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Cities as the keys to survival? The impact of the economic crisis on health inequalities in Hungary in terms of unemployment and life expectancy

This article interprets the spatial dimension of health inequalities in Hungary through the connection between unemployment and life expectancy from the national level to the level of micro-regions and settlements with a special emphasis on cities. The article highlights the correlation between unemployment and average life expectancy at birth based on regional statistical databases. The results of quantitative questionnaires (n = 545) and qualitative in-depth interviews (n = 26) are also presented in order to explore the effect of the crisis on urban populations residing in major Hungarian cities. The correlation between unemployment and life expectancy becomes stronger during crisis periods. Our findings indicate not only that the labour-market position and level of income are important from a health point of view, but also that the level and growth of existing social and health inequalities strengthen the effects of the crisis on health. It is evident that, in Hungary, direct effects of the crisis on health inequalities exacerbate regional differences. Cities can counterbalance the unfavourable health effects of the crisis and they may successfully contribute to decreasing health inequalities.

Keywords: health inequalities, economic crisis, unemployment, life expectancy, micro-regions and cities, Hungary

1 Introduction

The health status of populations in different geographical regions, different settlements and different social groups is determined by biological, individual, environmental, socioeconomic, sociocultural and lifestyle factors (Marmot & Wilkinson, 2006). Thus, the formation of health inequalities is determined by a complicated system of interrelations between many simultaneously effective (determinative and influential) factors (Raphael, 2008a). Some health inequalities are independent of social and economic relations (such as those connected with genetic factors and illnesses of old age), but a large number of them are dependent on socioeconomic inequalities (Evans & Stoddart, 1990; Elstad, 2005). The most important factors are mostly referred to by the acronym "PROGRESS": Place of residence, Race/ethnicity, Occupation, Gender, Religion, Education, Socioeconomic status and Social capital/resources (Oliver et al., 2008). These basic factors show significant differences at both the global level (countries and regions) and the local level (settlements). Social and economic inequalities are apparent at the same time not only vertically, but also horizontally, which means that the relevance of space in examinations of health inequity is unquestionable.

This study investigates the influence that social determinants (such as unemployment) have on health inequalities during a crisis period and examines the interrelationship between health and place. The study uses the materialist/structuralist conceptualisation. This approach emphasises the material conditions under which people live their lives, and so the behavioural choices are heavily influenced by the material conditions of life (Bartley, 2003). We refer to Margaret Whitehead: "The weight of evidence continues to point to explanations which suggest that socioeconomic circumstances play the major part in subsequent health differences" (1992: 243).

The first part of this article deals with the methodological background to the study. The main part highlights the empirical results of quantitative statistical analyses and qualitative surveys on interrelations and spatial differences in unemployment and average life expectancy at birth. It also explores the impacts of the current economic crisis on urban populations. In addition, we interpret the supposed relation between crisis and health through the effects of spatial patterns on health inequalities, and we specify the impact that the crisis has had on healthcare systems and health policies. This article reconsiders the role of cities in balancing health inequalities in eastern Europe through the example of Hungary. Examining the effects of the crisis on health inequalities in Hungary is especially interesting because the average life expectancy at birth in Hungary is 5.6 years less than in the western European countries. The economic and social transition of the early 1990s went together with an increase in health inequalities never experienced before. A few years later, the global crisis further exacerbated and partly restructured the already existing spatial differences in health inequalities.

The disadvantageous situation caused by the crisis does not come from different biological features, but from injustices and inequities caused by the crisis, which is why Hungarian examples are used to primarily interpret the impact of the crisis on health inequalities. The uniqueness of this study is a demonstration of the impact of the current crisis on local formations of health inequalities in Hungary on the one hand, and the role of cities in the long-term formation of health inequalities with direct social and economic consequences on the other. In this sense, our article provides new evidence for the negative impacts of crisis periods on health inequalities, especially in central and eastern European countries.

2 Theoretical background

From a health point of view, it is important to understand how social determinants of health influence health inequities. To understand the primary mechanisms, we consider the following frameworks and approaches: a) cultural/behavioural, b) materialist/structuralist and c) neo-materialist. The cultural/behavioural explanation (in other words, "lifestyle" approaches to disease prevention) is that individuals' choices (e.g., smoking, drinking alcohol, drug addiction, physical activity, nutrition etc.) are responsible for diseases (Raphael, 2008b). The relationship between lifestyle and living conditions implies that part of the differential distribution of lifestyle is actually caused by the unequal distribution of living conditions (Stronks et al., 1997). The materialist/structuralist explanation emphasises the material conditions under which people live their lives, and so the behavioural choices are heavily influenced by the material conditions of life. The term "social determinants of health" are those material conditions that exist within the environments in which people are born, live, work, play, worship and age, and which affect a wide range of health, functioning and quality-of-life outcomes and risks (Graham, 2007). The neo-materialist explanation extends the materialist analysis by asking how nations, regions and cities differ with respect to how economic and other resources are distributed among the population. The neo-materialist view therefore directs attention to both the effects of living conditions and the social determinants of health on individuals' health conditions (Bernard et al., 2007; Collins et al., 2009).

The relationship between equal opportunity and health that is present in every country mostly depends on macroeconomic

conditions. Behind inequalities related to health there are economic inequalities, injustices of distribution, obstacles in access to education and healthcare, poor housing and life circumstances, and a lack of opportunities for a healthy life (Benach et al., 2007). Thus, socioeconomic trends and factors basically influence the state of health, and the importance of the social environment is clearly highlighted by research on health inequalities (Braveman et al., 2005).

Socioeconomic determinants of health and the influential factors of health inequalities determine to what extent economic crises will affect the state of health of the population (Marmot & Bell, 2009). Although the causative interactions are complicated, the role of negative processes is unambiguous in the labour-market position of individuals and in the changes and transformations of household consumption habits. Since the beginning of the crisis, findings suggesting the association of unemployment and income with health inequalities have emerged. For instance, longitudinal statistical analyses of mortality and employment trends by David Stuckler et al. (2009) could provide evidence for the direct effects of the economic crisis on public health. Patricia A. Collins et al. (2009) demonstrated that employment and income are important predictors for health status, and that social gradients in self-rated health are observable in areas of even modestly contrasting income profiles. The findings of Dimitris Zavras et al. (2013) have confirmed that in times of economic crisis the probability of reporting poor self-rated health is higher, especially among the unemployed. However, there are much larger spatial and regional differences in health inequalities and self-assessed health associated with socioeconomic status than expected (Mackenbach et al., 2008).

The interpretation of social determinants of health inequalities raises the question whether, during times of crises from the point of view of real or supposed health, it is merely the labour market position and levels of income that count, or also the degree of and increase in the social and health inequalities that already exist. An unfavourable labour-market position has a disadvantageous influence on equal opportunities because, as Petri Böckerman and Pekka Ilmakunnas (2008) state, it is unemployment that affects the state of health the most. Unemployment truly makes one ill by affecting identity, emotions and self-esteem. Stress caused by unemployment and risky forms of behaviour (such as taking medicines, alcoholism and uncontrolled smoking) will increase significantly.

From a spatial point of view, it could be interesting to examine what differences can be recognised in health inequality not only in terms of urban and rural areas, but regarding various levels of settlement hierarchy (dispersed settlements, villages and towns). It is not by accident that the importance of locality in academic research has been appreciated in the past two decades (Diez Roux, 2001). The interest in studying the relationship between place of residence and health has grown, partly because different contexts in places of residence basically contribute to the local production of health inequalities (Bernard et al., 2007; Macintyre et al., 2002).

