Employment Position in the Hungarian Least Developed Micro-regions (LHH)[1]

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SUMMARY

The paper describes the position of the least developed micro-regions (LHH) that are to be supported by the current Hungarian complex programme, with special regard to their employment and unemployment position. I have a double aim with this work. On the one hand, I aim at describing the position of LHH micro-regions in the national context with the help of different statistical indicators, setting up diagnosis and formulating breaking points and proposals that can generate projects supporting catching up in the future. On the other hand, with statistical–econometric calculations, I aim at proving that the methodology of the micro-regional classification of the governmental decree 311/2007. (XI.17.) has a different result when only labour market indicators are included in the calculations, instead of the all applied complex indicators.
Key words: micro-regions, labour market, discriminant analysis.
Journal of Economic Literature (JEL) code: J21, R23

INTRODUCTION

The Hungarian Central Statistical Office created a new statistical micro-regional system consisting of 150 units from 1st January 1998. This was modified by a governmental decree on the definition, the determination and the modification of micro-regions that entered into effect on 1st January 2004. As a result, 18 new micro-regions were created, which led to a total of 168 micro-regions. The decree created stable micro-regional levels for 5 to 7 years, which were capable of carrying out administrative tasks besides taking care of planning functions. Currently, Hungary can be divided into 174 micro-regions. The analysis of the micro-regions, counties and regions from an administrative point of view also gives rise to interesting questions. 'The great number of municipalities (with low number of population and limited resources) local government model – the "south" model – assumes a "strong" local (municipality) middle level and community spirit" (Torma 2002, 5-6).
The Parliament passed a resolution on 25th June 2007 for the period until 31st December 2013 about regional development funding and the principles of decentralisation as well as the criteria for classifying the preferred micro-regions. According to Parliamentary Resolution no. 67/2007 (VI.28.) about the classification criteria and the Local Government Act on Association of Micro-Regions no. CVII. 2007, which is the modification of the same act no. CVII. 2004, the state of development of the micro-regions had to be redefined and the micro-regions had to be classified again in terms of regional development preferences.
The new classification of the preferred regions was announced by Decree no. 311/2007. (XI.17.). This lists 81 micro-regions in Hungary that are currently not eligible for support, 46 micro-regions that are underprivileged, 14 that are least developed, and 33 micro-regions that are not only least developed but also to be supported with the complex programme.

SOCIAL AND ECONOMIC BACKGROUND OF THE 33 LEAST DEVELOPED MICRO-REGIONS IN HUNGARY

Development differences among the micro-regions generate social injustice that is passed on from one generation to the next. In a certain part of the Hungarian micro-regions, high unemployment, the poverty related to it – deep poverty in some regions, along with a lack of active enterprises, lack of job creation and a low level of average housing and living conditions are still problems

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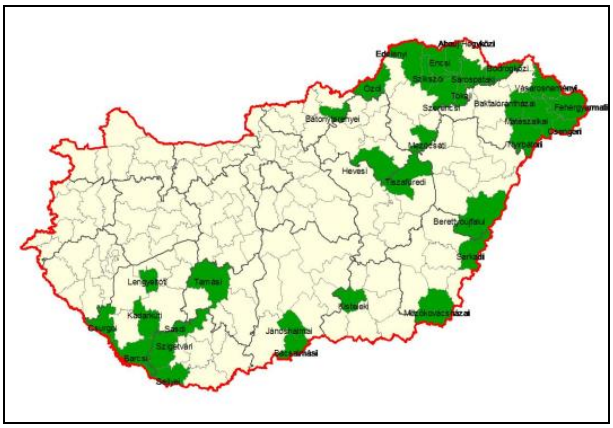
In micro-regions where the Roma population lives, a number of these problems appear simultaneously. In 2007, based on the statistical data about development deficiencies, the government designated the 33 least developed micro-regions, which include one-tenth of the Hungarian population.[2]

"We do not give up on anybody" – this is the main message of the complex development program, which aims at creating possibilities for these 33 micro-regions to make the local economy dynamic, to extend employment and to create social and geographic mobility. Since then, several calls for grant projects have appeared, especially to improve the social, geographic and labour market position of the least developed micro-regions (such as "Step one up" program). Plans were evaluated in April 2009, which made it possible to launch the elaboration and then the realization of project plans.

