MEASURING DEPRIVATION IN URBAN NEIGHBORHOODS – THE CASE OF SZEGED

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Abstract. The quality of life (QoL) is one of the most important topics of recent urban policy. It is especially important in the case of the development of the most disadvantaged neighborhoods. These neighborhoods and their problems need to be identified. Because of this it is important to have proper information about the spatial differences of QoL – based on the appropriate information we can determine necessary actions for urban and regional policy. The paper introduces the index of multiple deprivation (IMD) as a tool for measuring differences in the quality of life in urban areas. IMD is commonly used in spatial planning in Great Britain. Based on large databases the indices are made with factor or principal component analysis. Based on a survey and census data we used the index to determine intra-urban differences in Szeged and identified the most deprived neighborhoods.

Keywords: deprivation, Szeged, index of deprivation

1. INTRODUCTION

In past decades analysis of spatial justice and the situation of marginalized social groups became widely discussed topics in urban geography. Several papers dealt with urban segregation and differences in the urban quality of life or how marginalized social groups can attain their goals in urban development (e.g. Wolch et al. 1993, Gleeson 2001, Hubbard 1998, Holloway 2005). These notions accompanied the efforts of the European Union: spatial justice and equal chances are often emphasized principles in the development documents of the European integration. These topics have special importance in post-socialist countries in which quick and significant transformation of the use and production
of urban space took place (Krémer 2003, Soóki-Tóth 2005, Baráth and Szépvölgyi 2007). These changes inducted new researches about urban rehabilitation, segregation or gentrification (Kovács - Szirmai 2006). In the European cities the ghettoization and the segregation are not as serious as in the North American cities. But tension in the society which is related to the immigration and the political change of regimes as well, intensifies the problems of the social cohesion (Ferge 2001, Szirmai 2006, Kovács and Szirmai 2006). Therefore, it is important to know the spatial characteristics of our cities and the nature and extent of socio-spatial differences in them.

Our aim to review the problems related to the measurement of deprivation. The paper presents the concept of deprivation and how we can analyze the spatial aspects of it: using the index of deprivation we define the most deprived neighborhoods of Szeged. Based on the index we analyze the intra-urban spatial differences of the city.

2. DEPRIVATION AND POVERTY – CONCEPTS AND MEASUREMENT

Deprivation is not only a synonym to poverty - but it is often used as it would be. The term refers to economic and social shortages and it can be understood from a material or social point of view (Sanchez-Cantalejo et al. 2008). Therefore, deprivation is a multidimensional concept: it means low income, low level of goal attainment, political exclusion etc. An individual can be deprived by “objective” terms which mean that the indicators of deprivation are external to him/her. Subjective deprivation is based on the individuals’ opinion: in this case the person feels that his/her living conditions are worse than the average or desirable level (Ferge et. al. 1980).

Some of the researches emphasize the importance of reference groups: according to this approach individuals feel deprived when they make comparisons with those above themselves within a reference group (Stewart 2006). According to the relative deprivation theory individuals do not suffer from absolute conditions. Rather, individuals suffer from their relative conditions derived from comparisons with ‘‘like’’ individuals (Merton and Kitt 1950, Runciman 1966).

Because of the social policy’s need for information and the importance of comparability several attempts have been made to measure the spatial dimensions of deprivation. These aimed to identify the most disadvantageous neighborhoods. Lower scale comparison is possible by using dissimilarity indices which measure the separation of two social groups (e.g racial or ethnic groups). If the groups are homogenous by income or quality of life then the index also measures their as well. The value of dissimilarity index can be between 0 and 100% - in this latter case the two groups are perfectly separated (Duncan -Duncan 1973, Németh 2005). A special version of dissimilarity index called Robin Hood index is based on income inequality. The advantage of using simple indicators is the availability of data but they do not reflect to the complexity of the concept (Sanchez-Cantalejo et al. 2008).

The index of deprivation and index of multiple deprivation, used by British government can be used to compare small areas. In Britain these indices are used in the spatial planning process and health care policy as well. The index of multiple deprivation contains seven dimensions: income, employment, health care and disability, education, geographical accessibility, social environment, security (Nemes Nagy 2005, Agarwal and Brunt 2006). But other dimensions can be drawn into the analysis. After choosing
dimensions some kind of data reduction procedure needs to be employed – mostly principal component or factor analysis (Fahey 2005, Whelan et al. 2005). These make the data set more manageable. These indices show the areas which have to deal with the most serious problems – and regional policy can try to tackle with their problems. In Great Britain the indices were used on micro-regional and intra-urban scales as well. In this paper we used them to reveal intra-urban spatial differences.