Research concerning differences in the state of health in urban and rural areas has come to the fore since the late 1980s and early 1990s (Eyles, 1987; Ricketts et al., 1994). The emerging significance of the topic shows that in the past few years, in all development poles of the global economy (i.e., America, Europe and Asia), increasing attention has been paid to investigating health inequalities in rural and urban areas (see Fang et al., 2010; Pampalon et al., 2010; Gartner et al., 2011).

Richard Fearn and John Eyles (1987) already called attention to the fact that, although rural areas have advantages in terms of healthy life ("the healthy countryside"), they are not at all uniform. There have been many studies that not only support the fact that a better state of health and lower mortality rate exists in rural populations in comparison to urban areas (Shucksmith et al., 1996), but also study the geographical, social, lifestyle and demographic reasons behind these facts (Miller et al., 1987; Sobal et al., 1996). At the same time, many experts have called attention to the high heterogeneity of rural areas, resulting in enormous differences among health indicators (Schneider & Greenberg, 1992; Dolk et al., 1995). It has become evident that geographical settings and sociodemographic factors are to be taken into consideration in the course of analyses. Considering the relevance of social determinants, Danielle C. Ompad et al. (2007) go so far as to suggest that the social environment is key to understanding how different areas affect the health of populations.

Graham Bentham (1984) and later Peter Phillimore and Richard Reading (1992) demonstrated that mortality rates of rural areas largely depend on the distance between urban and rural areas (remote rural areas have higher mortality rates), and measures of rurality in the context of health greatly depend on the nature of the rural area. Taking into consideration the extent of deprivation, it is possible that urban deprived areas have better illness indicator rates than deprived rural areas (Congdon, 1995; Gartner et al., 2011), and with the increase of the amount of deprivation rural health advantages will gradually disappear (Phillimore & Reading, 1992). In the past two decades, growing research findings have indicated that differences between the state of health in rural and urban areas are decreasing (McLafferty, 1992; Maniecka-Bryla et al., 2012; Richardson et al., 2013). The economic crisis has accelerated this process and has even benefited urban areas.

There is a definite relationship between the spatial appearance of health inequality and urban competitive capacity, because any economy – be it a national economy or a local urban economy – can only be competitive if there is a high proportion of productive employees with high incomes and if the economy ensures them both a high level and high quality of life (Frageberg, 1996; Atkinson et al., 1999). It is not by chance that public health and labour-market efficiency are also among the pillars of the Global Competitiveness Index (Schwab, 2015). However, according to Tord Kjellstrom and Susan Mercado (2008), urbanisation can only be beneficial for health if key social determinants of health inequalities in urban areas are addressed in countries at all income levels.

3 Methodological background

In line with the main aims of this study, the research questions examined are as follows:

- Did the economic crisis have any impact on health inequalities in Hungary and, if so, how and to what extent?
- To what extent is labour-market position a determining factor and an explanatory force in shaping health inequalities? What local consequences are there as a result of all of these?
- What are the roles of cities and urban areas in shaping health inequalities during crisis periods?

The increase of health inequality is caused above all by the growth of local differences. Nevertheless, cities and urban areas – in spite of the decrease of production, lack of investments, and growth of unemployment – have maintained their favourable position with regard to the state of health even during the period of crisis in comparison to villages and dispersed settlements.

In our comparative analyses and examinations of area-based approaches, we focused on the interconnections of unemployment and average life expectancy on the one hand, and their spatial effects on the other. In many international studies, average life expectancy at birth was a prioritised indicator to measure health inequalities mainly in crisis periods because macro-economic changes have direct impacts on life expectancy (e.g., Goesling & Firebaugh, 2004; Jonker et al. 2013). The unemployment rate was chosen in order to examine the social consequences of the crisis because unemployment is the most important risk factor for health and has a determining role in changes in health inequalities: middle-aged males are the most endangered stratum that becomes unemployed in the early phase of crisis periods (Józan, 1996), and unemployment makes people sick because it has a negative effect on individuals' identity and self-esteem (Kopp, 2007). The unemployment rate as an economic indicator and average life expectancy at birth as a health indicator are also suitable for comparing pre-crisis and post-crisis periods and their impacts on health inequalities.

The spatial examination of health inequalities was made using the centre-periphery dichotomy approach at the micro-regional level through the following tasks:

- Circumscribing lagging areas in health processes because of the crisis;
- Examining spatial structures of health inequalities from the point of view of the urban-rural division and
- Interpreting settlement hierarchy in the spatial pattern of health inequalities.

The methods applied were chosen according to our aims and questions, and both quantitative and qualitative examination techniques were used to study our hypothesis. The quantitative calculations are based on micro-regional statistical data derived from official sources (Hungarian Central Statistical Office and the National Territory Development and Country Planning Information System). The micro-regional level was the lowest spatial level for which open-access statistical databases were available for analyses. The statistical data were divided into three groups:

- Indicators to measure the unemployment level (i.e., spatial and temporal breakdown of unemployment rates);
- Indicators to measure health inequalities (i.e., spatial and temporal breakdown of average life expectancy at birth);
- Indicators to measure territorial/regional inequalities: the 2007 minority register (175 micro-regions; i.e., LAU1 level), number of towns/cities, population number and legal status of towns/cities.

The base year of the crisis was carefully chosen in the examination of inequalities. All of the examinations and analysis procedures were completed for the 2009 and 2010 data registers because the impact of the crisis on the Hungarian labour market was the strongest in these two years. On the basis of our results – contrary to economic studies – we chose 2010 as the "crisis year" because in most cases the correlation among the indicator numbers was higher in 2010 than in 2009. In addition, the unemployment indicators for micro-regions with unfavourable situations became worse, whereas the improving trend of average life expectancy at birth in micro-regions with a more favourable situation became more moderate in comparison to 2009 and, as far as the pattern of unemployment rate and average life expectancy at birth are concerned, spatiality as an explanatory factor was more intensive in 2010.

Comparative analysis of the Pearson correlation was carried out in order to define and compare the situation before and after the crisis.

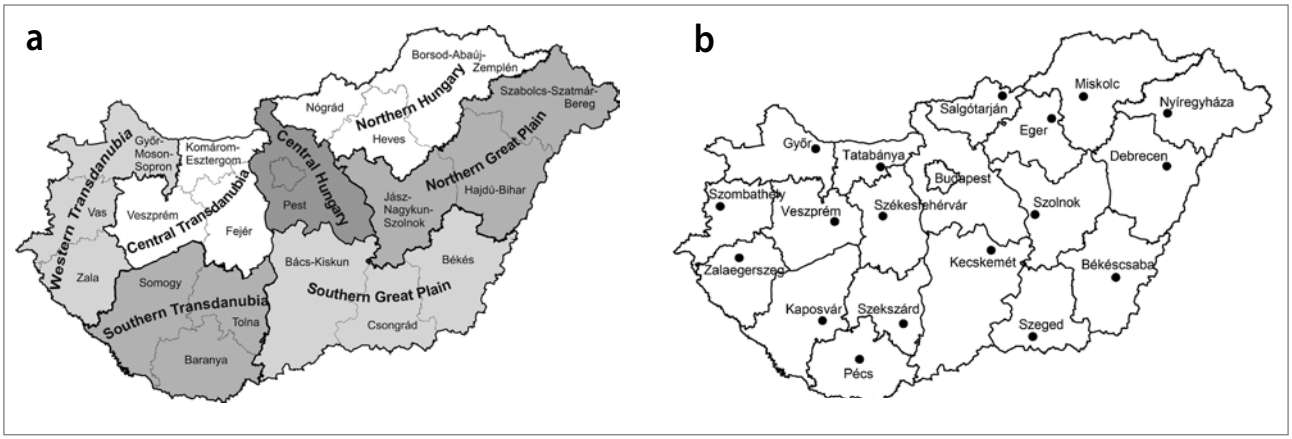

Figure 1: a) Regions (NUTS2) and counties (NUTS3) in Hungary; b) county capitals in Hungary (source: authors).

