Theses of doctoral (Ph.D.) dissertation

Collective effects of micro-regions on the efficiency of education and choices of further education

Erika Garami

Advisor: Dr. Zoltán Györgyi

UNIVERSITY OF DEBRECEN
Doctoral School of Humanities
Debrecen, 2013.
Collective effects of micro-regions on the efficiency of education and choices of further education

Erika Garami

Advisor: Dr. Zoltán Györgyi

UNIVERSITY OF DEBRECEN
Doctoral School of Humanities
Debrecen, 2013.
I. Aim of the doctoral dissertation, circumscription of the topic

The theme of the doctoral dissertation is the territorial differences of educational effectiveness and inspection of territorial differences in secondary further education. Our interest is due to the works of György Enyedi, Katalin R. Forray and Tamás Kozma and Zoltán Györgyi and also our own previous research results. These researches convincingly prove that extensional state has a significant role in the different social progresses. All social activities exist in a place, some well-defined environment which has elements that affect the social progresses going on in their frameworks, while the correlations also play their part. This approach enables us to get acquainted with substantive characteristics of any social phenomenon. Approaches emphasizing the significant role of ‘space’ are rooted in the so-called socio-ecological aspect written by Dogan and Rokkan which points out the significance of the social place where the life of the society is happening. This aspect presupposes the environment existing independently from the individual, which is governed by its own laws. Researchers consider the broader and narrow residential place to be such an environment whose socio-geographical features, social, economical capacities, infrastructural provision, institutions, schools, historical and cultural traditions can as well be determining in the life of an individual as his ancestry, the cultural environment of the family, his place in the labor market or his position in the social structure. Our starting point coming from György Enyedi and József Nemes Nagy that the notion of place is inseparable from the supposition of territorial differentiation that can be sources of serious social (in)equalities of chance. Our experience in literature and research strengthened our assumption that in territorial inequalities there can be more kind of social inequalities present (eg. economical, employment rate and social). We can put it the following way: in territorial inequalities there are different inequality systems ‘embedded into each other’. This means that the ‘advantages and disadvantages’ attach to each other in a specific way in different regions setting up a peculiar configuration and social relations.

Our choice of the topic can be justified with more facts. The main reason is its role that it fills in the ‘quality’ of human resources which is indispensable for the advancement of training and education of people. In connection with the social function of training there is a high degree of agreement that training does have a role in the advancement of the society, however, there are some uncertainties with its role in economical advancement and in relation to an approach that regards training as an investment and says it pays-off. We share the viewpoint of Júlia Varga and her associates saying that education undoubtedly has external effects as well which are important for the whole society; with higher education can come citizenship awareness, adaptability of workforce, furthermore, social and health expenses can
decrease as well as expenses due to crime. Education can have personal gain, too, for instance it can provide protection from unemployment or it can increase someone’s living wage.

It was a serious professional challenge for us that educational questions regarding our topic are interdisciplinary – they may include topics of geographical and social science while the author is not a professional in the field of geographical science. We aimed to find the meeting points of geographical science, education sociology and those explanatory frameworks with the help of which we can find answers to our questions. Hopefully we have been successful.

The main aim of our research was to find solutions to the dilemma that always reappears in the explanation of territorial differences, namely, ‘only’ social and economical differences appear in territorial differences; these are ‘crystallized’ or there is a specific organization of ‘configuration’, which affects the outcome of social progresses happening within its frame, independent from all the other facts. It was important for us to understand the role of this special organization in the ‘embedded inequalities’. We needed to study the thinking of geographical science about the ‘role of space’ to find those features of the organization and construction of space, which help in explaining the problem of aggregated ‘advantages’ and ‘disadvantages’. This leads to the most important question of our research that is it improbable to create the differentiation of higher educational ways and increase the efficiency of training in an area with undeniably aggregated disadvantages. It is also a question how much disadvantageous environmental facts cause arrear in the efficiency of training and limit chances of further study. We had to clarify which facts advance or set back this progress.

