Determination of regional differences through selected ratios and proposals of municipal authorities for their reduction

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*Abstract:*Basically the report deals with the methodical tools of the evaluation of regional disparities which are based on ratio indicators. Each indicator has its interpretative ability which mainly results from its structure. Furthermore, the proposals of municipal authorities to a solution of regional disparities are given in the report. These proposals have come from the full-area questionnaire which was carried out in the year 2008.

*Key words:*Project, municipality, disparity, region, indicator, factor analysis

I. INTRODUCTION

The territory of the Czech Republic is from the social-economic view not a compact unit but it is divided into regions. A general definition of a region is stated in the general encyclopaedia Diderot, a region is described as a part of the Earth´s surface with certain typical signs. This conception can be classified according to other assorted aspects. Economic and social activities are, in particular regions, unevenly allocated. Natural and geographic conditions offer various possibilities for economic activities in a given area. In contrast, the activities of a social-economic system act on the dislocation of certain economic and social actions in particular regions for a purpose. The result of the action of all these factors is a significant inequality in economic, social and civic development of these regions. This inequality is expressed as a disparity (difference) which can be caused either spontaneously (e.g. floods, storms etc.) or through human activity (economic activity, political influence, external economics etc.). However, sustainable development in every society demands that rising inequalities do not exceed a certain level which is socially acceptable. Each region can be evaluated according to four basic aspects: *physical* which mainly consist of climate, natural resources, infrastructure, population density, age structure; *economical* where e.g. tax yield per head, GDP per head are included; *social* whose indicators are the number of general practitioners per 1 000 inhabitants, the number of grammar schools per 1 000 inhabitants etc., and *environmental* where the indicators are included according to the level of how they damage the environment.

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II. DISPARITIES AND METHODOLOGIES FOR THEIR DETERMINATION

From the historic and socio-economic development, particular regions have the whole range of different conditions and resources which are expressed as disparities. This concept (expression) comes from Latin which can be separated into two parts „dis" and „par". Latin „par" can be understood as an equality in the value or duration but as well as average or customariness, usual value, quality or standard state. „Dis" represents the opposite of this value. The conception – disparity is most often understood as an inequality, variation and event variance or process. Mrs Hasprova, Jacova and Syrovatkova (1,p.22) call, „*regional disparity a variance from the stated, measurable indicator*".

Some regions can be specified, according to the selected economic and social indicators of development, as economically weak areas, it means that they show a considerably lower level of development than the average level which is in the Czech Republic. These differences do not only relate to whole areas but in some cases they relate only to several municipalities which are situated in the land register of a given region. The country focuses mainly on these economically weak regions. These weak regions should be provided with a variety of grants and subsidies whose aim is to balance incurred regional disparities.

The country makes an effort to balance the uneven development of particular regions. Procedures for the evaluation of the development of regions were implemented through the Ministry for Local Development in the years 2000, 2003 and 2007. The Ministry for Local Development launched a methodology in 2000 which is described in the document "A strategy of regional development of the Czech Republic" according to which the regions which need support of the country are divided into regions:

- Ø *structurally affected* which show negative symptoms of structural changes;
- Ø *economically weak* which on the basis of economic and social development show a significantly lower level of their development than the average level in the Czech Republic;
- Ø *rural* which are characterised by low population density, population drain, etc.;

Ø *other* whose support by the country is needed from other reasons (e.g. border regions, former military areas, regions affected by natural disaster, etc.).

Negative symptoms of structural changes are concentrated in the structurally affected regions. It happens that some branches are damped down or some production companies are closed and the rate of unemployment increases. For their determination we can use these indicators: the employment rate in the industry in a certain year to the total employment; development of employment in the industry in a certain year with respect to the basic year 1990; aggregate evaluation of unemployment at 31.12 in a certain year; the number of entrepreneurs per 1 000 capita in a certain year (the weights were determined for individual indicators).

Rural regions are characterised by low population density, a decline in the number of the population, a higher rate of employment in agriculture. The indicators characterising mainly the development in the number of the population, structure of employment living in a region and the rate of population in rural villages serve as a determination of rural regions.

Economically weak regions show essentially a lower level of development than the average level in the Czech Republic. The following indicators are used for determination of economically weak regions: aggregate evaluation of unemployment at 31.12. in a certain year; tax revenue per capita in a certain year, the average wage in the urban district in a certain year; the rate of employment in agriculture, forestry and fishing to the total employment in a certain year; development of employment in agriculture, forestry and fishing in a certain year in contrast to the basic year 1990; population density in a certain year that means the number of the population per 1 km^2. The weights were stated for individual indicators. The areas which are characteristic by low levels of living (measured by the average wage), by high rates of employment in the primary sector, by low population density and above-average unemployment are considered as economically weak regions.

