GEOGRAFICKÝ ČASOPIS / GEOGRAPHICAL JOURNAL 63 (2011) 2, 113-132

POPULATION CHANGES CAUSED BY INDUSTRIALIZATION AND DEINDUSTRIALIZATION – COMPARISON OF OSTRAVA AND GLASGOW

Igor Ivan, Jiří Horák*

* VSB – Technical University of Ostrava, Institute of Geoinformatics, 17. listopadu 15, 708 33 Ostrava – Poruba, Czech Republic, igor.ivan@vsb.cz, jiri.horak@vsb.cz

Population changes caused by industrialization and deindustrialization – comparison of Ostrava and Glasgow.

The aim of this paper is to analyse and compare population changes in two old industrial cities (Ostrava and Glasgow) with accent on how these changes are driven by large economic and historic events like world wars, economic crises, political support for industrialization, etc. Both cities played a key role in the industrial history of the two countries but under completely different political situations. Both cities have undergone significant population influxes during the industrial era but they are also strongly encumbered by their industrial history and deindustrialization generally accompanied by depopulation. Glasgow has been through a complex transformation since the Second World War. Changes in economy and technology brought the rapid decline of jobs and vacancies in these sectors and a rapid decline of population in Glasgow. The city's total population loss was about 35% in just 50 years (1950-2001). The position of Ostrava city was not so problematic, but population losses were and still are quite significant on the national scale. These population changes, caused mostly by out-migration, are described in the context of hard factors (mainly human resources, land-use changes, flats) and soft factors (quality of housing, the environment, etc.). The case of Glasgow in the last years demonstrates the positive influence of municipal policy directed towards population changes.

Key words: industrial city, transformation, population, migration, deindustrialization, Ostrava, Glasgow

INTRODUCTION

Heavy industry, the engine of economic growth, began to decline in the economies of developed countries in the final third of the twentieth century. So as the result of closure, mechanization, suburbanization of industry and through the global shift of industrial employment from the core to the semi-peripheral and peripheral countries of the world economy, these world cities have lost their manufacturing employment since the mid-1960s (more in Fyfe and Kenny 2005). The development of various cities is not a new topic; there are various papers, which deal with problems of city development. The general development of 310 European cities is described by Turok and Mykhnenko (2007), paper by Mykhnenko and Turok (2008) focused more on the East-European cities and the paper by Steinführer et al. (2010) is focused in detail on the Czech and Polish cities. Generally, the world cities are losing their status as the manufacturing centres and are becoming centres for the tertiary and quaternary sectors of the economy. Various types of services have replaced the heavy industry, from highly specialized producer services (corporate law, banking and accounting), to the low-paying consumer services. A lot of these cities entered a differ-

ent phase in terms of what, where and how they produce. In terms of what they produce, the main trend is the shift from agriculture and industrial production to service activities. Two major trends exist in terms of how production is organized – oligopoly as larger and more efficient corporations drive out their competitors or the shift from mass production towards flexible production systems. In terms of where the production takes place, the major trend is the redeployment of activities at the metropolitan, national or often international scale; rationalization of their operations in multiple ways (moving routine procedures to regions with low-paid employees, moving the "back-office" to suburbs with lower taxes and rents etc.). Knox (1995) describes four major outcomes in relation to these shifts – deindustrialization of cities, decentralization of manufacturing and service employment within metropolitan regions, transformation of a few cities into world cities specializing in the production or recentralization of a higher-order producer-service employment. The speed of the deindustrializing process is described well by Savitch (1988). "The ancient world lasted for 3,000 years, the medieval age for 1,000 years, and the industrial era for about 100 years. The post-industrial revolution has occurred in just 25 years, and its pace is quickening".

The proto-typical post-industrial city is described by Shaw (2001) as a city in which traditional industry maintains a significant but decreasing share of economic growth by the production of various types of services, from producer services, to medical, educational and governmental services, to consumer services. None of these service areas is new, but they have all expanded and became more specialized, they accelerated and rapidly increased both in relative and absolute shares in urban economies.

