The Impact of Suburbanization on Social Differentiation in Hungary: a Case Study of the Miskolc Agglomeration

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Abstract

The aim of this paper is to present how the socio-economic processes of the past few years have affected Miskolc (presently the fourth largest city in Hungary) and the nearby suburban settlements with special regard to changes in population, educational attainment, motivations for suburbanization and satisfaction with suburban living conditions. In addition to the analysis of related statistics, the paper reports the results of a residential questionnaire survey, conducted in the suburbs of the Miskolc agglomeration. The paper argues that the suburbanizing process has resulted in the social restructuring of the suburban settlements of the Miskolc agglomeration. Results prove that suburbanization has played an important role in improving educational attainment figures in suburbs, since two-fifths of people involved in suburbanization (according to the questionnaire survey) completed tertiary education, which is higher than the average of Miskolc and the agglomeration. It has been shown that better living conditions (less polluted, less crowded residential areas) have been one of the most important factors for suburbanization in the Miskolc agglomeration, since it has been revealed that the majority of people involved in suburbanization previously lived in one of the crowded housing estates in Miskolc, in the immediate neighborhood of heavily polluting industrial plants. Empirical results also show that suburban residents are least satisfied with job opportunities and their financial position, while they are most satisfied with healthcare services, natural environment and public transport. Finally, it has been found that suburban settlements only provide basic services (e.g. family doctor), thus local residents generally heavily rely on the higher-level services (e.g. banking) of Miskolc.

Keywords: agglomerating areas; suburbanization; Miskolc suburbia; settlement groups

Introduction

Some of the most spectacular aspects of modern urbanization are centralization (agglomeration) and decentralization (suburbanization) taking place around cities. A model of modern urbanization was first published by Leo van Den Berg and his research fellows (Leo van Den Berg et al., 1982), which was adopted in the Hungarian literature by György Enyedi (Enyedi, 1984; Tóth, 2006). Enyedi emphasized the background and causes (e.g. industrial society is followed by a post-industrial one) of the stages of modern urbanization and inspired Hungarian geographers to do research on the demographic (Bajmócy, 2003; Csanádi & Csizmady, 2002; Kovács & Tóth, 2003; Kókai, 2006; Váti Kht., 2001), sociogeographic, as well as on the economic and infrastructural aspects (Dövényi, 1999; Hardi, 2012; Kovács, 1999; Schuchmann, 2013) of urbanization in Hungary.

In the past few decades investigating the possible ways to make a distinction between agglomeration and

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suburbanization has become one of the most important research topics of Hungarian geographers (Dövényi, 1999; Enyedi, 1984; Kovács, 1999, 2003; Kristóf, 2017; Timár, 2006, 2009) who primarily focused on the restructuring of the population, the economy and the infrastructure within a particular urban agglomeration. However, most of these studies has so far dealt with agglomerations characterized by dynamic economic growth, such as the agglomerations of Budapest and Győr. A significant shortcoming of research produced over the past half century is that it has not explored properly the social consequences of the processes of agglomeration and suburbanization in one of the largest metropolitan areas of Hungary, the Miskolc agglomeration. That is why one of the major goals of this present paper is to explore how the socio-economic processes of the past decade have affected suburban settlements in the Miskolc agglomeration.

The study focuses on the demographic and social changes of the suburban settlements of the Miskolc agglomeration, as well as migration trends determining suburbanization. In addition to the analysis of related statistics, the paper reports the results of a questionnaire survey, conducted in the suburban settlements of the Miskolc agglomeration, highlighting some characteristics of the suburban population, such as the level of education, motivations for migration and satisfaction with the place of residence.

Specifically, the paper aims to answer the questions as follows:

- How have the former "prestige residential areas" (e.g. neighborhoods dominated by detached houses, or tract houses) of the evolving suburban region integrated into the spatial structure of individual settlements and that of the Miskolc agglomeration?
- What have been the benefits and opportunities, and the drawbacks and conflicts of the suburbanization processes for residents living in the examined settlements?
- Which parts of the transforming suburban relationships can be regarded as successful and which parts of them are problematic, creating conflicts?
- How has the suburban generation's life opportunity, mentality and identity changed?
- All this is important because Western European researchers have made similar results. (Espon 2012)