Quantitative analyses (such as Pearson's correlation coefficient) were complemented by qualitative examinations (questionnaires and semi-structured in-depth interviews). To analyse the effect of the crisis on an urban population, pilot research was used in Hungarian cities and towns concerning how people view the crisis, and what direct or indirect impacts it had on their city and their everyday life. To collect experiences, we administered household questionnaires in Budapest, Szeged and Győr (i.e., in the most developed core-settlement, in the centre of a prosperous region and in the centre of a less-developed region, respectively; Figure 1). The questionnaire contained thirty-nine (mostly closed) questions and it was completed with the help of students in all three cities. The household questionnaire is divided into three main sections: the first one contained a few general questions to measure city residents' knowledge of the global crisis (e.g., when, where and why the global crisis started, and its impacts on the Hungarian economy in general); the second group of questions investigated the effects and consequences of the crisis on the local economy and competitiveness (e.g., characteristics and perspectives of the local economy after the crisis) and the third part contained questions on the everyday life of urban residents since the beginning of the crisis (e.g., the financial situation, mortgages, quality of life and fears regarding the crisis). The household questionnaire was also posted on the internet, and so the personal surveys were expanded by using the internet version of the questionnaire in September and November 2011 (n = 352). The household questionnaire method was complemented using a street questionnaire containing ten short questions (n = 193). Only the opinion of the urban population was surveyed, and so the pilot survey is a subjective evaluation of the crisis. To examine the opinions of experts concerning the effects of the crisis on the state of health, twelve in-depth interviews were held with national health specialists between January and March 2013. The interviews focused on the system of relations between crisis and health through the diverse aspects of various disciplines on the one hand and with the help of the empirical experience of practice-oriented experts on the other.

4 Reconsidering the role of cities in health inequalities

4.1 The impact of the crisis on unemployment and life expectancy in Hungary

Unemployment rose rapidly in Hungary in the early 1990s. The unemployment rate reached its peak in 1993 (12.1%), when, at the same time, the mortality rate was the highest (14.6%, almost a total of 150,000 deaths) and the average life expectancy at birth was the lowest (total population: 69.0 years, men: 64.5 years, women 73.8 years). This is why 1993 can be regarded as the iconic transition year following the collapse of communism.

Starting in the mid-1990s, there was an increase in the indicators, as a result of which, up until 2001, the decrease in unemployment was almost continuous. That was the point of the best indicator (5.7%), and since then it has moderately but continuously increased. Between 2008 and 2009, the number of unemployed increased by 91,000, and the rate passed 10% in 2009. International comparisons show that Hungary is among the countries where the crisis has been accompanied by medium growth in unemployment. In his study, János Köllő (2010) argues that, although employment decreased only to a lesser degree compared to the decrease in gross domestic product (GDP), on the basis of lost jobs Hungary is among the biggest losers in the region.

Regarding regional changes in unemployment, economically prosperous regions (e.g., Central and Western Transdanubia) and regions struggling with significant structural and social problems (e.g., Northern Hungary and Southern Transdanubia) can be sharply divided both in their volume and in their

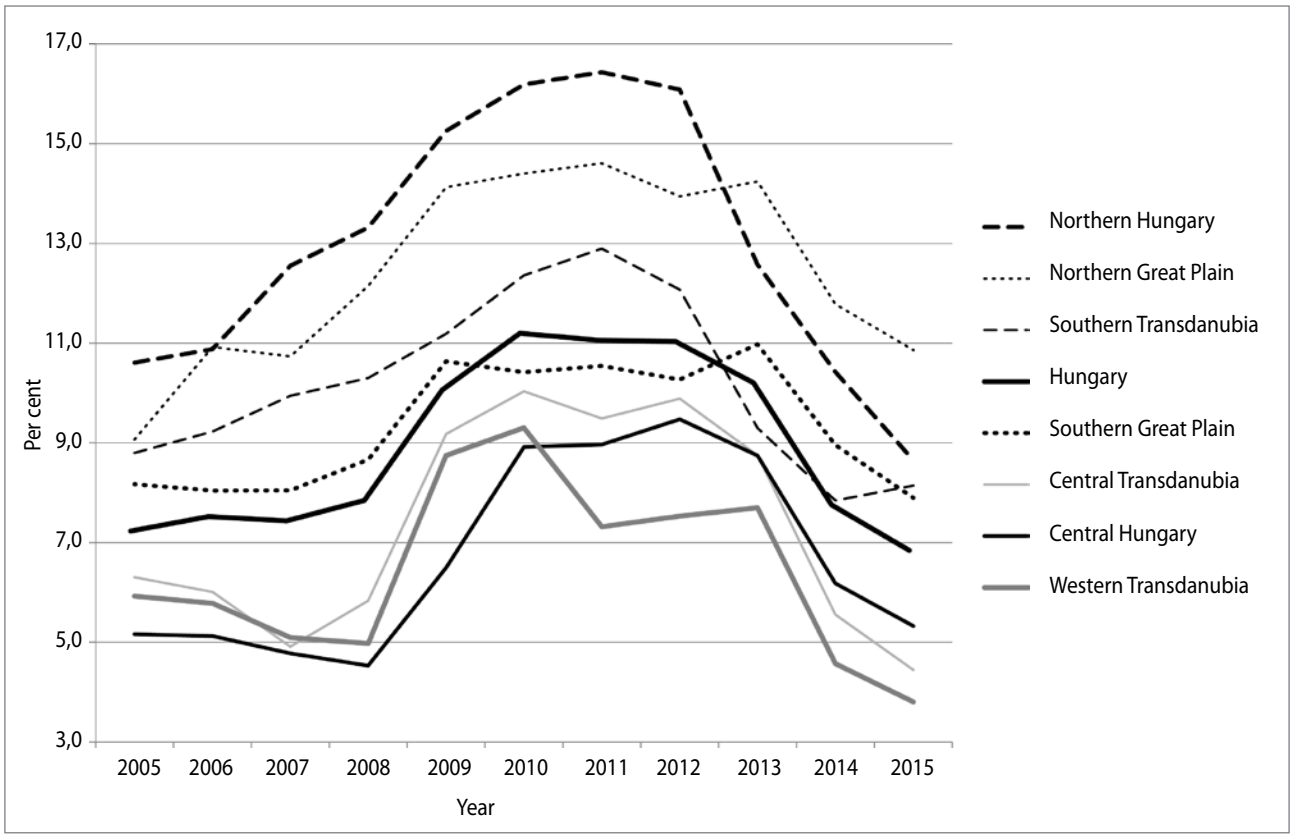

Figure 2: Unemployment rates in Hungarian regions, 2005–2015 (source: Hungarian Central Statistical Office, 2005–2015).

history of unemployment (Figure 2). The convergence of unemployment rates characterising the past few years can be traced back to state-financed public work programmes, and it is thus a rather artificial process.