In the first and second chapter of the dissertation we present the development of thinking of geographical science about the ‘role of space’. It gives an account of the development of social geography from the geographical determinism claiming the omnipotence of physical environment to the priority of society and culture against environment and the ‘relativistic aspect’ of space to the appearance of the contextual theory of Edward Soja. The significance of this theory is that it did not regard configuration as an external fact compared to the social context but as a structure that established by the society. Place is an ‘arena’, where social life is blooming and at the same time is a ‘medium’ as well, through which social life is produced and reproduced. This approach is repeated in the social aspect of regional science represented by József Nagy Nemes, János Rechnitzer and Georges Benko, which inspects the territorial progresses and phenomena and analyses their represented forms in the institution system and social relations. Regional science has worked
out ‘categories’ with which can explain the ‘mutual strengthening’ effect of inequalities. Such categories are the notions of ‘external territories’, meaning different territorial units (here micro-regions) and ‘internal territories’ which stand for the special relations among different social territories. Also, the notion pair of centre-periphery and different types of periphery; then ‘neighborhood’ meaning areas with similar features ‘organized into larger regions’, the principle of ‘territorial auto correlation’ that is built on the similarity of certain features in neighboring each other. These definitions are able to expound the inequality systems ‘embedded into each other’ and the coexistence of advantages and disadvantages.

The third chapter deals with the question of what makes the territorial differences into territorial inequalities. The difference of natural power sources made an obvious geographical difference of economy. We share the viewpoint of György Enyedi, who says that territorial differences become territorial inequalities if a person with a given social status has worse life conditions and chances of mobility than another person with similar social status in another region only because of his residential place. György Enyedi puts it this way: it is not by chance that in western democracies territorial underdevelopment is regarded as ‘an offense made upon the practice of rights of citizenship’ and is treated the same way, too. We covered the domestic economical, territorial progresses affecting inequalities, the periods of regional development of the socialist era after World War II and the sequels after the change of regime. We share the opinions of more renowned authors, such as, József Nemes Nagy, Péter János Kiss, Katalin R. Forray, Tamás Híves and Gábor Kertesi saying that these changes refer to the increase of inequalities and concentration of of disadvantages in certain regions; the ‘splitting’ of the country.

Chapter 4 is about the international research of the relationship between space and training as well as presentation of domestic regional researches inspired by socio ecology. The results of international literature were important for us (e.g. works of Peter Meusburger and his book series called ‘Knowledge and Space’) since they convincingly prove that there are significant territorial inequalities in knowledge, emergence of mental capital, scholastic records, professional knowledge and competences of the available work force of the regions. They call attention to the problem that there is a territorial concentration of highly educated, knowledgeable, especially talented and creative groups of people and the same way they have more opportunities for employment. The most important reason for inequality of territorial distribution of knowledge was explained by researches being the economical relations, the hierarchy of division of labor and differences and the social environment and its territorial
differences which created the knowledge and power differences between ‘centers’ and ‘peripheries’.

We also volunteered to draw the historical arch of domestic education ecology researches. In their corporate and individual works, Tamás Kozma, Katalin R. Forray and their research associates all had the initial premise that results of studies, decisions of further education are greatly affected by the social, economical conditions of one’s narrow-broad residency just as the family’s socio-cultural state. Their work gave a basis the domestic regional researches, their views and results are inescapable for researches like these. Their topics of research were much diversified. We only deal with those directions which are mostly attached to our topic of research. These topics were primarily touched by András Benedek, Katalin R. Forray, Zoltán Györgyi, Tamás Híves, Tamás Kozma and András Semjén. Our research was greatly fructified researches aiming to set territorial typologies, in which we can again see the basic categories of regional science (neighborhood, auto correlation) ‘coexistence’ with different indicators of territories and also in ‘blocks’ of lagging regions.