Basically, the development of cities is described and influenced by hard factors and soft factors. Slach et al. (2009) define hard factors as factors with primarily calculable quality and level; this category contains data about human resources (population, population in productive age, etc.), land-use (industrial zones, parks, built-up area, etc.), external transportation links (trunk roads, railways, airports, etc.). The same authors describe soft factors as factors that are not primarily measurable and depend on the subjective opinion of each stakeholder. All significant changes in city development and shifts, described above, changed completely the face of old industrial cities and the post-industrial revolution brought new factors which influence each other – hard and soft factors were changed very significantly. Generally, any increase of population in the city invokes the development of soft factors in the city like better housing, development of leisure activities, efforts to improve the environment, change of the image of the city, etc. These progresses attract more people to move to the city, so the city population is again increased. Secondly these influences launch further development of the hard factors (area of the city, number of houses, flats, hospitals, culture and other facilities, etc.). This progress attracts other people etc. The schema of this "vicious circle" is pictured below (Fig. 1). However, this process does not have to start only with population increase, the development of several soft factors is a very significant factor as well.

This paper is focused mainly on the corollaries of the deindustrialization processes on the population in the case of two significant European old indus-

trial cities – Ostrava as the third biggest city in the Czech Republic, the historical Steel heart of the former Czechoslovakia and Glasgow as the former most important industrial city of Great Britain. These came through similar industrial history but under different economic and social conditions – communism and capitalism. This is another significant factor, which created differences between the developments of the two cities.

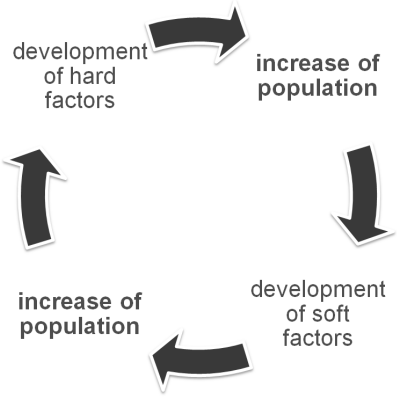

Fig. 1. Vicious circle of hard and soft factors development

Note: Population is part of hard factors but to emphasize its influence, it was withdrawn from the whole group of hard factors.

POPULATION BEFORE AND DURING DE-INDUSTRIALIZATION

Ostrava

Ostrava was first mentioned during the 13th century but the biggest and most important economic development started after the discovery of hard coal in 1763 and subsequent mining. The next important step in the industrial history of Ostrava was the establishment of ironworks in the nearby municipality of Vítkovice in 1828 (later part of the city). During this era, Ostrava became an important industrial centre of the former Austria-Hungary and this fact brought a steady influx of new population and spatial development of the city. However, it is important to note that Ostrava was established relatively late by unification of several municipalities (Přívoz, Vítkovice, Mariánské Hory, Zábřeh nad Odrou and Hrabůvka) to Moravská Ostrava in 1924. The following main stages in the extension of boundaries of Ostrava are pictured in the map below (Fig. 2).

The population of Ostrava increased continuously throughout almost all censuses (since 1869) what is depicted in the graph below (Fig. 3). In the period around the turn of the 19th and 20th centuries, the population in Ostrava (assuming the current administrative borders) increased every decade by a half (most by 71% between 1890 and 1900). In the era of the First Czechoslovak Republic (1918 until 1938), the population growth of Ostrava declined, so the increase was less than 10% between censuses. This reduction was primarily due to the decreasing number of jobs resulting from the economic crisis and the bad