According to G. Fekete, "The LHH Programme has the following key elements that are different from the previous Hungarian development practice:

1. Resource allocation is carried out on the basis of the micro-regional plan that is compiled "top down" for the predefined overall amount and resource types. That is, the necessary resources adjusted to the local needs that can be inserted into the given framework are available, but their utilisation is conditioned.
2. Besides the closing up of these regions to the national level, handling the differences within the regions and integrating the most lagging social groups are also emphasised.
3. It aims at complexity.
4. It is required to be realized typically through local development based on partnership, joining to the LEADER type developments that operate on the basis of the involvement of local communities and on the decentralisation of the decisions (or at least a part of them).
5. It ensures central planning methodology and expert help for micro-regions". (G. Fekete 2009)

Out of the regional and human resource development resources, about 100 billion HUF is to be set aside for 2009 to 2013 especially for the development of the 33 least developed micro-regions. Three-quarters of it is set aside for investments and one-quarter for training, employment and health development programs.



Source: NFÜ

Figure 1. LHH micro-regions of Hungary

One-tenth of the country's population lives in the 33 least developed micro-regions (Figure 1). The rate of those living in the least developed micro-regions is 28% in Northern Hungary, 21% in Northern Great Plain, 18% in Southern Transdanubia and 9% in Southern Great Plain. These are typically rural areas; in two-thirds of the micro-regions there is no settlement with more than 10,000 inhabitants, with the exception of Ózd. The areas with the highest unemployment can be found among the 33 micro-regions: Cserehát and Ormánság. Almost two-thirds of the Roma population lives in these 33 micro-regions. There are considerable differences among and within the 33 micro-regions.

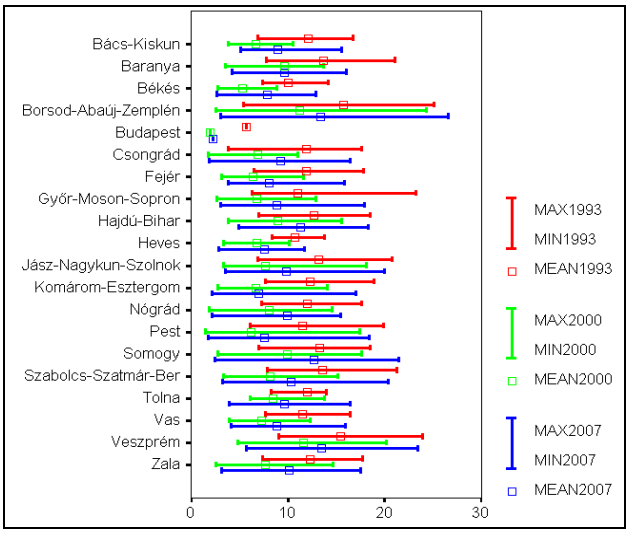


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Figure 2. Range of the unemployment rate (%) at micro-regional level

[2] *Southern Great Plain: micro-regions of Bácsalmás, Jánoshalom, Mezőkovácsháza, Sarkad, Kistelek*
Southern Transdanubia: micro-regions of Barcs, Csurgó, Lengyeltót, Sásd, Sellye, Szigetvár, Tamási, Kadarkút
Northern Great Plain: micro-regions of Baktalórántháza, Csenger, Fehérgyarmat, Mátészalka, Nyírbátor, Vásárosnamény, Berettyóújfalu, Tiszafüred
Northern Hungary: micro-regions of Edelény, Encs, Ózd, Sárospatak, Szerencs, Szikszó, Abaúj-Hegyköz, Bodrogköz, Mezőcsát, Tokaj, Heves, Bátonyterenye

The analysis of micro-regions includes the analysis of the range of the unemployment rate yearly, by county. To do so, I found the maximum, the minimum and the average of the unemployment values of the micro-regions within the given county. The results – the range of unemployment – are displayed for the years 1993, 2000 and 2007 with SPSS software (Figure 2). It demonstrates well that unemployment is the highest in Borsod-Abaúj-Zemplén county, where its maximum value was 26.57% in 2007 in the micro-region of Abaúj-Hegyköz. It is also high in the micro-regions of Bodrogköz (24.01%) and Encs (24.84%).

Describing the employment and unemployment rates of the Hungarian LHH micro-regions (Figure 3), it is highlighted that the labour market position was the most unfavourable in the micro-regions of the Northern Hungarian region. Similarly, a high unemployment rate and low employment rate belonged to the LHH micro-regions of the Northern Great Plain region. There are some LHH micro-regions also in the Southern Transdanubian and Southern Great Plain regions, but their employment position is more favourable.