We utilized the relations between different social indicators from their regional inspections and we also used these when creating the development ‘patterns and ‘indicators of homogeneity’ of micro- regions. Analyses of relations between study performance and further education with the social and economical system of conditions (e.g. social composition) of regions proved to be useful as well. Researches which wanted to measure the efficiency of primary education (grade retention, over age, endangerment and dropout) explained the ‘weaker’ performance basically with unfavorable residential conditions and social composition. Besides the multiple underprivileged socio-cultural states of families the falling or stagnant residential environment meant risk factor in a similar way. From researches inspecting secondary training we could use the viewpoint that compared the scholastic performance not with the features of the individual but with the general development of school districts that was measured with the professional composition of the school districts, the equipment of the schools and provision of the districts. For example, the demand for further education and vocational training was closely related to the development features of the inspected regions, mainly to what social groups were dominant in the given region. On the other hand, the viewpoint saying that in territorial inequalities of claims for further education gives impressions of social inequalities. There are agglomerating effects between the education, social composition, the available training programs of the people of the residential environment and the pursuit of further education of families.

2. Sketching the Applied Methods of the Research
It has always been a key question in territorial researches to define the appropriate territorial units. In our research we used the *micro-regions* defined by KSH (Central Statistics Bureau).

For the aims of the empirical research we have created a database in SPSS format which has the micro-regions as basic units and is based on data from *official, concise statistical data recording.*\(^1\) We used the following databases: data of micro-regions in the regional statistical publication of KSH of 2007, and the census of 2001. For measuring the ‘efficiency’ of training we used the data of 8\(^{th}\) graders from the national competence measurement of 2007, the all-time public education database statistics of the department of education and the database of KIFIR\(^2\) from 2007. In our established database we could inspect the social, economical features of the micro-regions at the same time with the characteristics of the educational system and their relations.

We made two important decisions about methodology in the beginning. Firstly, that we just search the Hungarian ‘country’. We decided like this because Budapest has salient and unique values compared to the country, which play down the micro-regional differences. This problem is addressed by professionals of statistics and they work accordingly. On the other hand there are so great differences between the data of the capital and the micro-regions of ‘the country’ that make the comparison completely pointless. Our other decision was that out of the two competence field of national measurement of competence we chose the results of mathematics part. The content limits of the dissertation did not let us analyze the detailed analysis of the reading comprehension. So if we have to choose we find the *results of the mathematics* better for analysis as their dispersion is greater, their distribution is less uniform and can be differentiated according to more viewpoints.

In the empirical analysis we used the following methods from the SPPSS program: 1) We used the method of *factor analysis* to choose from the many alterations characterizing the micro-regions those which help us to analyze the regions the best way. 2.) *The method of non-hierarchical clustering* was used to group the micro-regions along the different economical, social indicators and create ‘patterns’ with which similarities and differences between regions can be described. The homogeneity indicator based upon the ‘patterns’ had a significant role in the analysis of parental and scholastic background and in the inspection of the efficiency of training and ways of further education. 3.) *Analysis of Variance* was used to analyze the

---

1 Making these data adaptable for analysis, building into databases then relating the databases in a special way was done by the author. These phases of work were necessary because the original data and databases were on paper or in Excel, Access or SPSS format.

2 Középfokú Közoktatási Intézményes Felvételi Információs Rendszere (Information System of Admittance at Secondary Public Education Institutions).
scholastic and competence results according to different discreet variants. 4.) Two or three dimensional cross chart analysis was applied to find out the relations between parental and scholastic background and the development of the region and also their effect on results of competence indicator. 5.) We used the method of linear regression to exploit the effect of familial and environmental facts on the efficiency of training. As the listing of results includes the hypotheses as well, we found it pointless to have them shown in a different chapter.

Chapters 5 to 7 include the description and results of the empirical research. The ‘background variants’ were the ‘patterns’ created by the social and economical indicators of the micro-regions and based on this the ‘homogeneity indicator’, furthermore, we inspected the parental background and schools’ social composition of the 8th graders taking part in the competence indicator. The ‘result variants’ were the standardized points that the students achieved at the mathematical competence measurement. In the dissertation we have covered three topics in the field of territorial features of efficiency of training. We covered 1.) The effects of parental and scholastic background on efficiency, 2.) micro-regional differences of efficiency of training (results overlapping parental and scholastic background with ‘favorable’ and ‘unfavorable’ output), then 3.) we covered the territorial features of secondary further education. In this part we gave an account of tendencies in further education from 2000 and 2007 and looked at the micro-regional characteristics of further education: secondary students’ studying locally and in other places, the ways of further education in the light of previous variables, indicators of success and selectiveness of the secondary admittance progress and differences of these measurements in training forms and homogeneity indicator. The results are concluded in the last chapter of the dissertation.