Regarding the sectoral effects of the crisis in cities, the largest decline in employment occurred in industry (11%), and more precisely within the construction industry. Between the first quarter of 2008 and 2010, the number of employees in this sub-sector decreased by 14.9% (Bálint et al., 2010). In addition, a large number of losses in manufacturing took place, as well as in companies involved in real estate and private companies involved in education. The biggest redundancies (collective, organised and mass layoffs) took place in foreign-owned automotive and electronics companies. After the crisis began in 2009, the number of employees decreased by approximately one hundred thousand people. In Hungary, the registered unemployment rate in the first quarter of 2010 reached its highest level, at 11.9% (Köllő, 2010).

The mortality rate reached its peak in 1993, and since then a very modest improvement in mortality rates can be observed in Hungary. The moderation of the mortality rate after 1993 showed that life expectancy increased to over seventy years after 1996. The life expectancy increased to over seventy-four years in 2009, reaching 75.8 years in 2013. This means that between 1993 and 2013 life expectancy grew by 6.7 years (Table 1). However, significant differences can be recognised in the breakdown by gender. The difference between the life expectancy of the two sexes was the highest in 1994 (9.4 years), and then it decreased gradually until 2012 (7.4 years). With regard to gender differences, 2009 stands out because the average life expectancy of Hungarian men increased to over seventy years.

In the case of the least-educated people, it must to be taken into consideration that many of these fall out of the supply system, and so no precise information is available about them. Because of this, more optimistic prognoses claim that the average life expectancy at birth will stagnate, but will not start to decrease in Hungary as a result of the crisis. This, then, may cause further problems in the future because the average life expectancy is six to seven years shorter than the western European average.

To help clarify the influence of the economic crisis on health inequalities, a comparative analysis of the situation before and after the crisis was conducted (Table 2). Two characteristic years were selected for this comparison of the Pearson correlation: 2001 was the control year of the pre-crisis period, and 2010 was the most appropriate year for explaining the post-crisis situation. In 2001, the unemployment rate was the lowest after the Hungarian transition, and starting in 1996

Table 1: Average life expectancy at birth (in years) in selected European countries (1993, 2000, 2013).

Country	1993	2000	2013
Spain	77.2	79.3	83.2
Italy	77.4	79.9	82.9
United Kingdom	75.7	78.0	81.1
Germany	75.7	78.3	80.9
Slovenia	73.1	76.2	80.5
Czech Republic	72.6	75.1	78.3
Estonia	68.1	71.1	77.5
Poland	71.6	73.8	77.1
Hungary	69.1	71.9	75.8
Romania	70.2	71.2	75.2

Source: Eurostat (1993, 2000, 2013).

there was a trend towards better life expectancy in Hungary. After the financial crisis of 2008/2009, we selected 2010 as the most suitable year to analyse the consequences on health inequalities.

There is a strong relationship between unemployment and average life expectancy, and this is especially characteristic for men. The correlation became stronger between 2001 and 2010. Since the collapse of communism in Hungary, 60% of the unemployed are men, and the decrease in life expectancy for middle-aged men in particular should be taken into consideration. The difference between the correlations of male and female life expectancy with the unemployment rate decreased in 2010, which means that the effects of the crisis on women's labour market position were also apparent.

4.2 The regional character of interrelations of unemployment and average life expectancy

Regarding the geographical pattern of unemployment, the highest registered unemployment in 2010 was in the eastern and southwest part of the country. In comparison to the national average, in the eastern part of Hungary, the unemployment trends were the most positive in the micro-regions of Szeged, Eger and Kecskemét (Figure 3).

The spatial effects of the crisis then become noticeable in life expectancy in two ways. On the one hand, in micro-regions with increasing trends or others with originally good life expectancy, this does not decrease even under the worst macroeconomic conditions. On the other hand, in micro-regions with decreasing trends or in those that originally had a bad situation, the results of the crisis meant that the growth of average life expectancy at birth decreased. In both sets of indicators examined, the national trend can be recognised: that more positive life expectancy can be seen in county capitals and cities, as well as in the micro-regions neighbouring them (Figure 4).

Table 2: Relationship between unemployment rate and average life expectancy at birth by Pearson's correlation coefficient (r^2), 2010.

	Unemployment rate (%)	
	2001	2010
Average life expectancy at birth	–0.692	–0.727
Average life expectancy at birth, male	–0.710	–0.722
Average life expectancy at birth, female	–0.637	–0.720

Source: Based on Szilágyi & Uzzoli (2013) with own supplement.

Table 3: Average life expectancy at birth (in years) by settlement category (2009).

Settlement category by population	Average life expectancy at birth (year)	
	male	female
≤ 999	68.0	76.7
1,000–1,999	68.6	77.0
2,000–4,999	68.9	77.1
5,000–9,999	69.3	77.1
10,000–19,999	70.3	78.0
20,000–49,999	70.5	77.6
50,000–99,999	71.4	79.0
100,000–299,999	71.3	78.9
Capital (Budapest)	71.9	78.7
Hungary	70.1	77.9

Source: Hungarian Central Statistical Office (2010).

Statistical data also show that there are clear differences between life expectancy in urban and rural areas in Hungary (Table 3). Average life expectancy at birth was 70.4 years in Hungarian urban areas in 2009, whereas it was only 68.6 years in rural areas: the difference is 1.8 years. In smaller settlements life expectancy is lower for both males and females. Compared to Budapest, the population in the smallest settlements has a life expectancy 3.9 years lower for males and two years lower for females. The most advantageous life circumstances are provided by settlements with a population between 50,000 to 100,000 because this settlement category has the highest life expectancies for males and females (Table 3).

Based on the unemployment rate and the average life expectancy at birth, a similar spatial pattern can be described. The best-situated micro-regions are found in the agglomeration of Budapest and in Central and Western Transdanubia, whereas the worst situation is in the Northern Great Plain and in Southern Transdanubia. This means that the consequences of the crisis have mostly affected the traditionally most depressed regions.