Theoretical background

Agglomerations in Hungary

Research on the evolution of agglomerations and settlement groups in Hungary started approximately sixty years ago. These studies (Fórizs, 1967; Perczel, 1964) have shown that the concentration of socialist productive forces played the most important role in the evolution of agglomerations, however it has also been concluded that the centralized development of infrastructure also supported the formation of agglomerations (Kőszegfalvi, 1979). For researchers the most striking features of the development of agglomerations in Hungary at that time were rapid population growth and extensive commuting. The primary source of population growth was migration, since it is widely known that more than one million people left Hungarian villages in the 1950s and 1960s and the majority of them settled down in towns and cities. For instance, more than 200 thousand people migrated into the capital (Budapest) during the 1950s and 1960s and other cities, such as Pécs and Miskolc also saw more than 30 thousand in-migrants, respectively. The other factor, extensive commuting, was due to rapid industrialization. Statistics show that in 1960 the number of (industrial) commuters was the highest to Budapest followed by Miskolc in the second place.

From the 1970s the restructuring of the settlement network in Hungary accelerated. In addition to the Budapest agglomeration, the Miskolc-Sajó-Valley and the Lake Balaton agglomerations evolved. Hungarian geographers prioritized research on these agglomerations, nevertheless numerous other urbanizing regions existed in Hungary by that time which were often referred to as unified settlement groups. Out of the 32 settlement formations in Hungary György Kőszegfalvi (1979) classified 3 as agglomerations, 5 as agglomerating regions, 3 as urbanizing regions, 8 as small and 8 as large settlement groups surrounding cities, and 5 as twin or triad cities. The Hungarian Central Statistical Office (HCSO) officially identified settlement groups (for the first time at the beginning of the 1980s) on the basis of Kőszegfalvi's work (Pálné Kovács & Rechnitzer, 1982).

By 1996 the HCSO reduced the number of observed settlement formations to 23, which meant that the number of settlements included in these formations also decreased from 646 to 517. In some cases the nomenclature of these settlement formations also changed. Today the statistical office classifies 613 settlements into one of 23 settlement formations in Hungary (*Table 1*).

Evolution of the Miskolc agglomeration

Miskolc is currently the fourth largest city in Hungary, which lies in northeastern Hungary, at the meeting point of the Bükk Mountains and the Cserehát

Table 1. Settlement formations in Hungary according to the HCSO and the changes in   the number of settlements included in them

Settlement formation	Number of settlements in			Population 2014
	1996	2003	2014	
Budapest agglomeration	79	81	81	2421831
Győr agglomeration	30	29	68	182776
Miskolc agglomeration	17	13	36	205626
Pécs agglomeration	62	21	41	183406
Balaton agglomerating region	41	52	52	147018
Eger agglomerating region	8	10	17	77861
Szombathely agglomerating region	45	31	52	117815
Zalaegerszeg agglomerating region	44	29	51	87852
Békéscsaba settlement group	10	10	9	135779
Debrecen settlement group	18	9	13	267949
Dunaújváros settlement group	-	-	5	59438
Kaposvár settlement group	13	14	23	84259
Kecskemét settlement group	18	9	8	133434
Nagykanizsa settlement group	-	-	24	62290
Nyíregyháza settlement group	12	5	10	148416
Salgótarján settlement group	19	9	10	50975
Sopron settlement group	21	6	12	75313
Szeged settlement group	10	12	15	204301
Székesfehérvár settlement group	17	13	35	167908
Szekszárd settlement group	16	5	10	48112
Szolnok settlement group	11	6	12	101996
Tatabánya settlement group	15	12	11	86151
Veszprém settlement group	11	10	18	83708
Total	517	386	613	5134214

Source: Edited by the author based on http://www.ksh.hu

hills[1] (the Miskolc Gate and its broader surroundings). From the second half of the 19th century the development of the city accelerated, from the 1880s it became the center of one of the fastest developing heavy industrial regions of historical Hungary. The city's population increased almost two and a half times between 1870 and 1910, and surrounding settlements, which were formerly autonomous but now they are part of Miskolc, also showed similar population dynamics. The explosive population growth was primarily due to the development of heavy industry. The role and position of Miskolc in the Hungarian settlement network fundamentally changed following the Treaty of Trianon (1920), which set up new borders and reduced the territory of Hungary. Before the Treaty of Trianon Miskolc was only the 12th most populous city in historical Hungary, however, after the treaty it became the 6th. After 1920, Miskolc became the leading city of

northeastern Hungary in terms of the industry, commerce, finance and culture, since its most important rival Košice became part of Czechoslovakia.