housing situation (see the second row in the scheme below – Fig. 4). Ostrava still maintained its leading industrial position between the World Wars and began to transform into an administrative, social and cultural centre. The only decline of population of Ostrava occurred in the period 1930-1950. The War caused other population losses apart from war casualties. After the Second World War, Germans were deported to Germany, the other decrease of population was caused by out-migration of people to new settlements near the border of the North Moravia (Opavsko, Bruntálsko and Šumpersko), another part of the population of Ostrava returned back to Těšín and Opava, which they had to leave involuntarily in 1938. However, census data do not prove any significant population losses in Ostrava, because results are influenced by the waves of in-migration during the post-war development, (more information in Prokop and Kovář 1985). Therefore, due to the compensation for population loss (caused by war casualties) and attractiveness of the city for the new population (due to the industrial development) the total population loss in the city was less than 2% (3,700 inhabitants) during the period from 1930 to 1950.

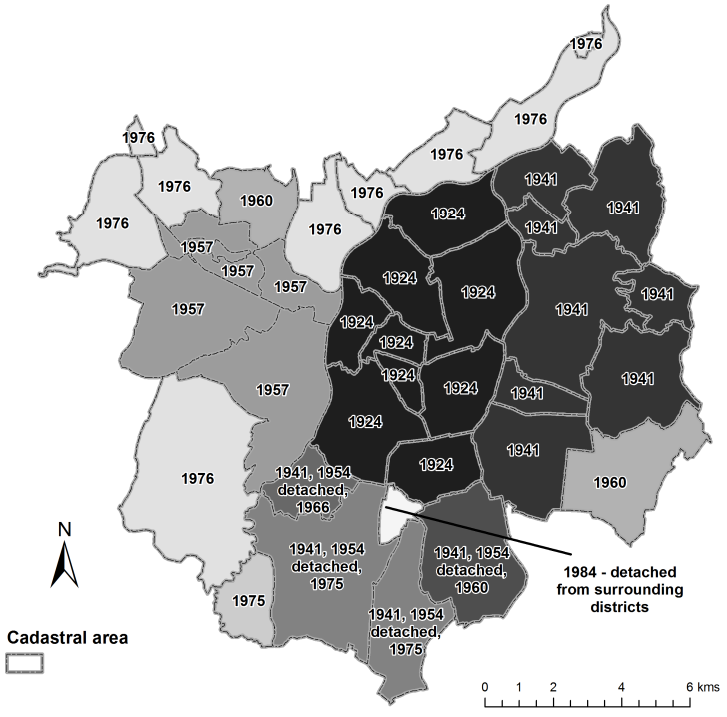

Fig. 2. Main stages in the extension of Ostrava boundaries since 1924

The end of WW2 started a new post-war era of the former Czechoslovakia influenced by communism, and Ostrava began to focus significantly on mining and ironworks development as well as on other fields of heavy industry and became one of the most important industrial centres of the former Czechoslovakia,

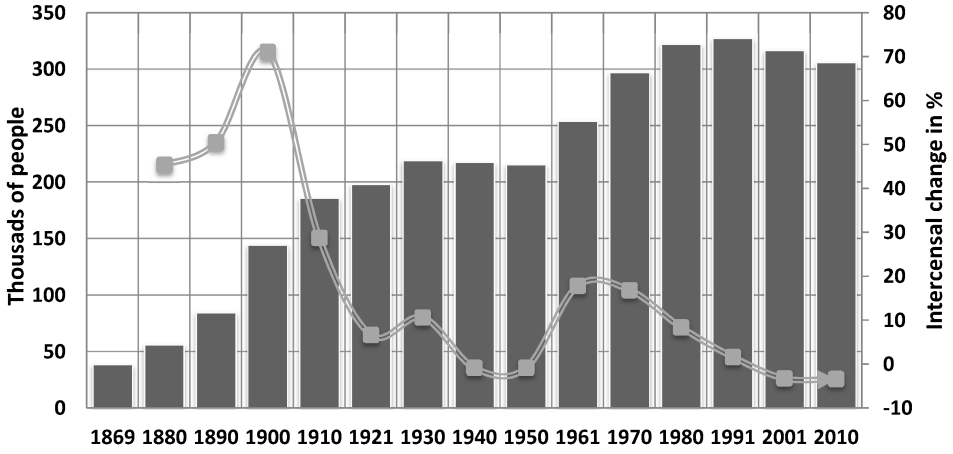

Fig. 3. Population of the city of Ostrava, 1869-2010
Source: Censuses of Population, Register of people (2010)