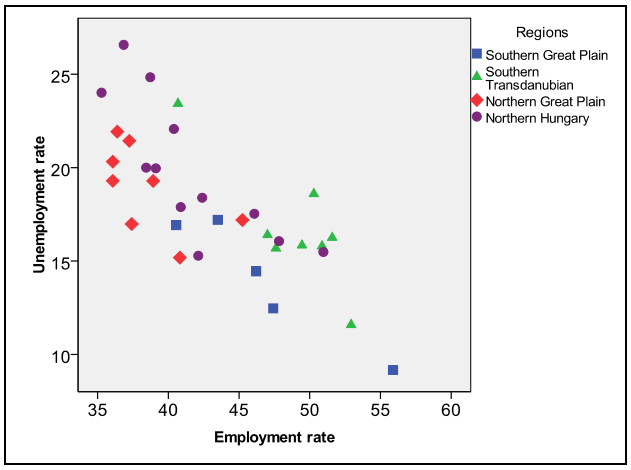

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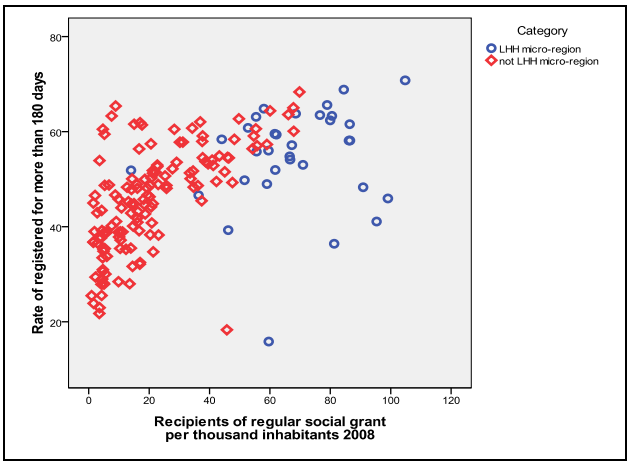
Figure 3. Employment and unemployment position of the Hungarian LHH micro-regions (2007)

THE POSITION OF LHH MICRO-REGIONS IN THE NATIONAL CONTEXT

My paper aims at examining to what extent LHH micro-regions constitute a separate group within all of the micro-regions of the country, taking into account different social and economic indicators, or whether they assimilate into other regions. I justify my short hypotheses with the help of the available latest statistical data.

Hypothesis A. There is a strong positive correlation between the long term unemployment and the number of those who are entitled to a regular social grant; a homogenous group of LHH micro-regions, however, cannot be created.

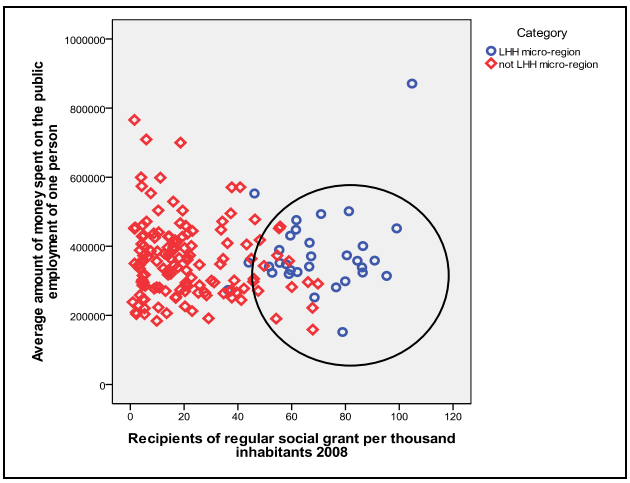


Source: own compilation based on HCSO data

Figure 4. Positioning of micro-regions (recipients of regular social grant per thousand inhabitants – rate of registered for more than 180 days)

As far as the unemployment rate of those registered for more than 180 days and the rate of recipients of regular social grant per thousand inhabitants are concerned, LHH micro-regions proved to be a fairly heterogeneous group. More than 50% of the inhabitants living in the area live on social grants. Taking into consideration long-term unemployment, however, the dispersion of the data has a wider range. The lowest long-term unemployment rate belongs to the micro-region of Csurgó in Somogy County (15.86%).