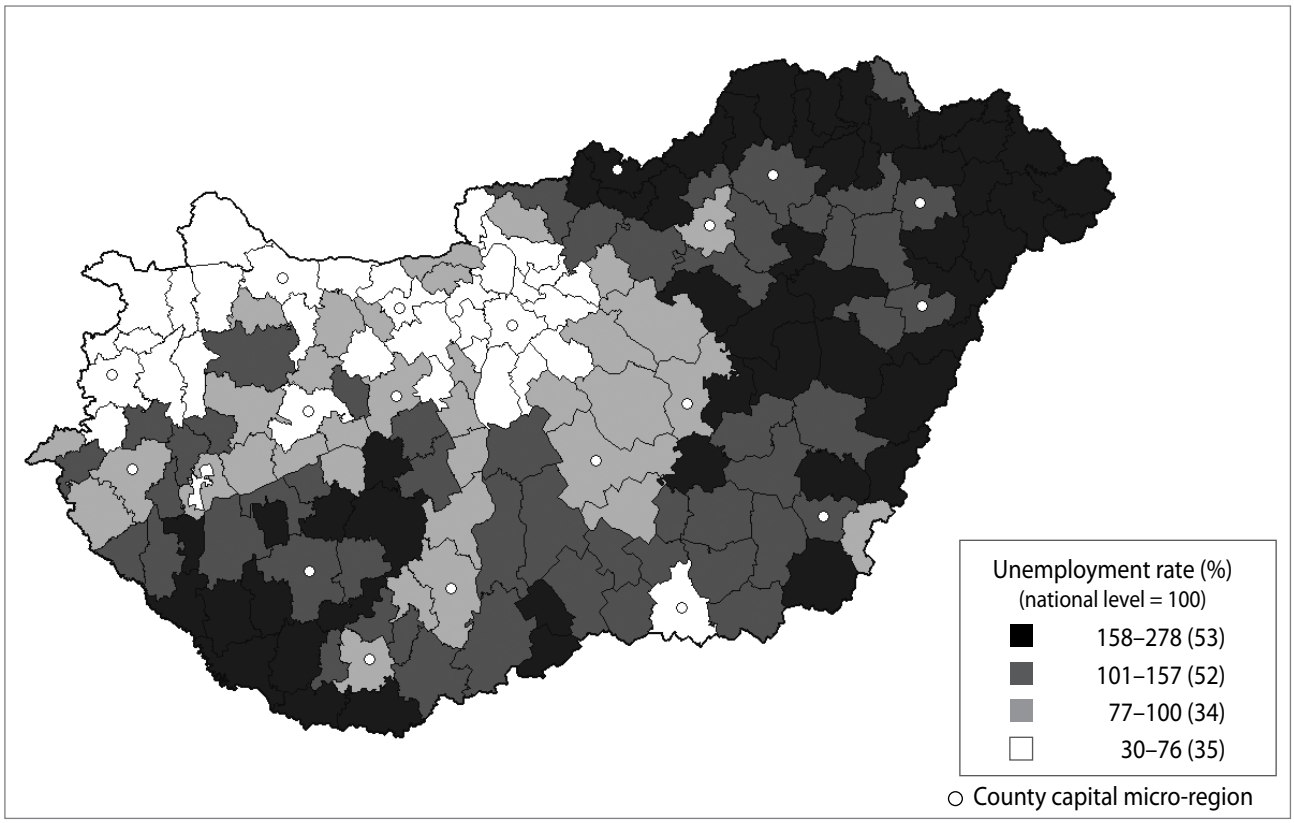

Figure 3: Unemployment rate (in percentages) in Hungarian micro-regions in comparison to the national level, 2010 (source: based on Szilágyi & Uzzoli, 2013 with own supplement).

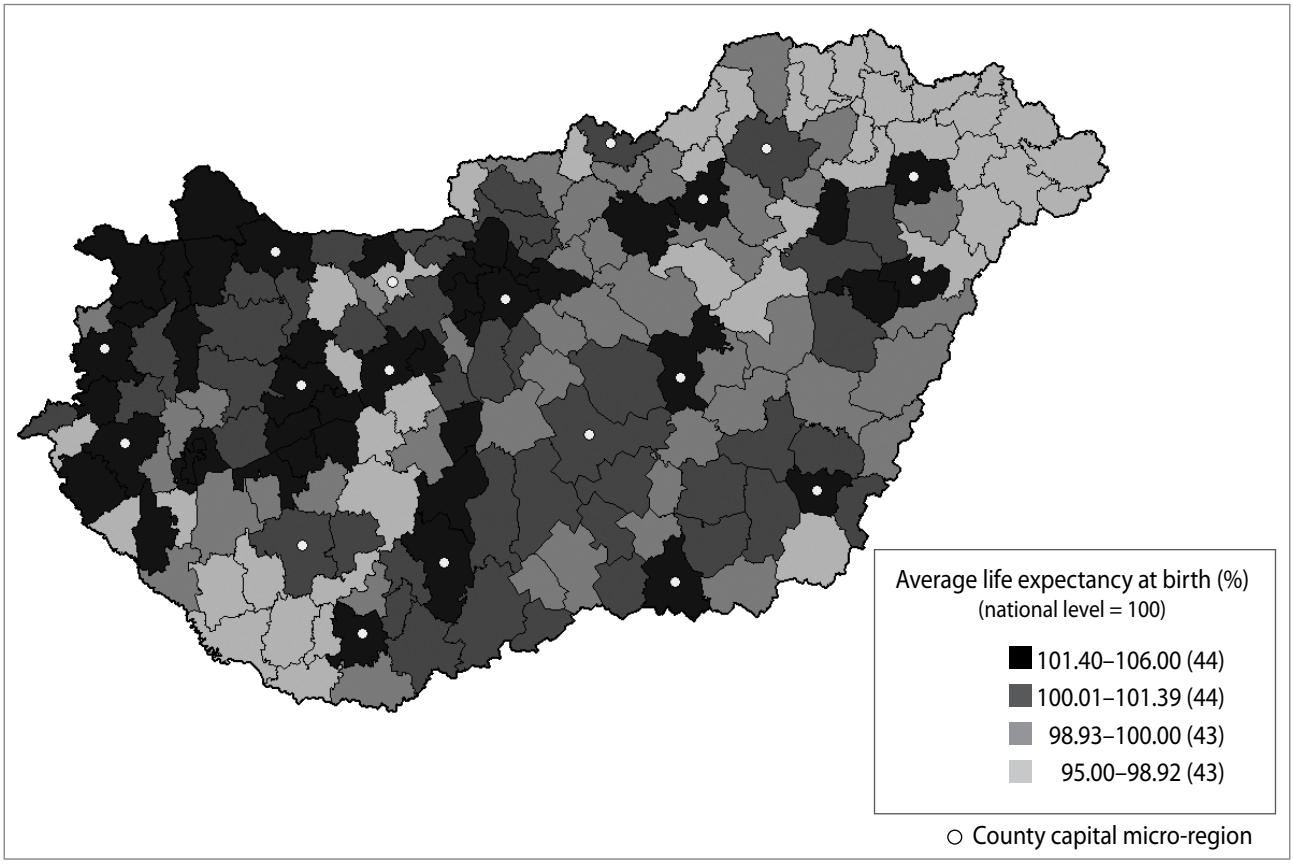

Figure 4: Average life expectancy at birth (in years) in Hungarian micro-regions in comparison with the national level, 2010 (source: based on Szilágyi and Uzzoli, 2013 with own supplement).

The east-west relevance described above can be interpreted in terms of a geography of relational systems of unemployment and life expectancy. However, it should actually be emphasised that there are remarkable small-scale spatial differences within prosperous central and western and deprived eastern areas as well (Uzzoli, 2011). In addition to the east-west division, the centre-periphery relations also have an influential role in geographical developments. Regions of good and bad economic situations can definitely be separated, although no axial division can be identified. In regions that suffer from unfavourable conditions, improving trends can be seen in areas closer to the cities and county centres. In the eastern regions of Hungary, more favourable micro-regions are related to cities as county capitals (e.g., Kecskemét, Szeged, Debrecen and Nyíregyháza). Micro-regions with the least-favourable position are concentrated along the country's eastern and northern borders.

