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COMPOSITE INDICATOR IN EVALUATION OF THE REGIONAL DISPARITIES IN QUALITY OF LIFE IN THE CZECH REPUBLIC

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Abstract

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Differences in quality of life and in the conditions for life between regions are affected by many factors that can be described by many partial indicators. The paper has in principle been aimed at quantification and a complex assessment of the positions of districts as seen from the viewpoint of a composite indicator. The composite indicator was designed and computed based on a wide spectrum of partial indicators describing regional disparities in the conditions for life of CR population. Computations were done based on data from the CR districts as administered according to the 2010 state of territorial distribution of the Republic. Various ways of design of composite indicators bring along plenty of discussion. A design of one dimensionless aggregated indicator always is based on an intuitive approach of the researcher and it brings about a lot of advantages as well as disadvantages. The main positive property is considered to be the chance of a fast and clear comparison of the areas under study. The disadvantages of the aggregated expression of quality of life as based on one only indicator arise from the great simplification of reality and the omission of differences between partial facts under study. The conclusions of the paper will be aimed at the design of a composite measure to be employed in complex analysis of the quality of life key indicators' mutual interactions. The conclusions' presentation will be done using cartographic maps offering a suitable device for visual overview of the disparities discovered.

quality of life, GDP, district, composite indicator, point method, cartographic map, SPSS

The life quality concept is very abstract, affected by many factors that perform in a long-term way and also conflict-wise, sometimes. A key condition for the life quality concept is the feeling of well-being coming from the feeling of physical, mental and social balancedness of every individual. It means then that the life quality feeling depends on the subjective perception of life's reality (Svobodová, 2008).

In the seventies of the 20th century economists began warning that the prevailing interpretation of economic activity as an aggregated measure of life quality is not correct and the economic development of an area under study cannot be based only on the economic growth as measured by GDP expressing the market value of final goods and services produced in the given country over a period. The one-sided approach paying attention to economic activities only, is subject to discussions and studies. These are aimed at designing a composite index apt to measure not the economic growth only, but the development and quality of life, too (Syrovátka, 2008).

A unified, reliable and satisfactory to the professionals from various branches indicator of life quality measurement does not exist so far, due to varying approaches to this spectrum of problems. Nowadays, professionals agree that the definition of the life quality concept and the choice of a measuring device depend on the purpose of measurement (Pipeková, 2006).

The need for improvement of data and indicators helping to complement GDP is being more and more accepted and is the focus of attention of many

international initiatives. In November 2007 the European Commission (together with European Parliament, Club of Rome, World Wildlife Fund, WWF, and Organization for Economic Co-operation and Development, OECD) organized the „Beyond GDP" conference. Policy designers, experts in economics, social matters and environment and civil society representatives expressed their efforts to prepare indicators apt to complement GDP.

Among the most renowned indicators that are considered alternative to the traditional evaluation of a country by its economic performance (GDP) there are: Human Development Index, Index of Economic Freedom, Index of Sustainable Economic Welfare and Global Competitiveness Index. Within the area of sustainable development, the aggregate indicators are rarely used mainly due to their wide scope as well as the complexity of the issues described. It makes the production of a complex indicator quite difficult and may cause methodological ambiguities as well. As a representative of these indicators, it is possible to mention for example: Environmental Sustainability Index and Sustainable Development Index (Mederly *et al.*, 2004).

The shift from the measurement of production to the measurement of disparities in incomes, levels of consumption and accessible household resources affecting quality of life, was also published in the report of the UNDP Stiglitz-Sen-Fitoussi Commission. This "Commission on the Measurement of Economic Performance and Social Progress" was established in 2008 on the initiative of French President Sarkozy and it was aimed at facilitating the solution of complementing the GDP as an indicator of economic performance and social progress. The research task of the Commission was an assessment, what additional information was to be collected in order to obtain more complex indicators of social progress and what alternative devices were to be made accessible for the measurement and appropriate presentation of statistical information (Stiglitz, 2009).

In the report of the Commission, differentiation is suggested for the quality of life of current generation as to sustainability of life of the generations following, i.e., to measure stocks of physical, natural, human and social capital. According to the Commission, quality of human life depends not only on economic resources, but on the public sector services, too, inclusive of education, medical and social services, security of public spaces, accessibility of accommodation, employment levels etc. (Čáslavka, 2010).

The paper presented is aimed at a complex assessment of districts' positions as to the regional disparities, based on the defined composite indicators that are determinative for the assessment of the quality of life in a given period. The complex assessment of the districts' positions is based on the computation of a composite indicator that is derived from a wide spectrum of partial indicators, thereby reflecting interests of the population as to economic levels, social justice and environment protection as all of these are vital for the quality of life.

Composite indicators are becoming more and more popular thanks to their capability to describe complex concepts, such as sustainability, prosperity, accessibility of European internal market, etc. Process of construction of a composite indicator is composed of several decision making stages: selection of partial indicators, selection of model, decision on the weights for the separate indicators, missing data problem solution, etc. Within each of the stages a subjective decision making moment arrives, whereby the final outcome of the procedure design is influenced (Saltelli *et al.*, 2005).

MATERIALS AND METHODS

As a fundamental source of information for the definition of elementary indicators of life quality, served Czech Statistical Office 2010 statistics. The starting level for study of regional disparities was the arrangement at the level of districts (NUTS4) minus Capital Prague. Selection of indicators was based on descriptors from the Strategy of CR Regional Development and also on development documents of the separate CR administrative Regions that have been applied when designing the regional disparities assessment methodology. Based on these documents, the indicators have been subdivided into three topical domains: the Economic, the Social and the Environmental Domain. All in all 28 indicators were selected from the total broad supply of relevant indicators, using correlation analysis and principal component analysis as criteria (Jindrová, Poláčková, 2012). The 28 indicators then were employed in the design of partial synthetized indicators for separate domains and in the final process of computation of one composite indicator.

The design of one composite indicator (SI) is one of the possible ways how to create a necessary instrument for assessment and planning of regional policies, aimed at regional development and reduction of regional disparities in the quality of life and conditions for life of the population within a given area.

In general, the composite or aggregated indicator can be presented as an indicator derived from a set of variables and one produced by aggregation of individual indicators into one indicator using the model chosen.

Methods employed in the design of aggregated indicators include direct aggregation techniques as well as methods used in data purification, modification, statistical processing and, last but not least, checking of the outcomes obtained and presentation of these. A well designed aggregated indicator should always summarize partial trends as well as antagonistic ways of development of partial components and factors. In the construction of a composite indicator it is important to apply correct definitions of the quantities measured and all

knowledge concerning inner links of the problem studied (Hrach, Mihola, 2006).

There is no unique approach available or recommended for the design of such an aggregated indicator of the quality of life that could facilitate the assessment of differences between regions. A starting point for the aggregated indicator construction methods is the matrix of subjects (a community, region, state) and their partial indicators. The aggregated indicator can be designed either in unweighted or in weighted format. In the unweighted format, every indicator enters computation of the aggregated indicator bearing equal weight. In the weighted format have the separate indicators got their own weights according to the method chosen.

Saisana and Tarantola (2002) offer several basic types of aggregation techniques considered to be representatives of the elementary aggregation methods. A more detailed information on the separate methods and their applications in the index design can be found in „State-of-the-art Report on Current Methodologies and Practices for Composite Indicator Development" by the authors cited above.

The paper presented here has applied the point method for quantification of regional disparities at district levels; the same method had been applied by authors Dufek and Minařík (2010) for the development potential index computation.

The point method is based on finding of the region where the analyzed indicator, included into the assessment, has reached the maximal value (in case, growth of the indicator is considered a progressive event – positive effect) or the minimal value (in case, progress happens in the moment, when the value of the indicator is falling – negative effect). In case, the index attains value 1, the region's development is valued as an average one. Values above 1 mean an above-average assessment, values below 1 signal the development to be below average (Minařík, 2010).

$$SI = \frac{\sum_{i=1}^{n} b_{ij} v_i}{\frac{\sum_{i=1}^{n}\sum_{j=1}^{m} b_{ij} v_i}{m}}, \quad (1)$$

where

b_{ij} ..... i-th indicator point value; $i = 1, \ldots, n$, and j-th object; $j = 1, \ldots, m$,
n ..... number of indicators,
m ..... number of objects (regions),
x_{ij} ..... original value of i-th indicator for j-th object,
x_{max} .... maximal value of i-th indicator,
x_{min} .... minimal value of i-th indicator,
v_i ..... weight of i-th indicator.