the so called "Steel Heart of the Republic". Between 1949 and 1952 new iron-works was built in Ostrava – Nová Huť of Klement Gottwald (today's Arcelor Mittal Ostrava), mainly because of lack of space in the Vítkovice area and because of increasing need for iron products. The significant government support for heavy industry brought Ostrava another big influx of labour force. This enormous development of industry, new housing programmes or above-average wages attracted new workers and their families, so the biggest wave of immigration began in the 1950s and the population of Ostrava increased by 18% (38,000 inhabitants) in 10 years. This trend also continued during the 1960s, when the positive natural change and migration gains increased the population by about other 43,000 inhabitants (17%). These big influxes of population also changed the age structure. Mainly young people of working age came to Ostrava and this development led to rejuvenation of the population in the longer-term (the fourth row in the scheme below – Fig. 4). This process had significant effects on the increased marriage and birth rate (Tlašková 2009). The significant increase of population in the 1970s was also fostered by the political influences. This massive increase of population was associated with the extensive building of new housing in Poruba in the 1950s. Building continued at Poruba and started at Zábřeh and Hrabůvka in the 1960s. This meant further spatial enlargement of the city, mainly the unification of western municipalities around Ostrava to the city (see Fig. 2). The population of the former agricultural village of Poruba increased by 92,000 inhabitants (almost 60 times). The upward trend of population in Ostrava was sustained until the 1970s when the in-migration to the city started to decline because of refocusing the economic interests of the state to other regions (Prokop 1995). This was the political decision of the communist government – from the military point of view, it was not safe to have only one city with so much developed heavy industry, because it would be very easy for potential attackers to destroy all heavy industry production with the

first wave of attack. Still, the population of Ostrava increased by more than 50% between 1950 and 1980. The dynamics of population increase in Ostrava was 4 times bigger than in Prague and 2 times bigger than in Brno (see the fifth row in the scheme below – Fig. 4).

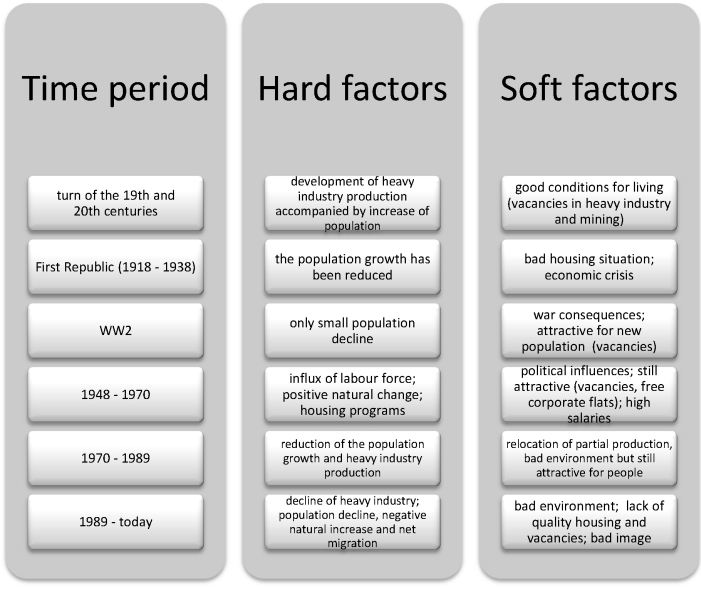

Fig. 4. Complementarities of hard and soft factors during main periods of development of Ostrava