3. Listing Results of the Theses

One of the most important methodological results of the research is that we have edited a ‘homogeneity indicator’, which is able to point out the ‘place’ of all regions on the ‘continuum of development’ and can ‘handle’ the transitions as well. This background variant could be perfectly used with both analyses of micro-regional differences of efficiency of education and territorial features of secondary further education.

1. On the basis of the results the following hypothesis proved to be true that in certain regions one can find the ‘coexistence’ and what is more the aggregation of ‘advantageous’ and ‘disadvantageous’ states along the different dimensions of development, and ‘embezedness of inequalities can be justified. In accordance with previous regional researches the most disadvantageous regions are found in the North, North-Eastern and East parts of the country and many times there are blocks of them and also in the South part of
Transdanubia, mainly in Baranya and Somogy counties. The most advantageous regions are still around the capital and most micro-regions of Fejér, Komárom-Esztergom, Veszprém, Győr-Moson-Sopron and Vas counties.

2. Our hypothesis proved to be valid that was based on the thoughts of József Nemes Nagy, Péter János Kiss and Gábor Kertesi saying that the more unfavorable are the makings of a region the more it can be characterized with ‘polarization’ or ‘splitting’. The dispersion of the parental and scholastic background was the greatest in regions with the worst positions. The better this background got the smaller their dispersion was. In about the third of the regions – there is no such parity but there is a favorable or less favorable parental and scholastic background compared to the condition of the region. In regions with more advantageous parental and scholastic background despite of the more unfavorable makings the social and employment conditions were a little better than those with similar makings. People are more educated and these regions have been trying to keep up with the more developed regions. However, in those regions with in spite of the more favorable makings neither parental nor the social composition of schools were so favorable primarily due to the lower education of people (for example the domination of secondary qualification). In regions with better makings even secondary qualification can cause ‘recession’. It was made clear that the disadvantageous conditions of regions can have a greater effect on the social composition of schools than those with environmental makings better than the average.

3. We clarified the question of how much students’ performance and their parental and scholastic background coincide. The greater this coincidence is the greater the greater parental and scholastic background can determine the results of the students. We considered all outputs ‘favorable’ where there was advancement in results compared to the background and we qualified all outputs ‘unfavorable’ where there was withdrawal in results compared to the background. In most regions the nature of the social composition of the school and the parental background coincide with the results achieved at the competence measurement. It is true to the least extent in average regions and to the most extent in regions with better than average backgrounds. Region with the least favorable parental backgrounds are placed between the average and better than average regions. Our supposition was not justified that claimed that in regions with worse makings would we find greater ‘coincidence’. However, we can tell that these regions do not have ‘outbreak points’ for intentions enhancing efficiency of their educational system. Parental background with above the average financial and cultural income and higher education can do way more for their children’s performance above the average than schools with similarly favorable composition. Therefore, parental
background can better ‘confine’ the results of the child than the social composition of the schools. At the same time, our results give countenance of the importance of composition and collective act of the community.

4. It was an important issue for us to find whether the different development of regions modify the effect of parental and scholastic background (see above) on results or not. Depending on the homogeneity of regions the parental and scholastic background had other kinds of effects. In homogeneous regions with the worst makings, the effect of the parental background almost ‘fade into’ the effect of the regional characteristics, as unfavorable economical and social circumstances are so determinative. Regional effects can be defining the same way in relation to regions ‘on the move’. The independent effect of social composition of schools prevails in the groups of regions with the least favorable conditions. In homogenous regions with the best indicators, the effect of the parental background ‘preserves’ the independence of its effect on the success of the children. Favorable environmental makings and effects help the emergence of the effect of the parental background. Furthermore, our hypothesis is proven that in regions where conditions are ‘more favorable’ and so more homogenous in this respect have greater chances to have better results in spite of less favorable family and/or scholastic background. However, in regions with worse conditions and are more homogenous in this respect have greater chance to despite of having more favorable family and/or scholastic background students perform poorly than ‘expected’ from them. In these regions, parents cannot become independent from the environmental effects as unfavorable regional characteristics and disadvantages coming from unfavorable social backgrounds ‘collide’. Features of regions with more unfavorable conditions can impose their effects more than those of more favorable ones. According to our results, the greatest effects are imposed by the qualification level of people in the micro-regions, the departmental structure of economy, the state of being disadvantageous or advantageous regions and the employment conditions of families.