The point value b_{ij} is equal to:

$$b_{ij} = \frac{x_{ij} - x_{\min}}{x_{\max} - x_{\min}} \text{ in case of positive effect,} \quad (2)$$

$$b_{ij} = \frac{x_{\max} - x_{ij}}{x_{\max} - x_{\min}} \text{ in case of negative effect.} \quad (3)$$

Weighting is the process of assigning preferences to partial indicators, participating in the design of the aggregate indicator. In our case, that method has been used for establishing the weights, which is based on the principal component method results. To establish the weight, the highest correlation value with one chosen component was used, and the variance proportion explained by the component. The weights can attain values from the interval ⟨0 ; 1⟩ (Hlavsa, 2010).

$$v_i = |r_{is}| \times var_s, \quad (4)$$

v_i ..... weight for the i-th indicator; $i = 1, \ldots, m$,
m ..... number of indicators,
$|r_{is}|$ ... absolute value of correlation coefficient of i-th indicator with s-th component, $s = 1, \ldots, n$,
r ..... number of principal components chosen,
s ..... the chosen component correlating with j-th indicator,
var_s .... proportion of explained variance by s-th component.

Mutual assessment of selected districts as separate entities is very complicated since a high number of territorial units is to be compared. Therefore, in order to better visualize the differences between regions, cartographic maps have been chosen, facilitating to express distribution of the phenomena studied within the district's territory intuitively and in complex, and setting a basis for considerably complex an approach towards identification of regional disparities.

During the construction of indicators the authors started from grouping of values of separate indexes in groups. Number of intervals was stated according to the standard rules. The width of intervals always was re-calculated according to real values of the indexes and it was based on computation of variation range ($R = x_{max} - x_{min}$).

Assessment of disparities in the quality of life was subdivided in the separate domains and in the end an aggregate indicator was computed for all the domains together.

RESULTS AND DISCUSSION

Based on the findings obtained, construction of partial composite indicators started for the separate domains of study and these were consequently employed in the construction of the total aggregate indicator.

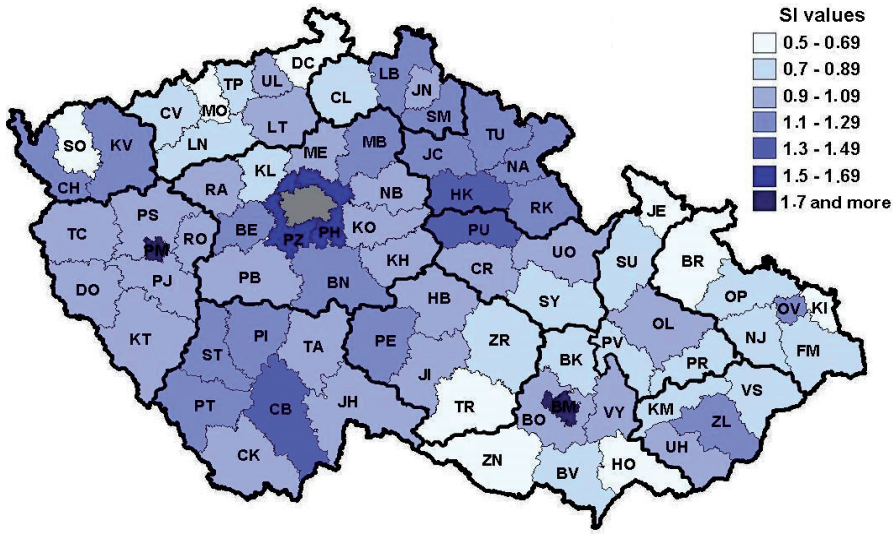
For the **Economic Domain** the order of districts was established and the disparities in quality of life quantified based on the ten indicators as given in Tab. I, together with their weights.