Micro-regional differences in the unemployment rate and average life expectancy at birth call attention to characteristic spatial patterns. On the basis of the spatial relation of unemployment and life expectancy, the loss of position and/or position gain of micro-regions can be noticed to a lesser degree in terms of both average life expectancy and unemployment during the crisis. Micro-regions with the best situations can be found either in the capital agglomeration or in the western region, whereas micro-regions in the worst positions can be found in the northeast and/or southwest regions (Figure 5).

It is not true everywhere in the country that higher unemployment goes together with lower average life expectancy. The situation is worst in Borsod-Abaúj-Zemplén County and Szabolcs-Szatmár-Bereg County, where unemployment was high even before the crisis. In Northern Hungary, unemployment above the national average goes together with the worst life expectancy. In Budapest, because of its significant development, the unemployment rate is less decisive in the average life expectancy at birth. In the western and central parts of the country, a more positive socioeconomic environment offers better life expectancy.

Although other effects (e.g., the growth of the educational level of the population) can balance the health effects of the crisis in the medium term, to filter these out is an enormous challenge for research. Precisely because of this, it is difficult for quantitative statistical analyses to reveal the system of interactions between the crisis and health. Therefore, possible connections were analysed with the help of in-depth interviews with experts and practitioners. Summing up the main outcomes of the in-

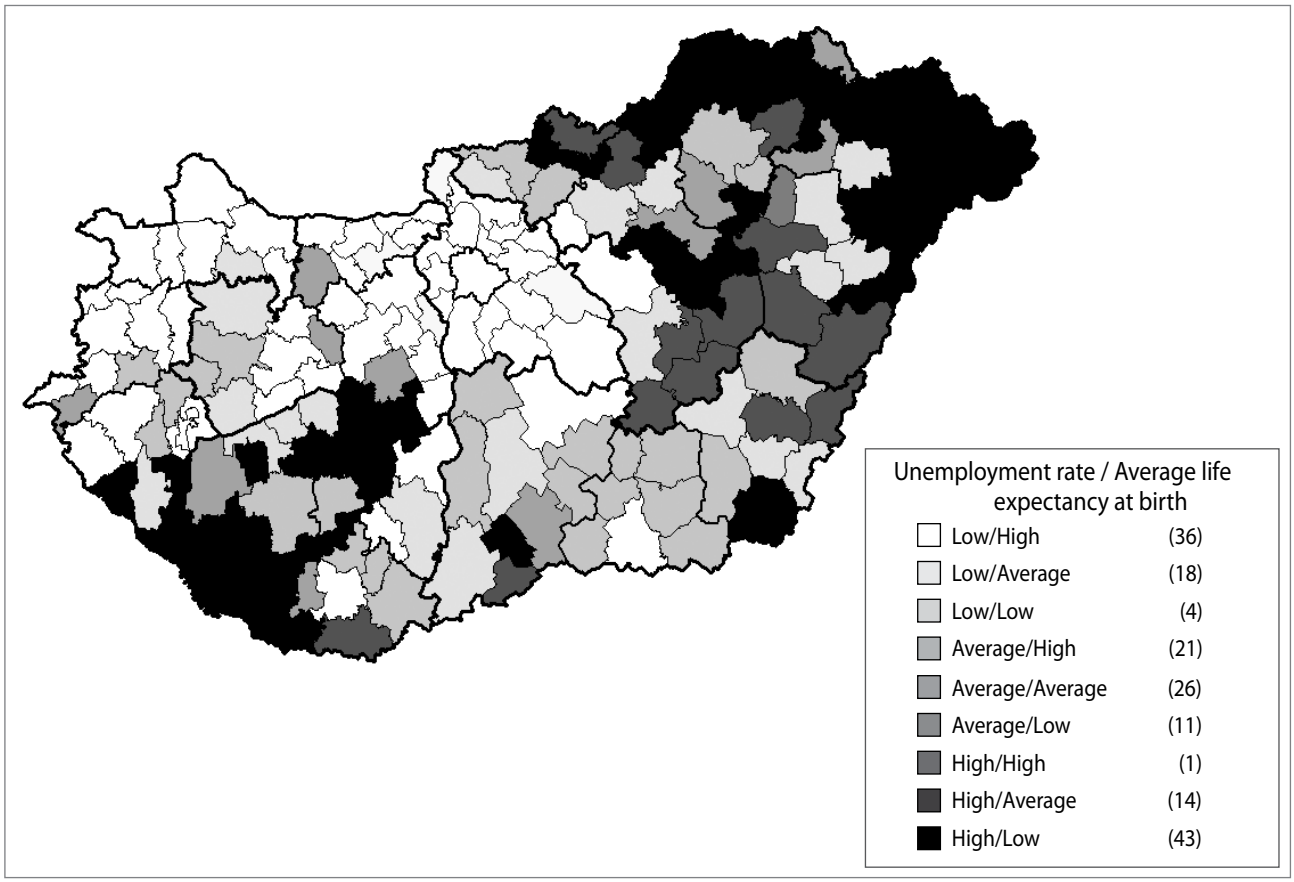

Figure 5: Connection between unemployment rate (in percentages) and average life expectancy at birth (in years) in Hungarian micro-regions in comparison to the national level, 2010 (source: own calculations based on the dataset of Internet 1).