The population of Ostrava culminated in 1990 when more than 331,000 inhabitants lived there. After the "Velvet revolution" in 1989, Czechoslovakia had to adapt itself to the new political and economic conditions. Political changes consisted of a transformation to the democratic type of government and in the economic sphere, the transition from a centrally planned to a free market economy. Transformation of the economic system accompanied by restructuring of the economy after 1989 caused decline of GDP in the primary sector, particularly the decline of steel production, heavy engineering, and mining of black coal. The last truck of hard coal, exported in 1994, ended more than two periods of mining in Ostrava, the Vítkovice blast furnace stopped production in 1998 after 162 years. The company was transformed and began to focus on engineering production. Steel industry was concentrated in Nová Huť. Especially in the case of Ostrava, it resulted in considerable structural unemployment, which was the cause of depopulation of the city. During the 1990s, the unemployment in Ostrava started to rise rapidly and in combination with the bad environmental conditions and without any perspective of improvement, the population of Ostrava began to decline slowly and the annual loss was about 1,000 inhabitants. The size of this decline has increased since 2000 and between 2001 and 2008, Ostrava lost other 9,000 inhabitants. These losses have been caused mostly by out-migration (suburbanization and long-distance migration) and less by the natural decrease.

Glasgow

Glasgow was the industrial centre of Scotland, like Ostrava in the Czech Republic. Glasgow represents the most extreme type of shift which has proceeded further and faster in Great Britain than elsewhere in the world (MacInnes 1995). The first three quarters of the 20th century saw the slow demise of those industries that had made Glasgow the second city of the Empire and the biggest non-capital city in Europe. The main development of the city in the eighteenth and nineteenth centuries was connected to international trade; its position on the edge of Europe had the advantage of relative proximity to the United States (trade in cotton, linen, tobacco, pig iron, etc.). The main growth of the city took place during the 18th and mostly during the 19th century when several major industries developed and transformed (decline of cotton industry). The industrialization of the city was caused mostly by the increase of coal mining, iron and steel (because of local coal and iron and the major local invention of the blast furnace). The major consumers of local steel there were the shipbuilders. Within 50 years, the Clyde became the major shipbuilding river of the world. Growth continued until 1913, when the shipyards employed 60,000. Other important industries in Glasgow were the railways and locomotive production.

Glasgow expanded eastwards absorbing some coal and iron villages and then southwards across the Clyde River. This meant a huge increase of the population, always over 30% in any decennial census period between 1801 and 1841, bringing the total population of the city from 84,000 in 1801 to over 275,000 in 1841 and 1 million at the turn of the century (more in Boulton-Jones 2009). The new Glaswegians came from three principal source areas – the immediate hinterland of Glasgow, starving Ireland and the changing Scottish Highlands (Gibb 1988). The huge immigration to Glasgow was not associated with any building programme to match. The influx was so big, that it was impossible to build adequate housing quickly enough. Much of the accommodation was in the form of badly built tenements in the back gardens of older tenement buildings. All buildings of the city were subdivided to create as many dwellings as possible – one and two room flats. This massive increase created some of the worst slums in Europe. At the end of the century, some 700,000 people lived in about 3 square miles (about 7.8 square kilometres). It is more than the entire population of the city in 2001, which is spread over 70 square miles, i.e. about 181.3 square kilometres (Boulton-Jones 2009). Total population development of Glasgow is depicted in graph below (Fig. 5).

Other big development of the city came with the First World War and this completely changed the industrial climate. The country needed everything that Glasgow's industries could produce (warships of all sizes, tanks, aircrafts, howitzers, etc.). Unemployment disappeared, nevertheless, the interwar years were horrendous. The end of the war and the world economic crisis in the 1930s caused 20% unemployment and production in shipbuilding, coalmining and pig iron fell substantially. Only steel manufacture managed to maintain production (Boulton-Jones 2009). During the Second World War, the need for ships, munitions and raw materials rekindled the dying industries, except the coal production, which remained at its pre-war level. Nevertheless, during the whole era, there was a lack of housing. The population density after the war was 163 per