Presentation of the results of composite indicator values was done using cartographic map (Fig. 1). A disadvantage of this way of presentation is the fact that values of the partial aggregated indicators were

I: *Economic Domain indicators and weights*

Indicators	Weight	Units
Railway network density	0.171	%
Other transport areas density	0.145	%
Number of persons travelling to place of job over 60 minutes/day	0.079	per 1000 inhabitants
Unemployment rate – females	0.219	%
Average length of registration at Employment Office – males	0.159	days
Number of job candidates per one vacancy	0.211	persons
Number of subjects without employees	0.229	per 1000 inhabitants
Number of subjects with 1–9 employees – microfirms	0.212	per 1000 inhabitants
Number of registered entrepreneur units – persons	0.232	per 1000 inhabitants
Number of vacancies for graduates and youngsters	0.229	per 1000 inhabitants

Source: own computation



1: *SI – Economic Domain*
Source: own computation

organized by intervals, hence, it is not possible to obtain values of concrete indicators from the map and relative expression of those is available only.

This finding served a starting point for further presentation of composite indicators in the form of a table offering actual values of the partial composite indicators and the order of districts, too, obtained according to the values of indexes.

However, due to the large volume of data (76 districts) only an incomplete Tab. II was prepared containing those districts only, having the highest and lowest values of the indexes computed, in order to offer an idea about the levels.

For a possible comparison in more detail, also the districts situated at an average level of the aggregated values of the indicators under study were included in the table. Considering these values it is possible to determine, too, how many districts fall into the group of those above average and how many into those below average. In the group of districts with favourable conditions for life, as the indicators for the Economic Domain refer, mostly those districts belong, that are situated close to big cities. These are the districts Brno-město, Plzeň-město, Praha-západ, České Budějovice, etc. As it is typical for these districts, they have a fully developed infrastructure and enough job chances. The developed labour market facilitates gaining a higher financial appreciation by people and this is positively reflected in the quality of their life. As concerns values comparison of the partial indicators, the values are very distant from the average 1 value.

Districts having an average value of the partial composite indicator are situated mostly in Plzeňský and Středočeský Regions. Moravia is represented by two districts showing average values of this index – these are the Uherské Hradiště and Olomouc districts. It is obvious from the original data matrix of all indicators that all the districts given above fluctuate, with a smaller or larger variation of all the key indicators under study, around the average and that it is not possible to determine their delimitation within the indicators studied; this supports their placement in the middle of the ladder as correct.

A very low value of the partial indicator is seen at the less developed districts including Bruntál,

II: *Order (O) of the districts selected based on the SI values for the separate domains*

Economic Domain			Social Domain			Environmental Domain		
District	**SIe**	**O**	**District**	**SIs**	**O**	**District**	**SIen**	**O**
Brno-město	1.851	1	Praha-západ	1.634	1	Jablonec n. N.	1.448	1
Plzeň-město	1.778	2	Brno-město	1.588	2	Brno-město	1.330	2
Praha-západ	1.603	3	Plzeň-město	1.561	3	Děčín	1.287	3
Praha-východ	1.502	4	České Budějovice	1.511	4	Vsetín	1.277	4
Č. Budějovice	1.396	5	Hradec Králové	1.509	5	Frýdek-Místek	1.274	5
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Brno-venkov	1.028	33	Mělník	1.019	27	Plzeň-jih	1.022	29
Plzeň-jih	1.026	34	Jablonec n. Nisou	1.011	28	Trutnov	1.021	30
Uher. Hradiště	1.021	35	Kolín	1.009	29	Rokycany	1.003	31
Plzeň-sever	1.014	36	Ostrava-město	1.001	30	Třebíč	1.003	32
Domažlice	1.010	37	Semily	1.000	31	Rakovník	1.002	33
Rakovník	0.995	38	Ústí nad Orlicí	0.996	32	Svitavy	0.998	34
Tábor	0.993	39	Plzeň-jih	0,995	33	Domažlice	0.996	35
Chrudim	0.991	40	Domažlice	0.993	34	Semily	0.992	36
Olomouc	0.983	41	Jindřichův Hradec	0.990	35	Ostrava-město	0.985	37
Č. Krumlov	0.968	42	Prachatice	0.990	36	Karviná	0.984	38
.	.	.	.	.	.	.	.	.
Děčín	0.601	72	Teplice	0.715	72	Kladno	0.780	72
Jeseník	0.577	73	Bruntál	0.699	73	Kolín	0.775	73
Most	0.567	74	Hodonín	0.692	74	Most	0.765	74
Karviná	0.529	75	Karviná	0.692	75	Nymburk	0.762	75
Bruntál	0.526	76	Jeseník	0.631	76	Mělník	0.757	76