5. Our supposition proved to be right that said the training supply and conserving force of regions depend greatly on the general development of the regions. Regions having bigger towns and chief town of a county with the widest range of supply of institutions and programs have the highest rate of students staying in the area. According to the ‘homogeneity variant’ most of these regions are among the ones with the best makings. Those regions from where the most students leave are basically regions with unfavorable conditions; therefore their ‘conserving force’ is significantly lower. On the basis of our results we can expect that not only the quantity of local training supply but its quality can cause migration. Namely, in
those regions that many students left there was significantly less rate of applications of over quota, so there was less interest in the local training supply and they could not (or did not want to) fill the available quota and there was less rate of those students who were initially (during the placement test) classified among the acceptable ones than those from regions with greater conserving force.

6. It was a valid **hypothesis** which claims that the more developed a region is the greater role the less perspective training forms (trade school) regarding emergence in the labor market has in the training construction of the region. The more developed a region, the greater role the grammar school programs, more precisely the higher level special training programs have. In regions struggling with disadvantages there is a ‘duality’ that can be observed in their education; we named these as the ‘royal road’ and the ‘service-stairs’. In these regions, two, completely opposite training programs are run where most of the young attend: on the one hand in vocational trainings and on the other hand 6/8 year grammar school programs.

7. Our **hypothesis** can be justified that programs in trade and vocational schools have different functions in advantageous and disadvantageous regions. In case of a developed region, vocational programs are based upon the demands of a valid and progressing economy. In case of an underprivileged region it is for ‘absorbing’ the most disadvantaged and needy students and keeping them in schools for a while – not for ‘real’ vocational training.

8. Our **hypothesis** was validated saying that we can observe relations between results in studies and competence measurements and differences of development. The average scholastic record was the weakest in regions with the worst makings, whilst in regions where there was an ongoing dominance of disadvantageous indicators they were not so homogenous than the previous group. The poor scholastic records ‘diverted’ students to trainings which aimed to make up for the deficits of their underprivileged state and lagging behind. Most of the trainings were vocational.

9. **It can be proven** that the practice of secondary admittance is determined by their training type. On the basis of KIFIR, indicators show the ‘success’ of the admittance progress and inform us about how the different secondary institutions could get those students they wanted the best. 6/8 year grammar school programs consequently had the best choice of selection. Students of vocational schools can be characterized with the poorest choice of selection. This is the explanation for having applicants but not fulfilling their quota and they have the lowest rate of impletion for years. They think the applicants are so untreated that they rather give upon them. Our **supposition** proved to be wrong that ‘selective’ indicators...
would show the highest points in the most disadvantageous regions. Just the opposite, there was increasing students’ performance with the bettering state of regions that shows in the success of the entrance exam and increased ability of selection of schools. On the basis of our results we can conclude that the regional characteristics, the developmental homogeneity of regions do affect the efficiency of training and choices of further education, primarily through those direct effects which they have on the existential condition of families, working conditions and social composition of schools and also through indirect effects which they have on the infrastructural, economical and demographic features of regions. We think it is a merit of the present dissertation that by creating the homogeneity indicator that measures the development of regions and is sensitive to the transitions as well; it is possible to point out those breaking points which can help education and so the efficiency of regions as well. We think that increasing education and employment could be sure break out points. Both could mean external effects that are indispensable for developing regions (i.e. the excess of income and state of social and demographical conditions).

If we had to find the direction of further research areas than we would argue for one that would explore what forms and opportunities there are in different regions for regional cooperation, mutual support, adaptation and use of their achievements and knowledge among employment, educational and social politics.
Publications:


Other publications:


