to regional capitals (without Bratislava) is not so positive – the average rank of the municipalities within 20 km is 540. Among the regional capitals, the best municipal location is nearby Trnava and Banská Bystrica. The largest companies indeed help to prosperity of the municipalities in their surroundings. The average rank of those municipalities is 282. The industrial parks do not represent a significant factor of prosperity of the municipalities in their proximity – the average rank is only 905.The
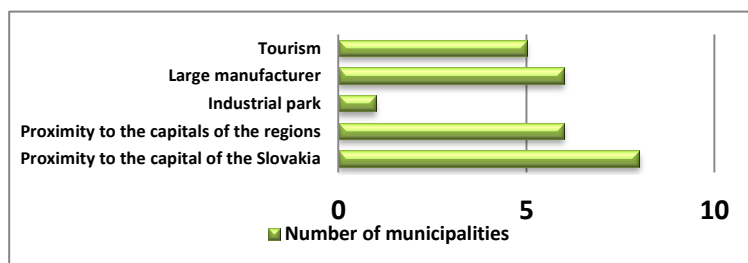
tourism factor can be documented on the municipalities of the district Poprad, which are at the mountain range of the High Tatra - the average rank of the municipalities is 471.

5 Conclusion

The standard of living and quality of life represent a long-lasting effort to evaluate well-being, happiness of the people and households. Both subjective as well as objective quality of life requires clear definitions and reliable data. This is unfortunately not easy at the level of regions, districts and municipalities. Several questions of that kind are answered in the article. The indices of standard of living, objective and subjective quality of life are defined and applied on the Slovak regions and an association of meaning of all three terms is studied. Existing data can hardly serve for realisation of the same approach at the lower territorial levels. This is why a new term of municipal and district prosperity is defined, based on mixed but reliable sources of data.

The cluster analysis of 79 districts made possible to show the Slovak geography of prosperity, as well as to identify spread and backwash effects. Districts with the higher prosperity are mostly located in the western and northern part of Slovakia, what brings a small spatial shift in comparison to previous studies.

The most important part of the paper is focused on the prosperity of 2551 municipalities, without considering city municipalities. The research of their prosperity has shown new patterns on the map of prosperity in Slovakia and identified the main factors of municipal prosperity, on the basis of their proximity to the capital of the country, the regional capital, large manufacturer, nuclear power station, tourist attractions or industrial park.

Acknowledgements

References

ALLARDT, E. 1978. The relationship between objective and subjective measures in the light of a comparative study, in R. F. Tomassen (ed.). In: *Comparative Studies in Sociology* (Greenwich, CT: JAI Press), p. 1.

CUMMINS, R. A., ANDELMAN, R., BOARD, R., CARMAN, L. L., FERRISS, A., FRIEDMAN, P., MICHALOS, A., SAMLI, J., SHAPIRO, S., SIRGY, J., VITTERSO, J. and VEENHOVEN, R. 1998. Quality of life definition and terminology: A discussion document from the International Society for Quality of Life Studies. In: *The International Society for Quality-of-Life Studies* (ISQOLS).

DAVIS, J. S. 1945. Standard and Content of Living. In: *American Economic Review*. March XXXV: 1, pp. 1 – 15.

DIENER, E. 1994. Assessing subjective well-being: Progress and opportunities. In: *Social Indicators Research* 31, pp. 103–157.

DIENER, E. 1995. A value based index for measuring national quality of life. In: *Social Indicators Research* 36, pp. 107–127.

DIENER, E., SUH, E. 1997. Measuring Quality of Life: Economic, Social and Subjective Indicators. In: *Social Indicators Research*, Vol. 40, Iss. 1, pp. 189 – 216.

EASTERLIN, R. A. 2000. The Worldwide Standard of Living since 1800. In: *The Journal of Economic Perspectives*, Vol. 14, No. 1 (Winter, 2000), pp. 7 – 26.

ERICKSON, R. 1974. Welfare as a planning goal. In: *Acta Sociologica.*

EUROPEAN COMMISSION 2010. Europe 2020: A European strategy for smart, sustainable and inclusive growth.

FERRISS, A. L. 2001. The Domains of the Quality of Life. *Bulletin de méthodologie sociologique* 72: 5 – 19.

GALBRAITH, J. K. 1958. The Affluent Society. In: *Houghton Mifflin*.

GIFFINGER, R., FERTNER, C., KRAMAR, H., KALASEK, R., PICHLER-MILANOVIC, N. and MEIJERS, E. 2007. Smart Cities: Ranking of European medium-sized cities. *Vienna University of Technology*.

HAGERTY, M. R., CUMMINS, R. A., FERRISS, A. L., LAND, K., MICHALOS, A. C., PETERSON, M., SHARPE, A., SIRGY, J. and VOGEL, J. 2001. Quality of Life Indexes for National Policy: Review and Agenda for Research. In: *Social Indicators Research*, Vol. 40, Iss. 1, pp. 1 – 96.

HALÁS, M. 2008. Priestorová polarizácia spoločnosti s detailným pohľadom na periférne regióny Slovenska. *Sociologický časopis / Czech Sociological Review*, vol. 44, iss. 2, pp. 349-369

KERCE, E. W. 1992. Quality of life: Meaning, measurement, and models (TN-92-15). San Diego: Navy Personnel Research and Development Center.

KOREC, P., POLONYOVÁ, E. 2011. Zaostávajúce regióny Slovenska - pokus o identifikáciu a poukázanie na príčiny. In *Acta Geographica Universitatis Comenianae*, ISSN 1338-6034. vol. 55, no. 2, s. 189.

KOREC, P. 2003. Population development, urbanization and regional disparities of Slovakia. Acta Uniersitatis Carolinae: Geographica, vol. 38, iss. 1, pp. 167-180.The Social Report 2009 (2009). Economic standard of living.

OECD 2008. Handbook on Constructing Composite Indicators: Methodology and User Guide.

MATLOVIČ, R., MATLOVIČOVÁ, K. 2011. Regionálne disparity a ich riešenie na Slovensku v rozličných kontextoch. Acta facultatis studiorum humanitatis et naturae Universitatis Prešoviensis, Prírodné vedy r.53. In *Folia geographica* 18. Vydavateľstvo Prešovskej univerzity, Prešov, s.8-88**.**

MORENO, E. L. et al 2013. State of the World's Cities 2012/2013: Prosperity of Cities. UN-Habitat. In *New York: Routledge*, 184 pp.

NEMEC, J., BERCIK, P. and KUKLIS, P. 2000. 'Local Government in Slovakia', in: HORVÁTH, M. T. (ed.) Decentralization: Experiments and Reforms. Local Governments in Central and Eastern Europe, 1. Budapest: Local Government and Public Service Reform. Inititiative, Open Society Institute.

The Social Report (2009). Economic standard of living. The Ministry of Social Development, New Zealand. Online: <www.socialreport.msd.govt.nz>.

ŽELINSKÝ, T., STANKOVIČOVÁ, I. 2012. Spatial Aspects of Poverty in Slovakia. *The 6th International Days of Statistics and Economics*, Prague, 1228-1235.