Source: own computation

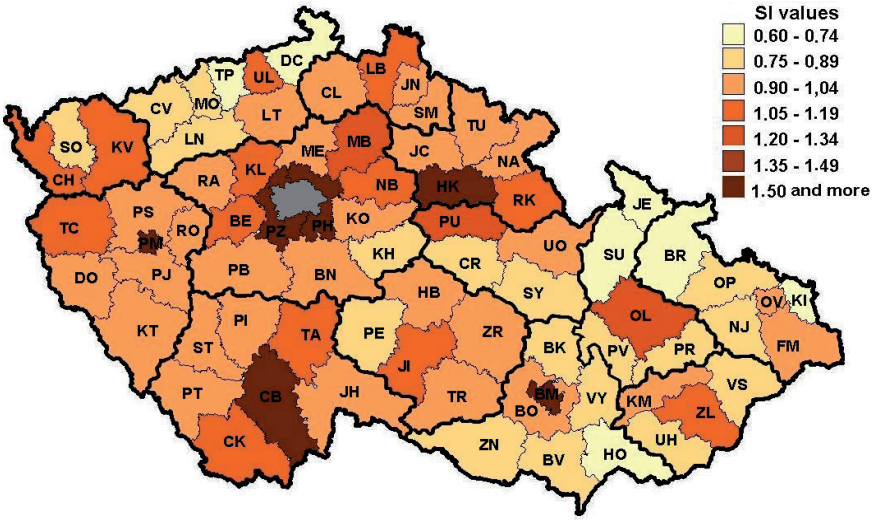
III: *Social Domain indicators and weights*

Indicators	Weight	Units
Population density	0.173	inhabitants/km^2
Natural increase	0.199	per 1000 inhabitants
Index of age	0.173	%
Number of medical staff	0.197	per 1000 inhabitants
Number of dentists	0.194	per 1000 inhabitants
Number of medical specialists	0,178	per 1000 inhabitants
Average pension	0.187	CZK
Quotient of University graduates	0.212	%
Quotient of journeymen	0.222	%
Quotient of elementary school graduates	0,203	%
Quotient of households with one automobile	0.181	% of inhabited houses
Quotient of households with telephone	0.220	% of inhabited houses

Source: own computation

Karviná, Most, Jeseník and Děčín. According to the economic indicators under study, a high unemployment rate is typical for these districts. These are the districts where there is a low level of transport services and where a branch industry is in decline. In case of Karviná and Most this is mostly coal mining (mining industry). These are structurally and economically weak districts with a highly above-average unemployment; they are included among the regions with concentrated support by the State, as it corresponds to the Strategy of Regional Development. The districts report negative disparities and as it concerns quality of life, they are considered to be negative.

Among the key indicators applied in the construction of partial composite indicator for **Social Domain**, twelve variables were included (Tab. III).



2: *SI – Social Domain*
Source: own computation

IV: *Key indicators of Environmental Domain and weights*

Indicators	Weight	Units
Arable land per inhabitant	0.197	hectares/inhabitants
Quotient of gardens and orchards	0.213	% of total area
Quotient of forest land	0.222	% of total area
Quotient of dump sites	0.115	hectares/1000 inhabitants
Ecologic stability coefficient	0.206	%
Quotient of permanently occupied family houses with gas	0.199	%

Source: own computation

Comparing the differences in assessment of the partial composite index for Social Domain with the same for the Economic Domain, we can see that the indicator values assessing Social Domain do not reach as large differences in their minima and maxima. It means that disparities between regions are not so big as in case of the economic indicators aggregation.