Other regions whose support by country is desired from other reasons, e.g. border regions, former military areas, regions affected by natural disasters, regions with a strongly disturbed or damaged environment, regions with less favourable conditions for agriculture development, regions with higher average rates of unemployment than the average level in the Czech Republic.

The document "A strategy of regional development of the Czech Republic" was updated in 2003. Upon this updating the indicators for the description of structurally affected regions were amended: the rate of employment in industry in the year 1995 compared to the total employment; employment development in industry in the year 1999, 2000, 2001 compared to the base year 1995; aggregate evaluation of unemployment at 31.12. 1999, 2000 and 2001; the number of entrepreneurs per 1 000 capita in the year 1999, 2000, 2001 (the weights were stated for individual indicators).

Like Mrs Rydvalova and Mr Zizka state (2, p.11) "*economically weak regions were identified according to the indicators*": aggregate evaluation of unemployment at 31.12. in 1999, 2000 and 2001; tax revenue per capita in the year 1999, 2000 and 2001; the average salary in the urban district in 1999, 2000 and 2001; rate of employment in agriculture, forestry and fishing to the total employment in 1995; development of employment in agriculture, forestry and fishing in the year 1999, 2000 and 2001 in contrast to the base year 1995; habitation density in the year 1999, 2000 and 2001 it means the number of the population per 1 km^2 (the weights were changed for some indicators compared to the year 2000).

In 2007 the new methodology for the determination of "regions which need concentrated support from a country" was created according to the document "A strategy of regional development of the Czech Republic 2007- 2013". There were 4 indicators determined according to this methodology. The first indicator is aggregate evaluation of situation in the market of labour (unemployment) with the weight 0.4 which includes rate of unemployment, long term unemployment and the number of applicants per 1 vacant place. The second indicator is tax revenue per 1 capita with the weight of 0.15. The third indicator is the number of entrepreneur per 1 000 capita with the weight of 0,15. The last fourth indicator is purchasing power of population with the weight 0,3.

Apart from the Ministry for Local Development the Czech statistical office deals with the methodology for the determination of indicators to measure regional inequalities too. The Czech statistical office divided the evaluation of regional disparities into 4 basic spheres and stated a collection of indicators for them. The first sphere is concentrated on the demographic environment problem and residential structure problem and it contains 13 indicators. The second sphere deals with the social environment problem and it contains 15 indicators. The third sphere refers to the economic environment issue and it contains 14 indicators. The last sphere follows problems of infrastructure, location, accessibility and environment and it has 10 indicators.

Particular regional offices worked out their own methodology for determination of economically weak areas. They use mostly the following indicators: the rate of unemployment; population density; tax revenue or tax yield; the number of entrepreneurs; the rate of employment in the primary sector; the state of technical and agricultural infrastructure.

The research team of the Economic faculty of TUL put across an analysis of indicators which Ministry for Local Development, Czech statistical office and regional offices use and worked out first the list of 30 indicators. The team asked the Czech statistical office about the creation of a database for individual indicators in the time line of 2001-2006. The numbers of indicators were finally reduced because the Czech statistical office did not have data available for some indicators.

The database of counted indicators in the time line 2001-2006 was put together from all 6 240 municipalities in the Czech Republic. These indicators were divided into 8 factors (F1 - F8) through factor analysis. Newly according to these factors, a low dynamic of municipality development is determined by or on the contrary despite of their sustainable development. The factor F1 – Unemployment uses 3 indicators: the rate of recorded unemployment; the rate of long term unemployment; the rate of pressure in the work place. The second factor F2 – Migration works with 4 indicators: intensity of housing construction; index of development in the number of the population; average year´s addition/fall in population per 1 000 inhabitants of medium state; migration index. For the third factor F3 - Habitation there were 4 indicators set: the rate of employment in the tertiary sector to the total employment; population density; education index; the rate of employment in agriculture, forestry and fishing to the total employment – indirect proportions. The factor F4 - Age structure uses 4 particular indicators: index of economic burden; the average age of inhabitant; age index; the rate of economically active population to the total number of inhabitants – indirect proportion. For the factor F5 – Civic and technical amenities there were chosen the following 2 indicators: the number of medical facilities per 1 000 inhabitants; the number of primary schools per 1 000 inhabitants. For the factor F6 – Structure of economies there were applied 2 indicators: the rate of employment in tertiary sector to the total employment; the rate of employment in the industry and building industry to the total employment – indirect proportions. For the factor F7 – Permanently sustainable development there were set 2 indicators: the rate of entrepreneurs per 1 000 inhabitants; the coefficient of economic stability. The last factor F8 – Economic activity contains 2 indicators: tax revenue per capita; the number of job opportunities.