Between the two world wars ever stronger relationships developed among Miskolc and surrounding settlements, which were reflected by the dynamic population growth. The population of the city together with that of Diósgyőr grew to over 100 000 as early as 1941 and it was only a matter of time before the functionally integrated settlements were merged through law ('Greater Miskolc'). The idea of creating 'Greater Miskolc' occurred as early as the turn of the 19th and the 20th centuries, but it became reality only in 1945, when 3 nearby settlements (Diósgyőr, Hejőcsaba and Tapolca) were attached to Miskolc. The area and population of 'Greater Miskolc' increased further in 1950, when another three settlements (Görömböly, Hámor and Szirma) were attached to its area, thus Miskolc became the second largest city in Hungary.

After the Second World War industrialization became the most important goal of economic policy in

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[1]   Cserehát is a hilly region which is part of the North Hungarian Mountains.

Hungary which created favourable circumstances for the development of the city, since Miskolc had long been an important industrial centre in northeastern Hungary. As a result, during the socialist era the development of Miskolc was prioritized and the city also received distinguished political attention in Hungary. Meanwhile the city experienced significant population growth, since more than 30 thousand (30 479) people migrated to Miskolc between 1949 and 1960. The extensive industrial growth of Miskolc was coupled with a geographical expansion as well, many settlements were attached to the city between 1950 and 1981 thus Miskolc had become one of the largest (area: 224 km²) industrial cities of Hungary.

Meanwhile numerous attempts were made by researchers to delimit the area of the Miskolc agglomeration and to identify the settlements belonging to it. For instance, Fórizs (1967) grouped 35 settlements into the Miskolc settlement group based on four factors (healthcare, secondary education, retailing, and industrial commuters). Other researchers identified the area of the Miskolc agglomeration according to complex indicators (Szántó, 1979; Süli-Zakar, 1989). Lukács and Perger (1975) identified the Miskolc agglomeration on the basis of 23 indicators (e.g. concentration of productive forces, population and supply of services, etc.). Kőszegfalvi (1979) identified Miskolc and the nearby settlements as an agglomeration, which was later adopted by the HCSO as well. Since then Miskolc and the nearby settlements have officially been recognized as one of the agglomeration of Hungary. According to the HCSO the Miskolc agglomeration comprised 17 settlements in 1996, which number was reduced to 13 in 2003 due to changes in methodology. The most recent (Tóth, 2014) delimitation of the Miskolc agglomeration by the HCSO includes 36 settlements (*Figure 1*).

Methodology

To explore the impact of suburbanization on the society of the Miskolc agglomeration, the study had to be delimited first. It would have been quite obvious to use the area of the Miskolc agglomeration as delimited by the HCSO as a study area, which currently consists of 36 settlements, however for the purpose of the study this group of settlements would not have been adequate, since the statistical office delimits the agglomeration on the basis of workforce commuting and not on suburbanization processes. As a result, those settlements had to be selected for study within the agglomeration, which were the most heavily affected by suburbanization. To identify these settlements, the relevant literature was reviewed, statistical data analysis was performed (indicators used by the HCSO to delimit agglomerations were applied and settlements were regarded as suburban when the values of these indicators were higher than that of the Miskolc agglomeration and Borsod-Abaúj-Zemplén county) and in-person interviews were conducted with prominent local people (e.g. mayors, notaries and head teachers). As a result of these investigations eleven settlements were identified as heavily involved in suburbanization around Miskolc: Mályi, Kistokaj, Onga, Felsőzsolca, Nyékládháza, Szirmabesenyő, Arnót, Bükkaranyos, Bükkszentkereszt, Kisgyőr and Alsózsolca (*Figure 1*). However, further research and on-site studies revealed that one of these settlements (Alsózsolca) cannot be regarded as a 'real' suburban settlement, since suburban social and economic processes did not play a decisive role here between 1990 and 2011, so this settlement was excluded from further investigations (Kristóf, 2017b).