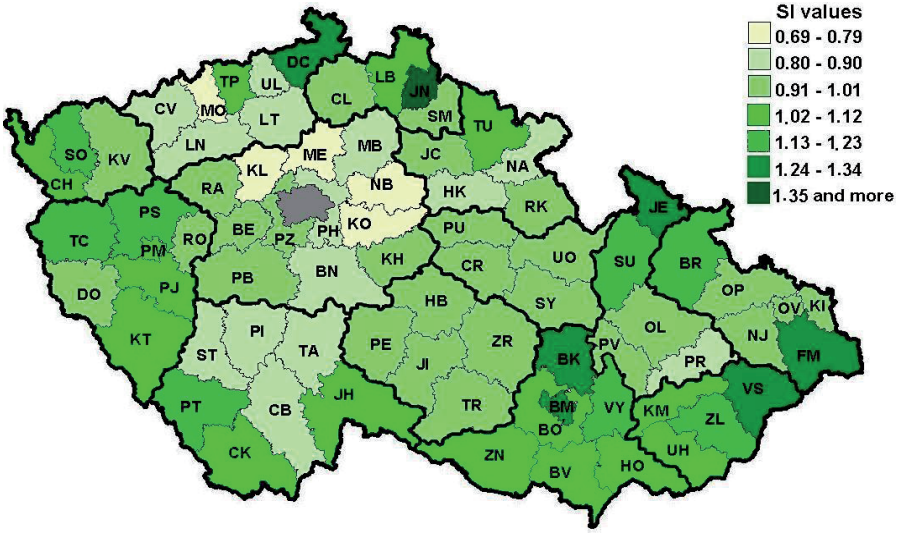
Šumperk then can be associated with Karviná, Jeseník, Bruntál and the other districts of Moravskoslezský Region with a very low value of the partial composite indicator (Tab. II), that can be assessed as very below-average ones as it concerns the social indicators under study. In these districts a low proportion of the *Quotient of University graduates* was observed and negative values of *Natural increase*. These are the boundary districts being depopulated due to the undeveloped labour market. As it concerns disparities, they are the districts with negative disparity measures.

In the positively assessed districts Praha-západ, Praha-východ, Brno-město, Plzeň-město, Hradec Králové a České Budějovice the partial indicator values significantly overcome the average limit of unity 1. It is typical for these regions that their areas include regional capitals or in case of Praha-východ and Praha-západ also include places from where people travel to their places of work in Capital Prague. The districts report high levels of education and of medical services. As to disparities, these are the districts specific in their location and from the viewpoint of life quality they can be assessed very positively.

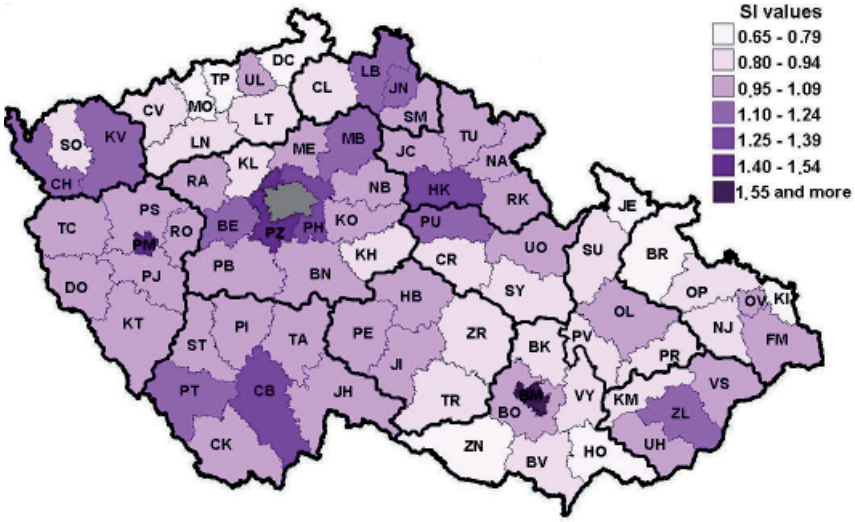
Average values of partial composite indicators are reported by the districts included in the 3rd and 4th groups in the cartographic representation (Fig. 2). It is obvious from the graphical representation that, districts with approximately average index values are located with varying frequencies over all the CR territory. However, at the first look it is obvious that a larger proportion of this type of districts is within the Czech Lands than in Moravia and Silesia.