3. DATA AND METHODS

We used two types of data sources for analyzing the spatiality of urban deprivation of Szeged. Firstly we used the data from the 2001 Census to create cumulative indicators (deprivation indices). Because we cannot get all the information about the deprivation from the Census, we used the data from the “Szeged 2007 survey”, which is conducted by the Department of Sociology. This survey represents the quarters of the city; therefore we can conclude an area comparison. Unfortunately the two databases use different classification, that is why the possibility of the comparison is limited.

Based on the data from the Census, we studied the “objective deprivation”, therefore we used indicators which represent various objective aspects of the quality of life and are independent from the people’s opinion. The observed units were the quarters defined in the Census, but at those parts of the city, where there were not enough residents, we cumulated the number of residents of those neighborhoods. In this way they cannot distort the results. The dimensions of objective deprivation were: unemployment, activity rate, lower education, unqualified jobs, higher education, ratio of intellectuals and managers, flat conditions (ratio of the smallest flats). We used the standardized values of the indicators. In which quarter the value of an indicator was below par, we considered the part of the city disadvantaged in that dimension. Because of the comparability we used standardized values. We made two types of the deprivation index from these data. Firstly, we defined the “combined deprivation index” which shows the number of the dimension in which the quarter is disadvantaged. Secondly, we defined the “cumulated deprivation index” by adding together the values of various dimensions. In the second case if a quarter has a strong disadvantage in a dimension, it can be in a worse position among the other quarters of the city, as it was by the combined index.

Processing the data from the 2007 survey we used the subjective deprivation approach, therefore we used the appropriate data concerning the perception of the quality of life. We used the principal component analysis as a data reduction method. Based on the principal components we defined the deprived parts of the city: if the value of a principal component was below par, we considered it as a deprived neighborhood according to that dimension. Dimensions of subjective deprivations we re: subjective flat conditions, social network, social position and income, politics, security. All dimensions show that the residents’ valuation about their situations – which of course can be different from their “objective” situation. We interpreted the data from the questionnaires by the electoral distincts of Szeged, because the survey was representative on these units. We defined the combined and the cumulated index in this case as well. We did not use income as an indicator because that is an objective data while the other indicators show the respondents opinion about their situation.
4. URBAN DEPRIVATION IN SZEGED

Objective deprivation can be measured in eight dimensions – therefore the value of combined deprivation index can be between 0 and 8. The average is 3.87 which means that an average neighborhood is deprived in four dimensions.

None of the neighborhoods reached the theoretically maximum value, but there are three quarters which are deprived in seven dimensions (Figure 1). These are the most disadvantaged areas of Szeged. One of these is Tarján, which is a planned part of the city with large housing estates. Because of this the ratio of smallest flats is below the city’s average – most of the flats in housing estates are bigger than 35 m$^2$. This means a dramatic shift from the previous decades: earlier censuses showed that housing estates were valued parts of the city and their population was younger and more educated than other quarters. The outer parts of the city proved to be in unfavorable situation as well – especially because of the quality of flats. To understand why they are in this situation, and why they are important we have to take into account the history and special structure of Szeged. Szeged, as most of the cities of the Great Hungarian Plain has extensive periphery. In the past these were the location for “tanya”, which is a traditional Hungarian type of settlements. Nowadays there are small hobby gardens in the peripheries of Szeged which became popular among those who seek less dense neighborhoods – this generated an “intra-city suburbanization”. In the small hobby gardens there are lot of small buildings – because these were built mainly for storage. But with time they became inhabited or used as second homes or holiday houses. This meant that the owners developed the infrastructure of the buildings. Because of the enhancing quality and the changing consumer standards the small hobby gardens became popular for in-migration among the poorer population. Despite of the developments the majority of inhabited buildings still has small floor space.

![Fig. 1. Combined objective deprivation index in Szeged. (source: calculation based on the 2001 Census)](image)

The villa quarters at Újszeged represent the most favorable situation: these are not deprived at all according to the Census data. One of these parts of Szeged is Marostö, which is a fast-growing quarter with gated communities. Generally Újszeged is in favorable
situation and the proximity of privileged neighborhoods valorizes all nearby districts – even the housing estates.