In the next phase of the research statistical data on the demographics (e.g. changes in population, level of education, etc.) and infrastructure of the selected settlements were gathered and a questionnaire was designed to provide information that was not included in statistics. The questionnaire, was based on Günter Herfert's work (Brake et al., 2001), which was later modified by Dövényi and Kovács (2006). The final version of the questionnaire comprised 34 open and closed questions concerning the changes in local communities due to suburbanization, the composition and motivations of people involved in suburbanization, the integration of new families into the local society, as well as the changing geographical pattern of services used by newcomers. After testing the questionnaire, the survey was conducted from February 2016 to June 2016. During the survey paper-based questionnaires were used that were completed by personal interviews. Participation in the survey was voluntary and anonymous, results were processed and analyzed by using SPSS software. At the end of the research a total of 975 completed questionnaires were obtained. Table 2 shows the number of completed questionnaires in each settlement.

As Table 2 shows the number of questionnaires was not equally distributed among settlements. The reason for this was that interviews conducted with prominent local people revealed that people having been involved in suburbanization (i.e. newcomers) are geographically not evenly distributed in the examined settlements, but they live in smaller or larger communities concentrating in a few streets or neighbourhoods. As a result, stratified sampling
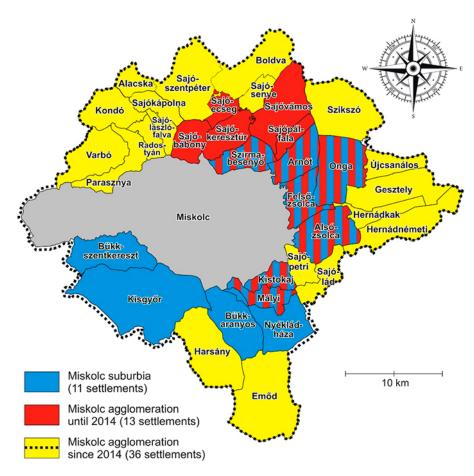
Figure 1. Territorial changes of the Miskolc agglomeration and settlements of the
Miskolc suburbia (2003–2015)
Source: Edited by the author based on the 2001 and 2011 national censuses

Table 2. Number of completed questionnaires by settlements

Settlement	Number of completed questionnaires	Population (2015)	Completed questionnaires as a percentage of the total population (%)
Arnót	161	2387	7
Bükkaranyos	15	1499	1
Bükkszentkereszt	54	1179	5
Felsőzsolca	156	6486	2
Kisgyőr	48	1677	3
Kistokaj	132	2083	6
Mályi	102	3929	3
Nyékládháza	54	4865	1
Onga	166	4764	3
Szirmabesenyő	87	4111	2
Total	975	38586	3

Source: edited by the author (data on population: HCSO)

was applied, so residents of the settlements select-
ed for study were not randomly asked, but respond-
ents were selected from only those neighbourhoods
where the proportion of newcomers was the high-
est. In addition, the percentage of suburban resi-
dents covered by the survey varied from settlement
to settlement, that is, suburbanite samples were not
equally representative of analyzed settlements. The
percentage of suburbanites completing the survey
was the highest in Onga (52.5%) and the lowest in

Bükkaranyos (19.5%). As a result the number of settlement questionnaires was not proportional to the population of each settlement and respondents aged 30 and over were overrepresented due to the nature of the investigation. Thus, it is highly important to emphasize that the sample is unrepresentative of the total population of the suburban settlements so results should be interpreted with caution. However, it should also be mentioned that sample is representative of the people involved in suburbanization, since the survey covered 975 households (app. 1700 people), which accounts for more than 20% of the estimated number of people (6-8 thousand) involved in suburbanization around Miskolc between 1990 and 2011.

Results

Migration and segregation

One of the basic characteristic features of population concentration related to modern urbanization is migration, which necessarily generates social disparities among and within settlements.

It was already observable earlier that low and high socioeconomic groups tended to be geographically segregated (e.g. in city agglomerations), however, it was not until the regime change that this process occurred and became a justified research area in socialist countries (including Hungary as well). I agree with the opinion of researchers in this field who claim that suburbanization intensified this process, resulting in (according to public judgement) both positive (e.g. gated communities) and negative (e.g. ghettos) consequences (Csanádi & Csizmady, 2005; Miskolc ITS, 2013; Perczel, 2003; ; Ladányi & Szelényi, 1997).