B. The average amount of money spent on public employment is nearly the same in any area of the country; it is not influenced by the rate of recipients of regular social grant per thousand inhabitants.

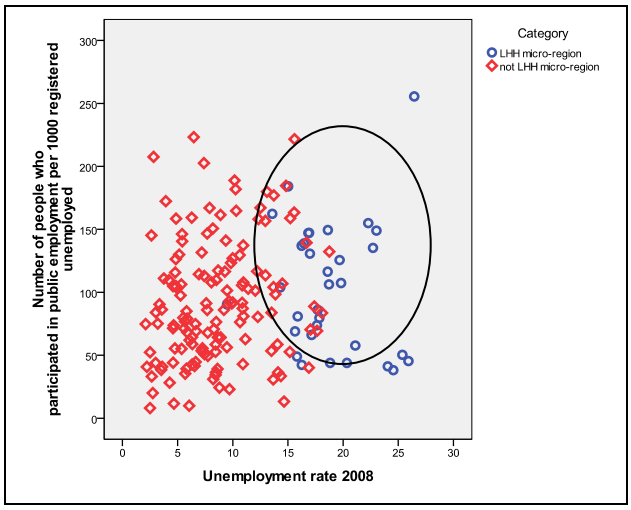


Source: own compilation based on HCSO data

Figure 5. Positioning of micro-regions(recipients of regular social grant per thousand inhabitants – average amount of money spent on the public employment of one person)

The per capita average amount of money spent on public employment ranges from 200,000 to 800,000 HUF in any micro-regions of the country. A well separated group of LHH micro-regions takes shape when the rate of recipients of regular social grant is higher than 50%. The per capita average amount of money spent on public employment is the highest in the micro-region of Abaúj-Hegyköz, this is the national maximum as well, namely 870,781 HUF yearly. In this micro-region, the number of people living on regular social grant per thousand inhabitants is 27, which is also the national maximum. The rate of those who participated in public employment per thousand inhabitants is also the highest in this micro-region (255 persons/1,000 inhabitants).

C. The measures of the unemployment rate and the number of those who participated in public employment per 1000 registered unemployed trace out a homogenous group around LHH micro-regions.

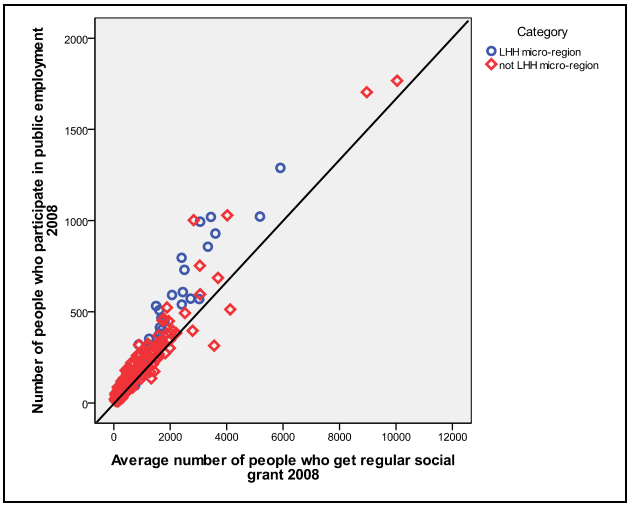


Source: own compilation based on HCSO data

Figure 6. Positioning of micro-regions (unemployment rate – number of people who participated in public employment per 1000 registered unemployed)

By describing the unemployment rate and the rate of people who participated in public employment per 1000 registered unemployed, LHH micro-regions constitute an individual group. The dividing line is at around 15% of unemployment rate. The rate of those who participated in public employment does not separate LHH micro-regions ambiguously. The outlier belongs to the micro-region of Abaúj-Hegyköz in this case, too.

D. Where the average number of those who get regular social grant is high, the number of people participating in public employment is also high and there is a linear relationship between them. It is the same for LHH micro-regions as well.



Source: own compilation based on HCSO data

Figure 7. Positioning of micro-regions (number of people who get regular social grant – number of people who participate in public employment)

There is a linear relationship between the average number of those who get a regular social grant and those who participated in public employment. Observations disperse along the diagonal with 45° slope. In the micro-regions that are not LHH, the number of people living on regular social grant is lower and therefore the number of people involved in public employment is also lower, apart from two outliers. One of them is the micro-region of Miskolc (with 10,039 people being entitled to regular social grant) and the other one is Budapest (with 8,964 people being entitled to regular social grant). In the case of the capital, the high rate of people living on a regular social grant is reasonable, as the number of the population in absolute terms is the highest there. The high value of the micro-region of Miskolc, however, highlights its unfavourable social and employment position.