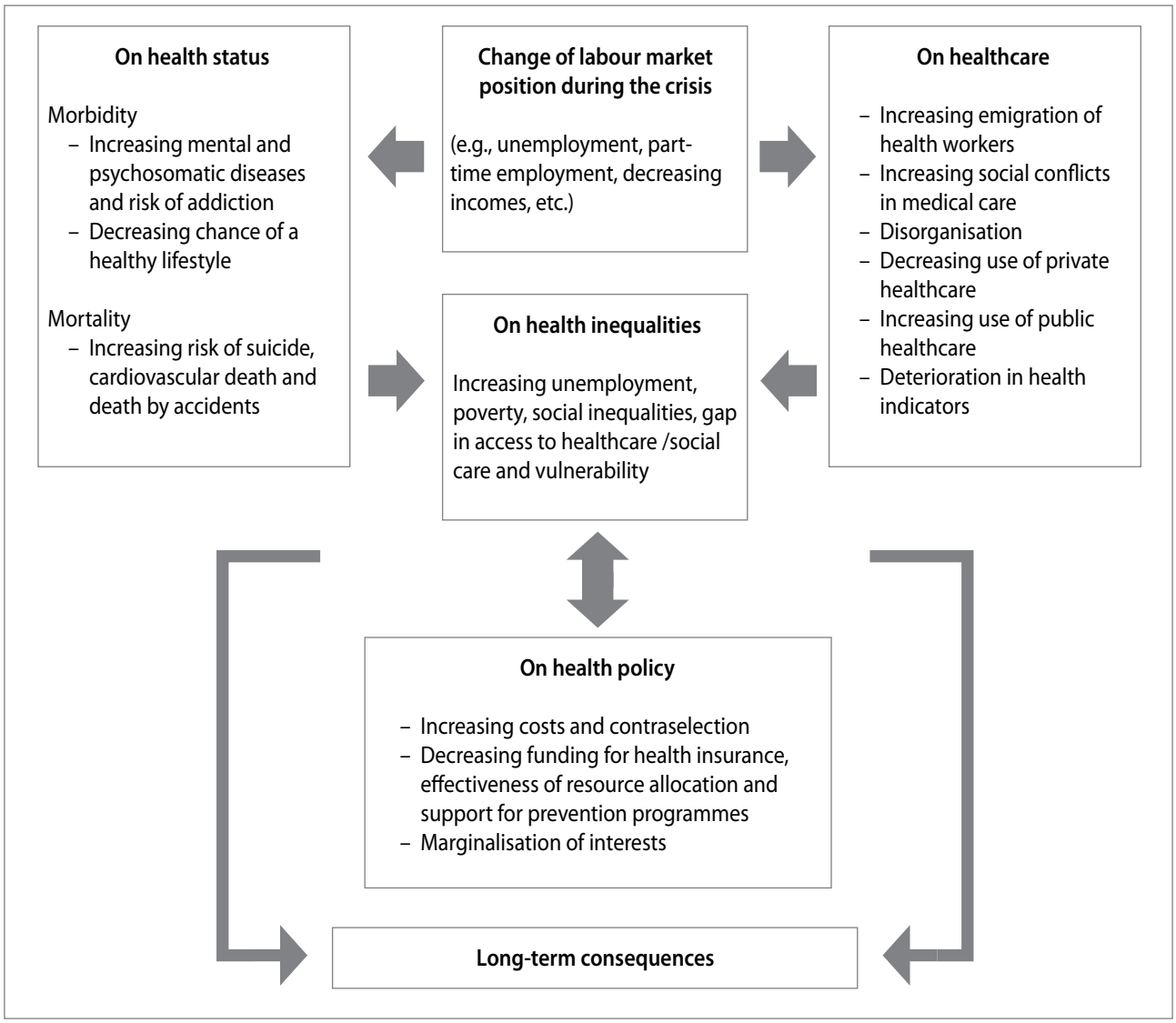

Figure 6: The connection between the economic crisis and health in Hungary (source: own survey, empirical results of expert interviews).

terviews, the following model can be outlined indicating the effects of crisis on the health system, labour market and health inequalities (Figure 6).

Different forms of crisis management basically disorganise the health sector (e.g., the advocacy of the health sector will decrease). An important question in this regard is the what extent to which funding (fund-raising and allocation) serves (if at all) to solve the problem. The fact should also be taken into consideration that contra-selective effects (the migration of doctors and the degradation of human resources in the health sector on the labour market) have also increased in Hungary due to the crisis. Lack of access to health services could be the cause of a worsening health state and the increase in health inequalities, especially in rural areas. The actual crisis hit central areas the hardest, but the impact of the economy in health processes cannot be strongly noticed yet. In terms of the state of health in the most unfavourable areas (peripheries), the disadvantageous original economic situation is still the explanatory factor independent of the crisis situation. Spatial differences in health inequalities still derive from the socioeconomic transformation after the collapse of communism in Hungary. The direct effects of the 2008/2009 crisis on health inequalities cannot be demonstrated yet in the short term, but as a result of multiplicative effects it may exacerbate regional differences.

4.3 Effects of the crisis on urban development and perception of the crisis among urban residents

The crisis affected the cities in many ways and on very different scales. As a result of the crisis, the competitiveness of Hungarian cities and towns decreased internationally. This fact is supported by data from the Global Competitiveness Index, according to which Hungary fell from forty-eighth place to

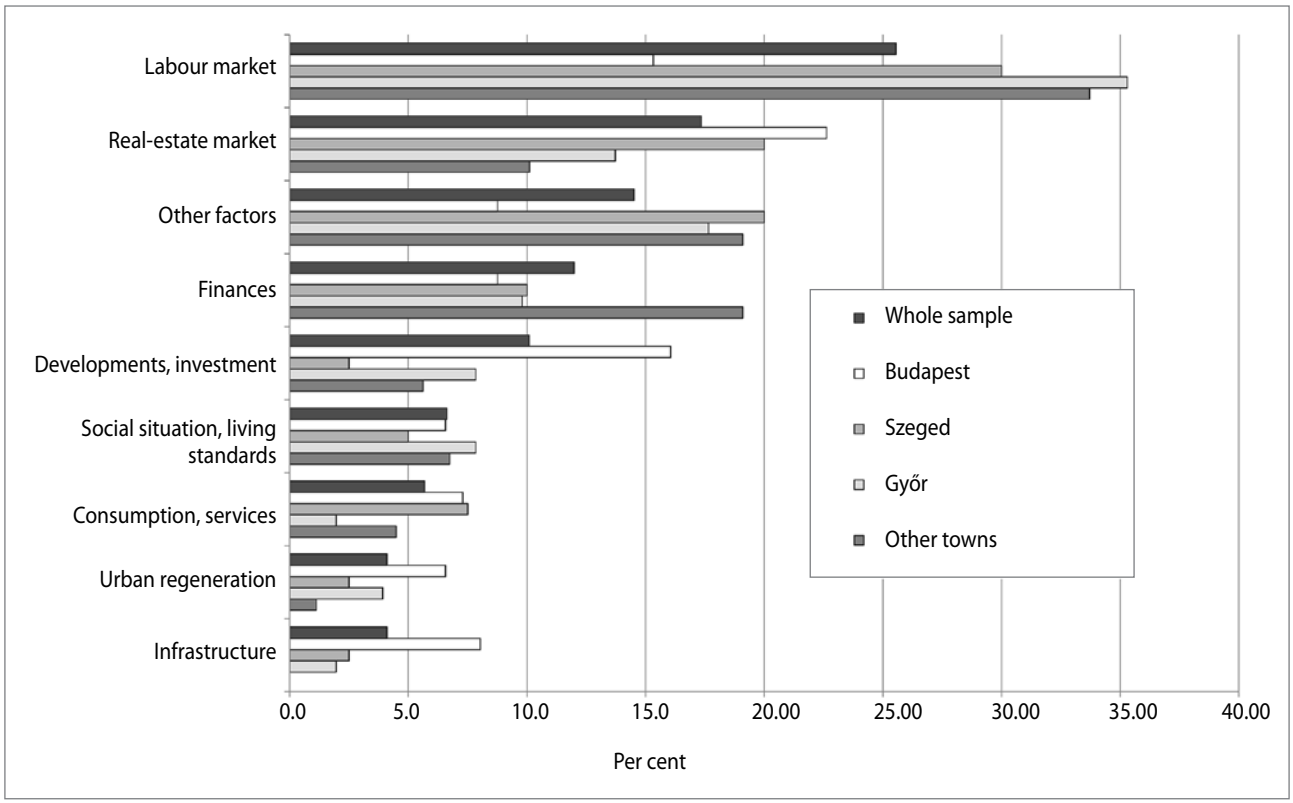

Figure 7: The most negative effects of the crisis on Hungarian urban life, 2011 (source: own questionnaire, *n* = 352).

sixty-third between 2011 and 2015 (Schwab, 2015). Having examined the position of Hungarian cities, it can be stated that cities of different sizes and with different levels of settlement enter economic competition with different opportunities. International experience shows that, considering the negative effects of the crisis, it is not the city's size, but rather the composition of the local economy that has played major role. Due to a wider labour market, larger settlements provide better access for the labour force. In addition to these, in large cities there are more support sectors (e.g., logistics and services), and there is more information, ideas, creativity, and innovation (Turok, 2004). However, the initial impact of the crisis on local economies also seems to depend on their economic function and composition (Clark, 2009). Cities with export-oriented economic sectors deeply embedded in international markets and trade have been hit more by the crisis.