It is a peculiarity of Miskolc that, due to the residents moving out of housing estates (e.g. Avas, which used to be a higher status residential area) and to the declining prestige of inner city neighborhoods, the social structure of Miskolc was disrupted in fact on an almost unprecedented scale as compared to previous periods. As a result of this process groups of the elite started to segregate into new neighborhoods (e.g. Avasalja, Berekalja, Egyetemváros, etc.). The emergence of ghetto district within Miskolc (e.g. the so-called 'Numbered streets', Lyukó valley, etc.) was also
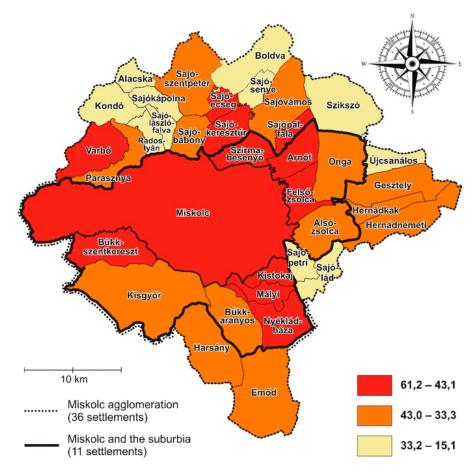

Figure 2. Share of the population with secondary education aged 18 or above (2011)
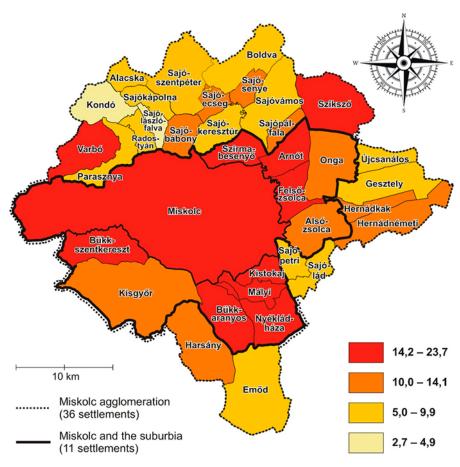*Source: Edited by the author based on HCSO data*

Figure 3. Share of the population with tertiary education aged 25 or above (2011)
Source: Edited by the author based on HCSO data

intensified by suburban migratory trends. The process markedly changed and polarized the suburban settlements of the Miskolc agglomeration as well (*Figure 2-3*).

On the one hand, the role of small settlements in the Bükk Mountains (e.g. Kisgyőr, Bükkszentkereszt, etc.) in concentrating the elite became stronger. On the other hand, there also emerged settlements especially near the administrative borders of Miskolc with favorable economic and transport conditions (e.g. Mályi, Kistokaj, Szirmabesenyő, etc.), which also became the focal points of the new elite with high status residential areas and gated communities. The concentration of low socioeconomic groups also became stronger, with one of the results of these processes being that a contiguous eastern slum region (e.g. Gesztely, Hernádkak, Alsózsolca, Újcsanálos, etc.) emerged within the Miskolc agglomeration characterized by the marked presence of ethnic minorities. (Roma people had already been living in the suburbs before the 1990s, however, in the past 25 years their number has increased at a faster rate than what would be expected on the basis of their natural increase, which implies that their number was also increased by Roma people moving out of Miskolc.)

The low and high socioeconomic groups of Miskolc have been significantly different regarding the directions of their movements, which augmented the segregation within and between the suburban settlements.

Statistical data indicated that in some suburban settlements (e.g. Felsőzsolca, Mályi, Kistokaj, etc.) the number of people with higher education level increased dynamically – surpassing the county and agglomeration means (*Table 3*).

Statistical data and questionnaires have revealed that families moving out of Miskolc did not have outstanding incomes or significant savings, therefore they did not have enough financial resources to move to a higher quality dwelling within Miskolc. Based on empirical research it can be concluded that a significant portion of out-movers was attracted by the favorable environmental and transport conditions of settlements, low property prices and by benefits offered by local governments (e.g. cheap plots; tax breaks).

These facts also underpin one of the peculiarities of the society of the Miskolc suburbia, namely that the majority of suburban generations belong to the lower middle class which is more vulnerable than other layers of the Hungarian society in terms of social (e.g. integration, local ties, etc.) and economic conditions