E. In LHH micro-regions, negative migration balance is associated with high unemployment rate, as highly qualified people usually migrate in the hope of a better job opportunity, while those staying at home live.

The circle that can be drawn around the LHH micro-regions represents the negative values of migration and the high unemployment rates of more than 15%. Most of the micro-regions of the country face the problem of emigration. At the same time, however, the unemployment position is more favourable in the non-LHH micro-regions. The highest emigration can be found in the micro-regions of Bodrogköz and Abaúj-Hegyköz, where the rates of the difference between immigrants and emigrants per 1000 inhabitants are -22.53 and -19.87. The highest immigration value belongs to the micro-region of Dunakeszi (33.87).

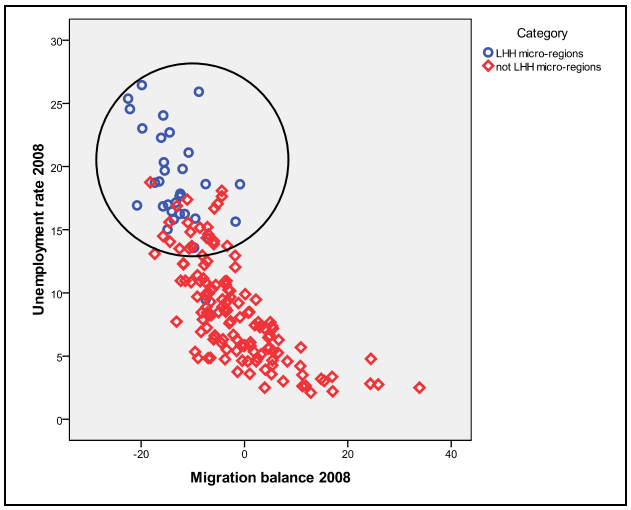


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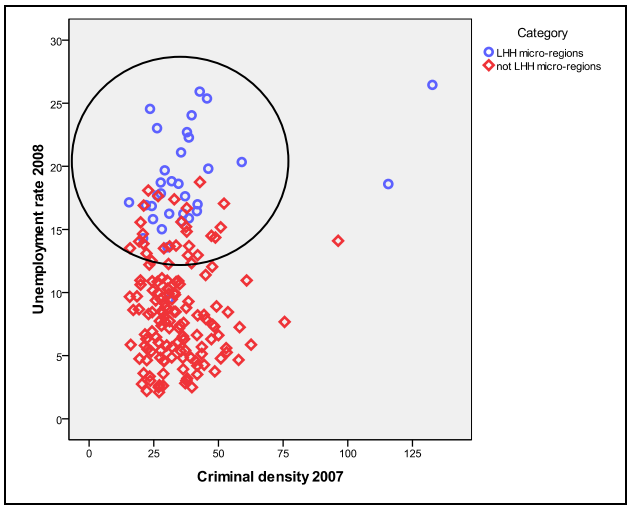
Figure 8. Positioning of micro-regions (migration balance – unemployment rate)

F. The tendency to commit crimes is no higher in LHH micro-regions in spite of the fact that the inhabitants of the area have lower income levels (mainly regular social grant, minimum wage or nothing at all); they do not try to live on violent crimes against either property or persons.

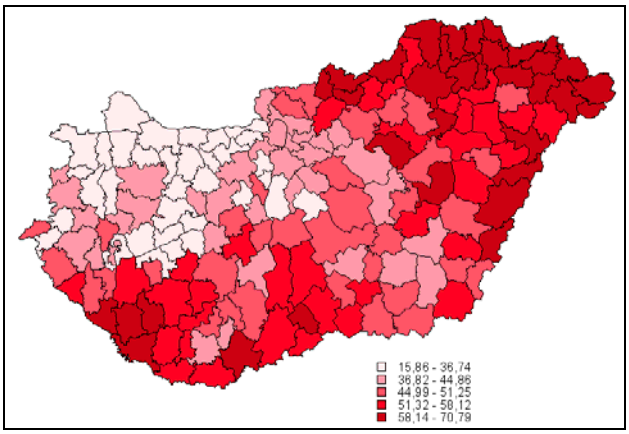


Source: own compilation based on HCSO data

Figure 9. Positioning of micro-regions (density of crimes – unemployment rate)

By examining the density of crimes (the rate of registered publicly indicted crimes per 1000 permanent inhabitants) and the unemployment rate (Figure 9), one can conclude that LHH micro-regions have high unemployment rates (15-28%). The density of crimes, however, is surprisingly low (25-50%). Two outlier micro-regions can be observed in the case of crimes, these are the micro-regions of Rétság and Tokaj (this may be explained by the fact that in the micro-region of Tokaj, people can get higher income levels because of viticulture and this can provide a reason to commit crimes

G. The highest rates of unemployed registered for more than 180 days (long-term unemployed) can be found in LHH micro-regions.



Source: MTA Resource map

Figure 10. Rate of unemployed registered for more than 180 days, % (2008)

The rate of those who have been registered for more than 180 days, the measure that best describes long-term unemployment, is the highest in LHH micro-regions, especially in the Northern Hungarian and Northern Great Plain regions. This is a big issue in the peripheral parts of the country, except for Transdanubia. The highest values – which were also the national maximums – belonged to the micro-regions of Encs (70.79%), Szikszó (68.85%), Abaúj-Hegyköz (63.77%) and Szerencs (63.77%).

CLASSIFICATION OF HUNGARIAN MICRO-REGIONS BY LABOUR MARKET INDICATORS WITH THE USE OF DISCRIMINANT ANALYSIS

The new classification of the preferred regions was announced by Decree no. 311/2007. (XI.17.). It lists 81 micro-regions that are not eligible for support – I called them developed – (F), 46 micro-regions that are underprivileged (H), 14 that are least developed (LH) and 33 micro-regions that are least developed and to be supported with the complex programme currently in place in Hungary (LHH). The classification of the micro-regions is defined with the calculation of a complex measure by experts. Indicators can be classified into the following groups:

- economic indicators,
- infrastructural indicators,
- social indicators,
- welfare indicators,
- employment indicators (Faluvégi 2008).

I intended to find whether these categories were valid for the micro-regions also when only labour market indicators were included, or if other categories would be

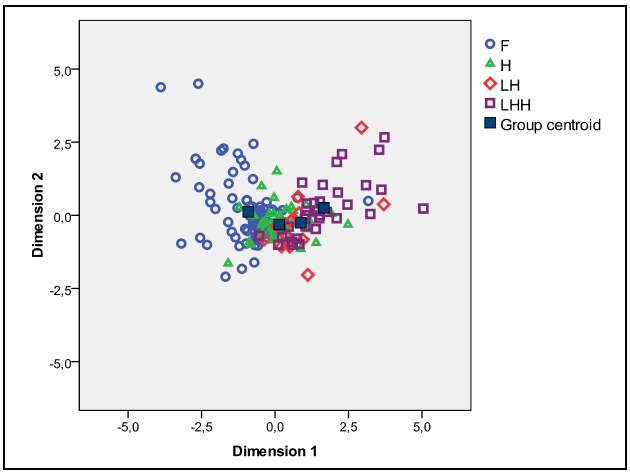
created. I therefore collected the following indicators for the 174 micro-regions for 2008 based on HCSO data from the MTA Resource database:

- number of registered jobseekers (person),
- number of employed (person),
- working age permanent population (person),
- number of people participating in public employment (person),
- income base of personal income tax (thousand HUF)
- number of people entitled to regular social grant (person).

Discriminant analysis was introduced by Fisher and Mahalanobis. The basis of the model is that each observation is classified based on some predefined criteria, i.e. discriminant analysis is a possible way to classify observations. Its application assumes the presence of a discrete (the so-called classifying) variable and two or more quantitative variables in the database. The aim is to decide to what extent the original classes will be reproduced if we try to classify the observations based on the given quantitative variables; that is, to what extent quantitative variables differentiate (discriminate) among the classes. To apply discriminant analysis, some assumptions have to be met: the covariance matrices of the groups cannot differ significantly and the variables have to follow multivariate normal distribution (Obádovics 2004).