The value of cumulative deprivation (Figure 2) index is the highest at peripheries and small hobby gardens – because of the small flats and low education level of the inhabitants. According to this index the industrial area is in better situation than we experienced at the combined index – it is because of the high activity ratio of this neighborhood which counterbalances those dimensions in which the area is deprived (i.e. is below average). Kiskundorozsma, which is a formerly independent settlement has lag in almost every dimensions but it is not quite big in any cases – therefore this neighborhoods’ situation is better by the cumulative index than by the combined one. The two indices are quite similar: the rank correlation is 0.815 between them.

In the case of subjective index (calculated by the surveys) the maximum value of combined index could be five. As we have seen at the objective deprivation indices, Tarján and Kiskundorozsma are in the worst situation – and the residents’ responses are consonant with it (Figure 3 and 4). The worse demographic and environmental situation couples with a strong feeling of deprivation.

The sense of deprivation among the residents of large housing estates was noticed in other cities: for example earlier researches (Egedy 2007) revealed that in Budapest housing estates are at the bottom of housing market and their residents are dissatisfied with the social and built environment. It is the same in Szeged: in the housing estates a lot of
Measuring deprivation in urban neighborhoods – the case of Szeged

Residents would like to move to another part of the city. A strong discontent with their situation also can be observed.

While in the case of combined objective deprivation none of the neighborhoods reached the hypothetical maximum value, the subjective index shows that Kiskundorozsma is below the city’s average in every dimension. At the same time, some neighborhoods in the inner city were above average in every dimension. At the housing estates we can experience that the residents feel that their situation is worse than the average. Interestingly, the inhabitants of small hobby gardens are pleased with their flats. The statistics showed that flats are below average in these parts of the city. We assume that they appreciate low density of buildings and green belt environment.

A neighborhood near the city center is deprived only in the political dimension. The cause is that this quarter (Alsóváros) is a traditionally semi-rural area with family houses. But recently several building operations took place in Alsóváros changing its appearance. The citizens are dissatisfied but they could not affect these processes.

The cumulative index (Figure 4) is analogous to the combined index – just like we experienced in the case of objective indices. This index shows the favorable situation of the low density areas and the representative, easily accessible parts of Szeged, while housing estates and some peripheral areas are deprived – but not the hobby gardens where the residents feel themselves less deprived as we could expect based on the Census data.
This paper briefly reviewed how we can analyze the spatial aspects of urban deprivation, and what kinds of results can be achieved with the use of the index of multiple deprivation. According to the objective and subjective deprivation indices the spatial structure of Szeged proved to be quite similar – in spite of using different data sources. All of the indices showed that the villa quarters and downtown are in the most favorable situation while large housing estates have serious problems in almost every analyzed aspect.

The spatial pattern of the objective and subjective indexes are quite similar, but not the same. The differentiation of the city is probably determined by the market processes, which revaluated the quarters of Szeged after the change of regime. These processes made the more accessible neighborhoods and the ones with better quality of life more valuable. Because of this the most privileged areas are the Újszeged quarters and Downtown, the most deprived are the peripheral parts of the city, for example Kiskundorozsma, and the planned unit developments (mostly Tarján).

In spite of the problems related to the different data sources and the dissimilar territorial units we found that the spatial pattern of Szeged is very similar based on the objective and the subjective indicators too. Although there are some significant differences: for example the Downtown is more differentiated by the subjective indicators and the residents of the Downtown are more content than we expected based on the Census data and the objective deprivation.
The large housing estates represent the most important complex task for urban policy: without intervention these can be heavily segregated parts of the city with serious social problems. The small hobby gardens which are targets of a special, intra-urban “suburbanization” also mean a critical issue. These neighborhoods’ infrastructure (roads, public transportation etc.) needs development.

Based on the above presented results deprivation indices can be used in urban and regional policy: to compare small areas and define the underdeveloped quarters. Therefore it can be a tool for a regional policy which aims to develop the quality of life. The indices also indicate some new criteria in the data collecting, because to calculate the index we need detailed small area data. The index of multiple deprivation can be used to reveal other cities’ inner structure, and define their deprived areas. This can lead to the opportunity of comparison of Hungarian or Central and Eastern European cities. This comparison would give an overview about the rate of socio-spatial segregation in our cities, and the difference in the quality of life between various cities. The index can be used to make a longitudinal comparison as well, in case we have appropriate data – with these we could measure the effect of the urban policy.

REFERENCES