Table 3. Education level of respondents

Settlement	Women (%)				Men (%)			
	technical school	secondary voc. sch.	grammar school	university or college deg.	technical school	secondary voc. sch.	grammar school	university or college deg.
Arnót	12.5	35.4	14	37.5	4.9	29.5	18	47.5
Szirmabesenyő	2.1	32.6	6.5	52.1	30.7	15.3	2.5	51.2
Felsőzsolca	8.8	26.4	11.7	52.9	16.6	27.7	22.2	38.8
Kisgyőr	2.9	8.8	8.8	79.4	0	25	0	75
Bükkaranyos	16.6	0	0	83.3	0	33.3	33.3	33.3
Bükkszentkereszt	3.2	38.7	29	29	1	5	15	50
Kistokaj	4.16	29.1	37.5	29.1	16.6	16.6	1.8	1.8
Nyékládháza	8.3	16.6	33.3	41.6	0	33.3	0	66.6
Mályi	5.3	25	29.6	37.5	10	20	20	50
Onga	9.5	19	20	45.7	8.1	40.9	16.3	34.4
Total (%)	8	26.8	20.7	44.5	10.5	28.2	18.6	42.9

Source: Edited by the author based on questionnaire survey

(e.g. financial crisis, problems concerning the repayment of foreign currency loans, unemployment). This is particularly true of disadvantaged social groups including lower educated, low income and unemployed people as well as the Roma.

The financial and economic recession reaching Hungary too, the credit crisis and the social aspects of nonperforming loans (e.g. indebtedness, unemployment, impoverishment, etc.) changed the processes of mobility in the agglomerations of Hungarian cities as well, of which hardly any information exists except for the Budapest agglomeration. In fact, the uncertainty

caused by the financial and economic crisis may decelerate or accelerate migratory movements in the future. However, such studies have not yet been carried out in the Miskolc agglomeration, therefore the degree to which the society is affected by this process both vertically and horizontally is unknown.

Based on the survey, it has been shown that the significant increase in the costs associated with the suburban way of life, the apathy of the suburban generation, the deterioration of the former "prestige living spaces", and the social effects of the financial-economic crisis all have contributed to the decline of the

Table 4. Population, natural increase and net migration rate of the Miskolc agglomeration and suburbia (1990–2015)

Settlements	1980-1990		1990	1990-2001		2001	2001-2011		2011	2015
	1*	2*	3*	1*	2*	3*	1*	2*	3*	3*
Miskolc	1487	-13148	196442	-6785	-5532	184125	-8425	-7946	167754	**159554**
Miskolc agglomeration	2927	-1253	92719	1058	3674	97451	-1764	-1475	94212	92347
of which the settlements of the suburbia:										
Alsózsolca	308	-175	**5723**	355	-34	**6044**	161	-439	**5766**	5606
Arnót	170	352	**2082**	107	368	**2557**	34	6	**2597**	2387
Bükkaranyos	-39	-10	**1122**	16	255	**1393**	30	25	**1448**	1499
Bükkszentkereszt	21	-22	**1374**	-96	-4	**1274**	-85	17	**1206**	1179
Felsőzsolca	368	446	**6939**	193	-105	**7027**	58	-472	**6613**	6486
Kisgyőr	7	-67	**1572**	-18	55	**1609**	-39	72	**1642**	1677
Kistokaj	39	205	**1489**	9	370	**1868**	-27	237	**2078**	2083
Mályi	168	685	**3353**	4	795	**4152**	-72	44	**4124**	3929
Nyékládháza	57	185	**4432**	-67	541	**4906**	-204	321	**5023**	4865
Onga	213	213	**4042**	278	441	**4761**	58	39	**4858**	4764
Szirmabesenyő	144	-77	**4836**	-123	16	**4729**	-238	-53	**4438**	4111
Total	1456	1735	36964	658	2698	40320	-324	-203	39793	38586

*1 natural increase, 2 net migration rate (the difference between the number of in-migrants and out-migrants over the examined period), 3 population
Source: edited by the author based on TeIR and HCSO-TSTAR data

rate of social strata which prefer and are able to take the suburban way of live (*Table 4*).

Motivations behind moving out of Miskolc to suburban settlements

Social and economic transformations related to the regime change strongly affected property assets in Hungary, the prices of rented dwellings formerly owned by the state or city councils increased (Csanádi et al., 2010).