acre (more than 40,000 per square kilometre) and in the Gorbals (part of the city), it was an incredible 564 people per acre (almost 141,000 per square kilometre). In the same era, the population density in Birmingham was 48 per acre (12,000 per square kilometre). In the same era, the population density in Birmingham was 48 per acre (12,000 per square kilometre). In 1951, a half of all houses in Glasgow consisted of one or two rooms only. The equivalent number for London was 5.5% (MacInnes 1995). With the end of the war the change of the city started. The mining industry came to a virtual end in 1984. No large liner was built on the Clyde after the launch of the Queen Elizabeth 2 in 1969. Steel production was shut in 1993. Singer closed their factory in 1985 (Clydebank). The loss of regional jobs in these industries was huge (40,000 miners; 30,000 shipbuilders; 70,000 engineers; 30,000 steelworkers; 7,000 employees from Singer) in the period after the Second World War.

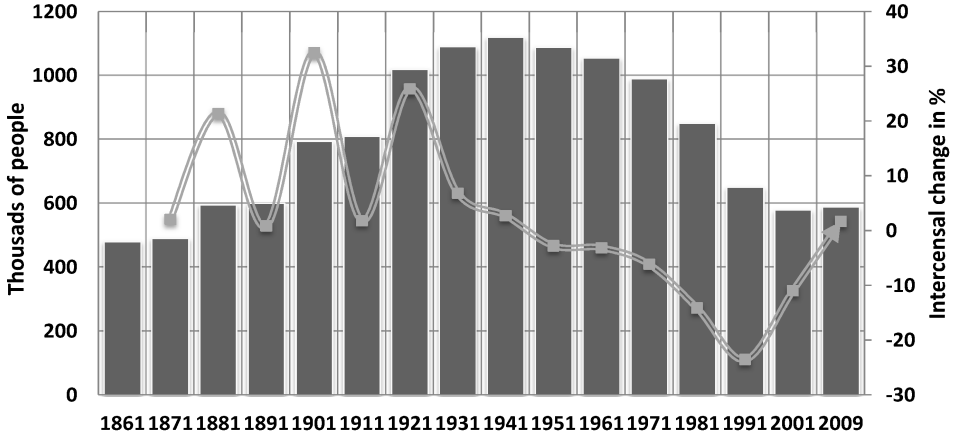

Figure 5. Population of the city of Glasgow, 1861-2008
Source: Censuses of Population, Registrar General Mid Year Estimates 2008

The population of Glasgow has been declining since the 1950s, along with those of all Britain's other northern industrial conurbations. The decline of the whole conurbation of Greater Glasgow was steepest during the 1970s and 1980s when the conurbation lost a sixth of its population through net out-migration, at an average rate of 15,000 people a year (Bayley et al. 1999). During the 1980s, Greater Glasgow's population declined faster than any other conurbation in Britain. During the 1990s, the average rate of decline slowed considerably to 3,600 a year (Bayley et al. 1999). The steepest decline of Glasgow's population was in 1970s and 1980s, when the city lost 30% of its population. Glasgow was one of the first cities in the world where the decrease of population was considered part of a policy. It was influenced by the combination of various factors like – housing factors (people were leaving the overcrowded city to suburbs around Glasgow where private housing was available, such as Newtown Mearns and Bearsden), neighbourhood factors (perceptions of better schools and environmental quality), employment factors (decentralization of jobs and vacancies from Glasgow to the new cities), and public policy. The last factor correlates with two major solutions of Glasgow for shortage of houses. The very high den-