The database of towns and municipalities of Czech Republic was made accessible on the web pages of the Economic Faculty of the Technical university in Liberec under the tab Science and Research – research projects – project Innovative form to the solution of disparities at the level of regions. For each municipality it was published across 8 factors with the values of particular indicators in the time line 2000 – 2007. According to the factor analysis a borderline was set for individual indicators which assessed the municipalities with low dynamics of development. The database is instrumental to the quick search of information on towns and municipalities of the Czech Republic with the rough distinction of output. It means the dynamics of municipality development (the green subtext means a positive value; the red one means a negative value). This division facilitated the assembly of cartograms for each region and for the whole territory of the Czech Republic with the stated dynamics of development in particular regions.

III. PROPOSED TOOLS BY MUNICIPALITIES TO THE SOLUTION OF REGIONAL DISPARITIES IN THE CZECH REPUBLIC

The research team prepared a questionnaire investigation in 2008. As Mr Jac, Mrs Rehorova and Mr Svihovsky (3, p. 23) said, "*it was carried out through the whole area*". The representatives of municipalities could point out in the final part of questionnaire what concrete tools would use to the solution of regional disparities. There were sent out 6 249 questionnaires in total, from which 1 357 questionnaires were sent back which represents a rate of return of 21,72 %. Concrete proposals to the solution of regional disparities were submitted by 435 municipalities.

Particular answers sent by municipalities were recorded into a Microsoft Excel table and were sorted according to their content. There were 79 of various types of answers arisen which would reduce regional disparity according to the municipalities. These answers were classified into the following 11 categories to process them further: 1. Grant problems in the Czech Republic and the EU; 2. Business support and industry development; 3. Expansion of technical amenities in the municipalities; 4. Change in the budgetary determination of taxes; 5. Support for housing construction in the municipalities; 6. Support of development in agriculture and the countryside; 7. Support of spare time activities; 8. Preferences for young people; 9. Improvement of political ethics; 10. Landscaping; 11. Improvement of education and social issues.

Grant problems in the Czech Republic and in the EU. The representatives of municipalities put forward to cancel grant provision politics. They want to put the proceeds directly into the municipality budget. They also want to simplify the grant system in the CR and the EU so that municipalities had a fair and equal access to grants. The political membership of representatives should not play a role.

Business support and industry development. The municipalities are aware that the majority of their income forms tax revenue. Therefore they propose an increased support for small and medium sized businesses; support of industrial production; production diversification of entrepreneurs and the founding of industrial zones.

Expansion of technical amenities in the municipalities. The representatives of municipalities who sent an answer in this category put forward to increase technical amenities of municipalities; to improve sewerage plants, drainage and water preparation plants. The municipalities point out that there is a need to improve rail, tram and other infrastructures in the municipality even at the expense of cars; to improve the quality of rail and bus services and mainly to increase transportation via rail, bus and tram.

Change in a budgetary determination of tax revenues. The municipalities have difficulty with an absence of financial means. Their largest amount comes from the

distribution of tax revenues. That is why lots of municipalities wanted to change the budgetary determination of tax revenues. Taxes should be distributed according to where a company really runs its business instead of its registered place. The municipalities stated that if they got a bigger amount of funds the municipality indebtedness could be reduced.

Support of housing construction in the municipalities. The development of housing construction is one of the indicators for the development of whole area. It came to the significant reduction of home building after 1989 in the Czech Republic. Therefore the municipalities want to increase home building and ask to have enough financial funds for this purpose. If they do not have enough building lands in their ownership, the municipalities could redeem these lands from their current house owners.

Support of development in agriculture and countryside. The municipalities suggest that countryside and agriculture, own production of food of small farmers and agricultural firms should be distinctively supported. They want to cut down the difference between the town and a small village and support an increase in jobs in small villages. Specialists could work for municipal authorities in these municipalities who ask higher remuneration for their work. The representatives of municipalities suggest that financial funds of municipality inhabitants should be used to finance some activities in the municipality. Thereby their loyalty to the municipality where they live could be increased. Human relations could be improved as well.