By selling these dwellings families living in blocks of flats could create a financial basis for moving home and realizing the dream of the middle class: buying a detached house (Csanádi & Csizmady, 2002). The most important motivation for people moving out of cities (which started as a sporadic phenomenon, but later became widespread) is generally associated with the negative aspects of urban life (e.g. environmental pollution, crowdedness, alienation, etc.), however, these negative elements were not or just scarcely present in Hungarian cities. However, the conditions of Miskolc were peculiar in this respect as well, since during the years of the regime change 60% of its residents lived in blocks of flats in the immediate neighbourhood of heavily polluting industrial plants (e.g. Ironworks of Diósgyőr, etc.). The results of the questionnaire survey prove that inadequate living conditions greatly contributed to suburbanization, since the significant majority of people moving out of Miskolc formerly lived in blocks of flats (*Table 5*).

Data on Bükkszentkereszt, Szirmabesenyő, Kistokaj and Kisgyőr indicate that the simple process of moving from blocks of flats to detached houses was not the only feature of suburbanization around Miskolc. For the more affluent generations, paying particular attention to environmental conditions, moving out of Miskolc was also a qualitative change, since they moved to settlements of high prestige, despite the fact that they had to accept the disadvantages of lack of transport and other infrastructure in favor of having a bigger house and garden. The dominant majority of the new inhabitants of the suburban region arrived from the crowded blocks of flats in Miskolc.

The suburban society's satisfaction with its place of residence

Last but not least, respondents were asked to tell their opinions on living conditions in suburbs. Naturally, subjective factors (such as personal characteristics, financial status) play an important role in one's level of satisfaction with their residential environment, however, the survey focused especially on respondents' perceived satisfaction with quasi objective factors (such as income level or public transport). The questionnaire measured the level of satisfaction with eleven pre-given factors on a five-grade scale (*Figure 4*).

Results show that suburban residents are least satisfied with job opportunities (2.3) and their financial position (2.6), while they are most satisfied with healthcare services (3.6), the natural environment (3.7) and public transport (3.9). Thus, it can be stated that a significant portion of people involved in suburbanization was attracted by the favorable environmental and transport conditions of suburban settlements, low property prices and by benefits offered by local governments.

We should not forget that the availability of services may also influence the level of satisfaction with

Table 5. Former dwellings of people moving out of Miskolc

Settlement	Former dwellings (%)							
	by ownership			by type				
	private	rented	local government	detached house	terraced house	block of flats (five stories or less)	block of flats (six stories or more)	Brick block of flats
Arnót	67.7	19.8	12.4	20.4	9.9	39.7	19.8	9.9
Szirmabesenyő	77	14.9	8.04	44.8	4.59	12.6	19.5	18.3
Felsőzsolca	89.7	5.7	4.4	30.7	2.5	26.2	34.6	5.7
Kisgyőr	77	10.4	12.5	10.4	6.2	29.1	39.5	14.5
Bükkaranyos	80	1	2	2	1	4	5	3
Bükkszentkereszt	83.3	7	2	29	5	15	3	2
Kistokaj	81	11	14	35	18	34	41	4
Nyékládháza	77.7	5	7	12	3	19	17	3
Mályi	100	1	1	15	8	41	32	6
Onga	113	38	15	26	21	73	36	10
Total	772	122	81	244	83	316	256	76

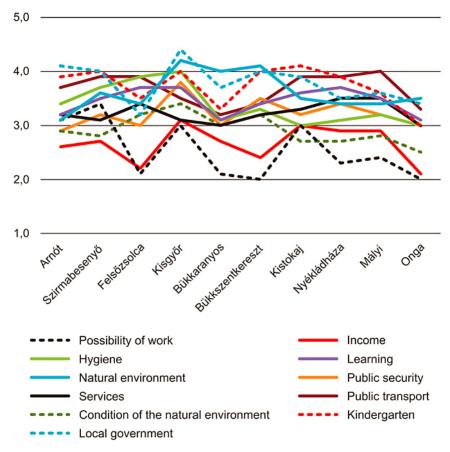*Source: Edited by the author based on questionnaire survey*

Figure 4. Respondents' level of satisfaction with living conditions in suburbs
Source: edited by the author based on questionnaire survey

local living conditions. Therefore, the questionnaire survey was designed to measure the use of services by suburban residents. Respondents had to tell whether they used given services in their place of residence (that is locally) or in Miskolc (*Table 6 and 7*).

Results show that suburban settlements only provide basic services (e.g. family doctor, pharmacy), thus local residents generally heavily rely on the higher-level services (e.g. banking, shopping) of Miskolc.