The last partial composite indicators dealt with the **Environmental Domain**, being assessed based on six indicators presented, together with their weights, in the following table.

It is obvious from the partial composite indicators (Tab. II) that in the best position depending on the indicators included in this computation, the districts Jablonec nad Nisou, Brno-město, Děčín, Vsetín and Frýdek-Místek stand. All the districts mentioned, just except Brno-město, report a high value of *Ecologic Stability Coefficient*, which places them in the regions with balanced countryside. Brno-město gained their high position on the ladder of districts mostly thanks to high values of *Quotient*



3: *SI – Environmental Domain*
Source: own computation



4: *SI over all the Domains studied*
Source: own computation

of gardens and orchards situated in their area. These are the districts with positive disparities as to the indicators of environment quality.

In the middle of our ladder of assessment there are mostly districts close to the Bohemia-Moravia frontier. These are the districts often including protected land territories and the lands here are not exploited for farm production so intensively.

Among districts placed at the end of assessment belong Mělník, Nymburk and Kolín. These can be included in the intensively exploited lands category, primarily for agricultural wholesale production. Then also Most and Kladno, where a big burdening from the viewpoint of environment is noted due to mining activities. These are the districts assessed very negatively as it concerns quality of life.

In general, we can say that delimitation of problem districts according to their environmental conditions is important but, we have to realize that such an assessment is not only affected by the indicators studied but it really connects to natural conditions forming the district given. A decline of the arable land area is considered a positive trend within this territory same as an increase of permanent grass areas, water areas and forest lands proportion.

The **aggregate indicator** consisting of separate partial indicators is a simplification of reality, in fact, but its value gives us a chance to perform the mutual comparison by means of all key indicators. Computation of the aggregate indicator has been based on two approaches to the aggregation of partial composite indicators obtained for the Economic, Social and Environmental Domains.

The first approach started from the partial indicator values and it was performed based on

the simple arithmetic average computation. The second approach was based on cumulation of all the partial indicators in one data matrix and subsequent computation of the aggregate indicator. From the comparison of values of both the two aggregate indicators based on the variation range (R) computation it came up that in case of aggregation using arithmetic average, the value of variation range of the aggregate index was R = 0.636, while in case of the computation from the whole data matrix it was R = 0.943. Considering these values it was decided that the complex assessment of regional disparities is to be based on cumulation of all key indicators in one data matrix.

The cartographic map (Fig. 4) facilitated an overall comparison of the situation also in this case but, always it should be complemented with further data (tables of actual values of the composite indicators) in order not to obtain erroneous conclusions. Not forgetting the positive features that can be seen in the clear presentation of results, it is also important to consider the fact that districts are ordered by intervals and there is a degree of variation within every interval.

The aggregate indicator values over all the domains of study show that at the first ranks of the ladder those districts are situated (Tab. V) within which excellent economic and social conditions join together with good environmental conditions. These are the districts Brno-město, Plzeň-město, Praha-západ, Praha-východ, České Budějovice, etc. These districts stand at a high level of economic efficiency, which brings about a developed labour market and accessibility of various services. High level of transport services is typical here (roads, railways, airports), technical infrastructure (sewerage, sewage treatment plants, public communication networks – internet, etc.) and a high level of public services (schools, hospitals, cultural institutions, etc.). These districts differ from others in the sense of positive disparities and as to the quality of life these can be assessed very positively.

Among the districts with a low level of life quality and its development, that are standing at the lowest ranks of the ladder as to the aggregate indicator of life quality, the districts Most, Bruntál, Chomutov, Jeseník and Hodonín belong. A high unemployment rate is typical for these, there is a worse accessibility of medical care and services in general. There are much worse conditions for quality life and in comparison with all CR districts they are situated at the end of the ranks according to negative disparities.

In the middle of the ladder of districts there are districts Domažlice, Ústí nad Orlicí, Klatovy and Plzeň-sever, Rokycany. These are districts with an average character as to the quality of life. They do not show positive or negative disparities either, in comparison with other districts.