The results of the analysis of the statistical database prove that the crisis has not significantly influenced the earlier favourable position and the advantage in competitiveness of Budapest, but it evidently intensified competition among regional centres. In Budapest, among the negative experiences, the slowdown of infrastructural development, increasing social problems, impoverishment and a decline in living standards were listed as the most acute problems. In the countryside, lower household incomes, a decline in consumption and a decline in the level of various services (e.g., education, leisure time and cultural opportunities) were mentioned as real problems by the participants.

The detailed quantitative analysis of the role of unemployment was supported by our qualitative research results. As Yamina Guidoum and Paul Soto (2010) have stated, the main impact of the crisis on social conditions and cohesion in cities seems to come directly from the labour market. Their results could be proved and completed by our outcomes: on the basis of the questionnaires, it is evident that urban people consider the most serious negative effects of the crisis to be the effects on the labour market, problems in connection with the growth of unemployment and the negative changes of the housing and real-estate market, respectively (Figure 7). Nearly half of the respondents also experienced labour-market effects personally when their acquaintances (32%), relatives or friends (16%) lost their jobs.

The economic crisis has had a direct impact on the housing market, which demonstratively affects mental and physical health (Dunn, 2000). Hence, the crisis – especially through the conditions and quality of housing – affects the state of health of the population.

The negative social consequences of the crisis are evidently reflected in the subjective opinion of urban people. Qualitative examinations prove that, according to urban people, the

quality of life has declined since the crisis started. Almost half of the people questioned claimed that their quality of life has declined to some extent, and almost one-fifth of them said it has declined significantly during the past years. Indirect effects of mental pressure caused by a worse quality of life and growing anxiety can be significant in the changes in the social environment. Many of the respondents think the decline in quality of life derives from the decline in financial conditions. The real reason for this is intensive polarisation in society based on the financial situation, as a result of which a growing number of people have experienced a decrease in their incomes (Egedy, 2012). Income differences between the richest and the poorest have grown; that is, the crisis has intensified the financial differences between households.

The decrease in income and the increase in the level of indebtedness had a determining role in the financial situation of the households. The gradually increasing indebtedness of poorer households is indicated by the fact that 14% of households in the lowest income quintile were paying bank loan instalments in 2001; however, this figure climbed to over 40% in 2009. At the beginning of 2010, in the lowest income quintile 43% of total income was spent on debt repayment, whereas in the highest quintile it was only 15% (Tóth & Medgyesi 2011). In recent years, increasingly more news noted in Hungary that saving ability and people's willingness to save is low: respondents (if they have a chance to save) set aside less than a fifth of their monthly income. In many cases, the deterioration in quality of life can be explained by the worsening financial conditions of households: it is no coincidence that more than a quarter of respondents are worried about their future income difficulties ("won't be able to feed the family"), and a further fifth of respondents are worried about their jobs or livelihoods. Ichiro Kawachi and Bruce P. Kennedy (1999) stated that the distribution of income within society affects health, and that an individual's health status is better in societies with a more equal distribution of incomes. Based on their findings, we can conclude that the current crisis exacerbated health inequalities not only between rural and urban areas but also within metropolitan and urban areas.

Despite all of the negative effects of the global economic crisis described above, generally a positive picture can be drawn among the residents with regard to the future development of cities in Hungary. Although a quarter of the urban respondents expect a downturn, a further quarter think the current situation will stabilise. However, nearly half of the respondents expect positive changes. A result of our research is that urban people think processes on the whole are going in a positive direction in spite of the economic difficulties. The "optimism figure" is an upside-down "V", where together with the level of settlement hierarchy the trust of urban people in future development is growing, but the optimism of Budapest inhabitants is somewhat less than that of county capitals. The responses make it clear that at higher levels of the settlement hierarchy people see the possibility of recovery from the crisis more optimistically.

5 Conclusion

Europe is dealing with a severe financial and economic crisis and its regional consequences. Especially in east central Europe, transitional countries such as Hungary should be prepared to address the direct and indirect social, health and healthcare consequences of the crisis because health inequalities in these countries have become more acute (e.g., Billingsley, 2011). Poor health conditions of the region's population, shorter life expectancy and unfavourable employment indices compared to the western European average, as well as crisis factors of healthcare inherited from communism and the inadequate financing of healthcare system, combine to create problems for healthcare policy, which have not found an efficient solution even over twenty-five years since the collapse of communism. The fact should also be taken into consideration that contra-selective effects (the migration of doctors, and the degradation of human resources in the health sector on the labour market) have also increased in Hungary due to the crisis.

Lack of access to health services could be the cause for the worsening state of health and the increase in health inequalities, especially in rural areas. The actual crisis hit central areas the hardest, but the impact of the economy on health processes cannot be strongly noticed yet. In terms of the state of health in the most unfavourable areas (the peripheries), it is still the disadvantageous nature of the original economic situation that is the explanatory factor independent of the crisis situation. Spatial differences in health inequalities still derive from the socioeconomic transformation following the collapse of communism in Hungary. Direct effects of the crisis of 2008 on health inequalities cannot be demonstrated in the short term yet, but as a result of multiplicative effects it may exacerbate regional differences. Although the crisis hit economically prosperous regions more intensively (mostly Central and Western Transdanubia), economic statistical data after 2010 prove that there has been a faster recovery of counties in these regions. Life expectancy is therefore not really influenced by the crisis in this region in contrast to backwards deprived micro-regions of Northern Hungary and the Northern Great Plain.

The changes in the structure of unemployment resulted in the fact that the current recession has not necessarily been accompanied by a short-term and directly measurable decline in the state of health. Among those that became unemployed, groups with a higher socioeconomic status and more favour-

able health indicators have appeared. Hence there is no considerable change in the spatial structure of health inequalities. There continues to be a definite division in Hungary between areas of worse and better position based on health indicators.

Our results demonstrated that cities have more positive indicator values than their surrounding areas, which leads to the conclusion that in higher-level settlements employment opportunities are more favourable and the average life expectancy at birth is higher. Cities, therefore, provide more favourable life opportunities if all aspects are considered. This means that moving into cities may increase life opportunities and improve one's health status. Settlement hierarchy also affects health inequalities and increases territorial or regional differences, but at the same time it moves urban people's state of health in a positive direction.

The negative effects of cities and metropolises have long been known (e.g., stress, air pollution, dust and noise). However, with regard to health inequalities, the role of cities has to be reinterpreted. It could be an interesting research topic in this respect to investigate whether the health problems generated by cities or their positive effects in health inequalities play an important role in the population's long-term state of health. Our results indicate that these latter effects become increasingly important, which means that towns or cities may contribute to decreasing health inequalities in Hungary. Cities with more developed health services can even directly contribute to a decrease in health inequalities. This is especially true for counties in regions that have lagged since the collapse of communism or that have an unfavourable socioeconomic position. In the future cities may play the role of "escape routes" and alternatives for maintaining health. Although our research may contribute to establishing a new, health-based explanation of global urbanisation processes, further research is needed to develop the theory. A result of our research is that urban people think that processes on the whole are going in a positive direction in spite of the economic difficulties. Further research is needed to analyse where (i.e., what settlement size and population number) the lowest and highest borders of "healthy city size" are in order to define the point where positive health effects evidently prevail but negative health effects do not yet outweigh these.

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