Table 6. Percentage of respondents using local services

Settlement	In place (%)											Average
	Grammar school	Secondary school	Family doctor	Pharmacy	Bank	Cooperative savings bank	Gas station	Car showroom	Hairdresser	Cosmetician	shopping spree	
Arnót	30	0	84	68	1	2	4	35	39	31	0	27
Szirmabesenyő	41	0	78	53	0	18	11	8	11	9	0	21
Felsőzsolca	22	4	76	73	4	10	6	11	17	16	1	22
Kisgyőr	25	0	56	40	0	0	0	0	25	25	0	16
Bükkaranyos	27	0	60	0	0	0	0	0	0	0	0	8
Bükkszentkereszt	37	0	89	72	0	4	0	11	52	30	0	27
Kistokaj	24	0	59	61	2	2	9	12	32	26	0	21
Nyékládháza	30	0	78	65	7	22	41	22	33	26	0	29
Mályi	18	0	71	58	0	0	0	3	15	5	0	15
Onga	33	0	67	32	0	35	0	14	59	25	0	24
Average	29	0	72	52	1	9	7	12	28	19	0	21

Source: Edited by the author based on questionnaire survey

Table 7. Percentage of respondents using services in Miskolc

Settlement	In Miskolc (%)											Average
	Grammar school	Secondary school	Family doctor	Pharmacy	Bank	Cooperative savings bank	Gas station	Car showroom	Hairdresser	Cosmetician	Shopping spree	
Arnót	36	73	16	32	72	48	48	29	29	26	86	45
Szirmabesenyő	53	41	22	47	55	14	18	18	20	20	32	31
Felsőzsolca	24	33	24	27	45	8	42	33	23	18	28	28
Kisgyőr	21	29	44	60	58	21	54	46	42	25	33	39
Bükkaranyos	40	27	40	100	67	53	67	67	67	67	33	57
Bükkszentkereszt	26	33	11	28	67	19	63	44	7	11	33	31
Kistokaj	21	45	41	39	56	27	55	45	27	24	33	38
Nyékládháza	11	19	22	35	48	7	30	7	15	11	33	22
Mályi	31	29	29	42	14	1	13	14	12	4	91	25
Onga	46	82	33	68	52	13	50	27	41	43	89	49
Average	31	41	28	48	53	21	44	33	28	25	49	37

Source: Edited by the author based on questionnaire survey

Conclusions

This paper has attempted to explore some aspects of the restructuring society in the suburbs of Miskolc with special regard to changes in population, educational attainment, motivations for suburbanization and satisfaction with suburban living conditions. One of the main conclusions of the study is that suburbanization has significantly contributed to the social restructuring of the suburban settlements of the Miskolc agglomeration in the past few decades. Results prove that suburbanization has played an important role in improving educational attainment figures in suburbs, since two-fifths of people involved in suburbanization (according to the questionnaire survey) completed tertiary education, which is higher than the average of Miskolc and the agglomeration. It has been shown that better living conditions (less polluted, less crowded residential areas) have been one of the most important factors for suburbanization in the Miskolc agglomeration, since it has been revealed that the majority of people involved in suburbanization previously lived in one of the crowded housing estates in Miskolc, in the immediate neighborhood of heavily polluting industrial plants. Empirical results also show that suburban residents are least satisfied with job opportunities and their financial position, while they are most satisfied with healthcare services, natural environment and public transport. Therefore, it can be concluded that a significant portion of people involved in suburbanization was attracted by the favorable environmental and transport conditions of suburban settlements, low property prices and by benefits offered by local governments. Finally, it has been found that suburban settlements only provide basic services (e.g. family doctor, pharmacy), thus local residents usually use higher-level services (e.g. banking, shopping) in Miskolc.

Nowadays the villages and towns (e.g. Onga, Alsó- and Felsőzsolca, etc.) of the eastern parts of the suburbia around Miskolc, where low status in-migrants settled down, are struggling with serious socio-economic problems. By the middle or end of the first decades of the 21st century the driving forces of suburbanization were exhausted. Due to the loss of dynamism of suburbanization, a suburban society and economy with lost dynamism and orientation can be observed today. Further development of suburban settlements is chiefly determined by the development of Miskolc, primarily with respect to its labour demand, commuting and residential areas. As a result, further research is needed to explore the highly complex relationships between economic and social factors affecting the evolution of the Miskolc agglomeration in the future. Moreover, the scope of the research should be broadened in the future to compare the results to other, relatively more or less similar Hungarian or other post-socialist agglomerations.

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