V: *Order of districts selected on basis of SI values*

District	SI	Order
Brno-město	1.634	1
Plzeň-město	1.540	2
Praha-západ	1.480	3
Praha-východ	1.379	4
České Budějovice	1.338	5
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Tábor	1.009	33
Jihlava	1.006	34
Domažlice	1.000	35
Ústí nad Orlicí	0.997	36
Rokycany	0.995	37
Brno-venkov	0.993	38
.	.	.
Jeseník	0.743	72
Hodonín	0.737	73
Bruntál	0.725	74
Most	0.709	75
Karviná	0.691	76

Source: own computation

CONCLUSION

The output of the presented research was the assessment of the disparities between the districts in the Czech republic based on the selected indicators and also the design of a relevant methodological device for their quantification. From the text above it is clear that the main aim of the paper was achieved and that it is possible to assess the quality of life at the level of smaller regions based on the computation of the composite indicator.

Aggregate indicator values for all the domains under study have different variation rates. The highest variation rate has been registered in the Economic Domain indexes. It means, the key indicators entering the computation of this index, cover the disparities between regions at most. It is noted in general that economic situation of the given region's population is forming its entire profile.

The ladder constructed by separate domains of study was also comparable by the numbers of districts included in groups of the „above-average" and „below-average" ones. ($\bar{x}$ = 1). The Economic Domain supplied 37 districts in this group what makes about 49% of all the districts under study. A lower number of districts included among the average or above-average ones was then registered in the Environmental Domain, 43%. The lowest number of the average and above-average districts was in the Social Domain. These were 31 districts, what made 41% of the total number of 76 CR districts under study.

Based on the aggregate indicator values, that considered in its computation all the analyzed problem areas of disparities, the Economic, Social

and Environmental ones, as well as the overall feeling of satisfaction of the inhabitants as it concerns quality of life, the following conclusions are coming up.

The highest levels of life quality are discovered in the districts Brno-město, Plzeň-město, Praha-východ, Praha-západ, České Budějovice, Hradec Králové, Pardubice, Mladá Boleslav, Beroun and Liberec. Excellent economic and social conditions join good environmental conditions in these districts. These are often districts with their regional capitals within their areas or they are close to Capital Prague. They offer a high level of medical care, a developed public infrastructure, also a sufficient space for entrepreneurial activities; all this connects to low unemployment level, here. Developed labour market offers a presumption for good quality of life. If one has a good job and a steady income, his/her degree of satisfaction with life, which means the quality of life, is improving steadily.

The lowest values of the aggregate indicator of life quality, established based on the selected partial indicators have been discovered in the districts Karviná, Bruntál, Most, Jeseník, Hodonín, Opava, Teplice. These are typically the border districts. These have been included by the Ministry for Regional Development in the group of structurally damaged, or economically weak, regions. A highly above-average unemployment caused by the decline of industry production is typical for these, as well as a low level of transport services and of education. These districts can be labelled as least favourable regions for life.

SUMMARY

Quality of life in the regions is affected by many mutually interlinked factors. The aim of the paper has been a quantification of regional disparities in the life quality of CR population, as assessed from the viewpoint of the region's economic efficiency, social and environmental conditions. The quantification of inter-regional inequalities started from statistical modelling as based on quantification of differences by means of composite indicators.

Attention was also paid to the application of cartographic maps that facilitate a clear visualization of regional disparities between CR districts as based on the indicators of life quality.

The following outcomes have been obtained from the analyses done. The highest levels of life quality have been registered in the districts where excellent economic and social conditions join good environmental conditions. These are districts with their regional capitals within their areas or they are close to Capital Prague. They offer a high level of medical care, a developed public infrastructure, also a sufficient space for entrepreneurial activities; all this connects to low unemployment level, here. Developed labour market offers a presumption for good quality of life.

Lowest values of the aggregate indicator of life quality, established based on the selected partial indicators have been discovered in the districts Karviná, Bruntál, Most, Jeseník, Hodonín, Opava, Teplice. These are typically the border districts. A highly above-average unemployment caused by the decline of industry production is typical for these, as well as a low level of transport services and of education. Concentrated State support is being dedicated to these regions.

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