After the general analysis, I ran a discriminant analysis. Before that, I carried out a partial correlation analysis for each pair of indicators to test their independence, and this condition was met. The results of the discriminant analysis are provided in Figure 11. The dispersion of micro-regions is according to the original classification taking into account labour market indicators. The developed micro-regions (F) disperse fairly widely; that is, not each developed micro-region belongs to this group when labour market indicators are taken into consideration. The underprivileged micro-regions (H) are classified in the same group and show no significant deviation. The results are much more surprising in the case of the two least developed groups. The least developed micro-regions (LH) disperse fairly widely around the group centroid. The least developed micro-regions with complex program (LHH) also show a rather significant dispersion. Two lines can be fitted to the observations, which would arrange the micro-regions into a V shape (Sajtos-Mitev 2008).

I analysed the final table of discriminant analysis, which shows numerically to what extent the groups created as a result of the analysis carried out with labour market indicators coincide with the original classification or to what extent they are different.



Source: SPSS compilation based on own computation

Figure 11. Result of the discriminant analysis

Table 1. Result of the discriminant analysis [a,b]

			Predicted Group Membership				Total
			F	H	LH	LHH	
Original	Count	F	52	27	1	1	81
		H	8	29	6	3	46
		LH	0	5	7	2	14
		LHH	0	6	6	21	33
	%	F	64.2	33.3	1.2	1.2	100.0
		H	17.4	63.0	13.0	6.5	100.0
		LH	.0	35.7	50.0	14.3	100.0
		LHH	.0	18.2	18.2	63.6	100.0
Cross-validated	Count	F	51	28	1	1	81
		H	10	27	5	4	46
		LH	0	8	3	3	14
		LHH	0	6	6	21	33
	%	F	63.0	34.6	1.2	1.2	100.0
		H	21.7	58.7	10.9	8.7	100.0
		LH	.0	57.1	21.4	21.4	100.0
		LHH	.0	18.2	18.2	63.6	100.0

a) 62.6% of original grouped cases correctly classified.
b) 58.6% of cross-validated grouped cases correctly classified.

Source: Own computation

Based on Table 1, only 52 of the original 81 micro-regions are in their correct place and do not need labour market support either from a labour market point of view or based on legal classification. Out of the remaining 29 micro-regions, 27 would belong to the underprivileged group and one would belong to the two least developed groups respectively, in the light of the unemployment indicators. Out of the 46 underprivileged micro-regions, 29 are in their correct positions, while 17 should have been classified into the three remaining groups. Out of the 14 least developed micro-regions, 7 can be found in the appropriate group and out of the 33 least developed micro-regions with complex program, 21 can be found in the correct group, while six of them belong to the group of underprivileged and another six belong to the least developed micro-regions, based on labour market indicators.

As a result of the discriminant analysis, we can conclude that the classes created based on the entitlement limits of the financial support defined by the effective government decree do not coincide with the groups formed using labour market indicators. In the labour market, there are regional disparities also among micro-regions, about the extent of which discriminant analysis does not provide information. To reveal more information about it, further analysis is necessary. The calculation does not provide information either about which micro-regions are in the inappropriate group.

BREAKING POINTS FOR LHH MICRO-REGIONS – SUMMARY

LHH micro-regions face similar problems:

- deep poverty,
- unfavourable social and economic background,
- unfavourable labour market position,
- low entrepreneurial spirit,
- unfavourable infrastructural background,
- high rate of Roma population,
- low income level,
- lack of job opportunities,
- backwardness.

Some breaking points can be defined from the unfavourable situation of the area, which can be used also as main aspects of regional development:

1. Firstly, the favourable geographic potential of the region has to be taken into account, which may play an important role in the boost of tourism. It certainly requires appropriate tourism investments and plans.
2. The strong agricultural potential of the area should be utilized better. This would make improvement of the positions of the backward micro-regions of the country possible.
3. The situation of the numerous Roma population should be changed as well, by improving their health care and qualifications. To do so, different development and close-up programmes are necessary.
4. Measures should be taken against the high unemployment rate in LHH micro-regions, for which public employment could be a solution.

On the whole, we can conclude that LHH micro-regions of Hungary significantly lag behind the other micro-regions of the country. The most unfavourable situation can be found in the micro-regions of Northern Hungary and the Northern Great Plain. In most cases, LHH micro-regions form a separate group among Hungarian micro-regions, based on the above examined social and economic indicators. The convergence of these peripheral micro-regions is not easy at all; the creation of a better position, however, should be aimed at with the appropriate economic development tools. Based on the discriminant analysis, some micro-regions have a better position than the original classification, taking into account labour market indicators. Therefore a slight positive change can be experienced.

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