Support of spare time activities. Lack of financial funds in the Czech Republic is seen in various areas. One of these is an insufficient support of spare time activities. Cultural, sports and other activities of residents are carried out often in non-conforming spaces. Indebtedness of families is increasing in connection with the ensuring of spare time activities. Therefore mainly the small municipalities put forward the support of development in tourism, agricultural tourism, recreation, culture, sport and construction of cycle tracks. Some of them recommend supporting the development of culture, club founding and more financial means for the keeping of cultural relics. Therefore the municipalities ask to increase the support for an expansion of various services.

Preferences for young people. The age structure of people in the Czech Republic is beginning to have a majority of people in post-productive age over pre-productive (this phenomenon is noticeable mostly in the countryside). Therefore it is needed to pay attention to the precautions how to prevent some problems in connection with population ageing in the future, eventually to reduce the consequences of this process. The municipalities suggest that young people should be preferred and therefore it is need to create job opportunities and support their relocation to the countryside.

Improvement of political ethics. The politicians were criticised a lot. In the municipalities, the country is interested in big towns and small villages only in the period of elections; the government approach to the municipalities should be changed; the authorities should increase the reward to the

authorised municipalities for their activities; there should be a cancellationof labour offices and delegation of their activities to the municipalities; prevention of bureaucracy; reduction of administrative demands; a change of legislation (mainly in the section of tax distribution to the municipalities); completion of restitution namely the church; completion of privatization; country districts should not be entering into the process of grant distribution. A non-political specialist should make the decision instead of politicians. The municipalities in the frontier region should be more supported; the urban neighbourhoods should have more independence. In some parts of the Czech Republic the wages should be increased which are below-average to date. By doing so the corruption and black economy could be reduced. Several municipalities suggest that even social unemployment benefits should be abandoned.

Landscaping. The municipalities participate in conservation of nature in their regional area. The municipalities think that the support of ecological projects contribute to the sustainable development in the municipal territory and country district; further increasing the portion of alternative power sources; exploitation of brownfields; aid for removing of ecological burdens; better waste management; completion of the removing of flood damages.

Improvement of education and social issues. According to the municipalities, there is a need to improve accessibility of education; increase grants for the building-up or maintenance of nursery schools, kindergartens and vocational schools; create conditions for employment of the population with no qualifications. It would be good to build an appropriate infrastructure for the elderly population; support the employment of people over 50 years and older people. The municipalities wanted to improve the solution to the problem of nationhood, national minorities, of an inadaptable population and improve the relocating within border regions and other parts of the Czech Republic. Some municipalities ask to change the social policy of the country and restrict access to alcohol for young people.

IV. Conclusion

A big emphasis on less visible and difficult to measure factors is placed in the analytical studies of the EU, mainly from the point of efficiency. An efficient operation of public services, the extent and the efficiency of production services, accessibility of social services, dominant business culture and other aspects of institutional structure belong to these factors which create favourable surroundings for changes in the measurable factors. The problem of regional disparity has become a centre of the concern of not only residents and politicians but also specialists. This focus is connected with still enlarging differences between particular regions. Therefore the aim of regional policy is to balance out partially these differences between regions, especially when small regions are not able to solve their problems by themselves.

The municipalities gave a lot of suggestions for the improvement of regional differences by their answers with the

questionnaire, not only in the land register of their own municipality but also across the Czech Republic. In their proposals they were concerned immediately with the problems. They specified e. g. technical and civic amenities, sewer system, traffic service; safety of road traffic; infrastructure; change in budgetary determination of tax revenue; support of small traders and small companies; production diversification; support of development in agriculture; own production of food (for farmers); agricultural tourism; preferences of young people (ensuring of job opportunities, increase of their social security, support of their relocating into the countryside); cancellation of the grant policy and shifting financial funds into the municipality budget; support of housing construction in villages to increase jobs. The representatives of municipalities suggest the simplification of grant system in the Czech Republic and in the EU; increase the support of service expansion, especially in tourism and improvement of public transport such as trams and buses; support of development in sport, culture and spare time activities etc.

The research confirmed that the proposals of municipalities often copy the intentions which are applied in this area or are being prepared by the government. It refers e.g. to the area of restructuring of the economy, improving of basic infrastructure such as trams and buses, improvements in the quality of foreign and border cooperation, support of small and medium business, extension of industrial zones and the modernizing of traffic infrastructure etc.

There is a need to pay an increased attention to the structurally affected, economically weak, rural and other regions in the future in order not to come to the division into economically backward areas and areas strongly developing. The solution to this situation is not only the task for particular municipalities, regional authority but also for the government and their individual ministries.

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