sities of population in Glasgow created a massive demand for space, inside and outside the dwellings. So when the state began to invest large sums in building subsidized rented housing after the Second World War its building programmes gained huge public support, and for many years the local Council provided most of the housing built in Glasgow and other industrial cities of Scotland. That led later, in the 1980s and 1990s, to a great demand for housing for owner occupation in a city where publicly subsidized rented housing dominated the market. These two demands – first for more space and later for housing owned by the people who lived in it – could only be met by "exporting" many people beyond the city's boundaries. The basics of the first solution were to build new towns around Glasgow and some of the inhabitants of Glasgow would move there. The second approach was to build new suitable housing within Glasgow – creation of new estates and new techniques in construction by building upwards, so to convert horizontal communities into vertical ones. Finally, elements of both plans were adopted. In the mid 1970s, 250,000 people, the majority from Glasgow, were housed in five new towns located throughout central Scotland at East Kilbride, Cumbernauld, Glenrothes, Livingstone and Irvine. These New Towns had amenity for industry and its workforce, but residential areas were segregated from industrial estates. Between 1947 and 1975, the five New Towns attracted over 700 firms (Levitt 1999) and became prosperous which caused further out-migration from Glasgow. The vacated slums were torn down and later replaced with housind including 160 huge high-rise buildings (even 31 stories), but with minimum number of services like shopping or leisure facilities. Finally, these high-rise buildings were found to be difficult places to live in. None was built after 1974, and even some of these buildings were demolished only 20 years after their construction (see the fourth row of the scheme below – Fig. 6).

Glasgow city's share of the total conurbation population fell sharply from 62% on 1951 to 42% in 1991 (Turok and Bailey 2004). The continuous decline is evident until 2001, in this era Glasgow lost almost half of its population despite the city being enlarged by about 1,600 hectares. In this period the city is no longer the rich city, but it had become the sickest city in Britain (Boulton-Jones 2009). For the past decade the city's priority has been to build more small houses for owner-occupation and for renting by private landlords in inner parts of Glasgow, to hold more of the young people who pass through the city's large higher education system within the city instead of losing them all to the suburbs or to places further away. The housing policies of each generation are often designed to correct the errors or excesses of the policies of the previous generation. The first increase in population is evident in the recent period between 2001 and 2008. It is small, but in comparison with the decline in previous decades, it is regarded as success. The City's population is expected to rise slightly over the next 10 years. The population projection predicts another population increase to 597,939 in 2026. The proportion of Glasgow's population aged 20-29 increased from 17% to 18% between 1996 and 2006. In Glasgow, the percentage of 20-29 years old of the whole population is 42% above the Scottish average.

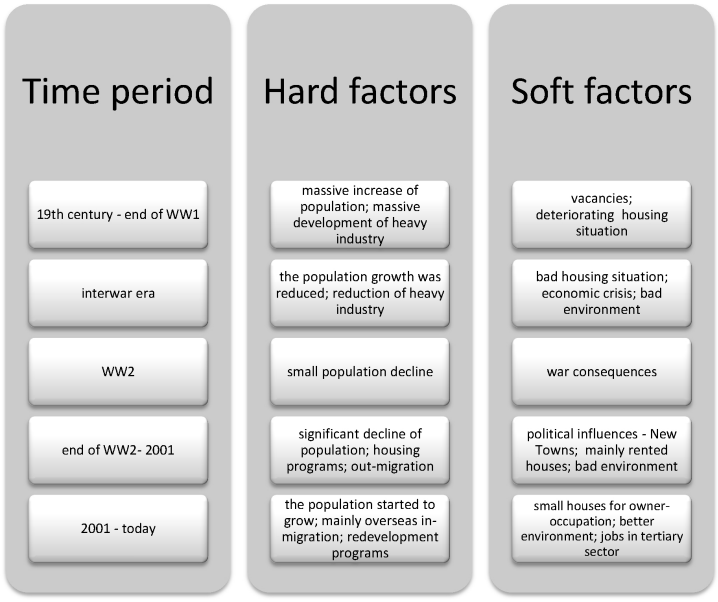

Fig. 6. Complementarities of hard and soft factors during main periods of development of Glasgow

NATURAL CHANGE AND NET MIGRATION BEFORE AND DURING DE-INDUSTRIALIZATION

The population of a city may decline through net outward migration (out-migration exceeding in-migration) and natural change (deaths exceeding births). Out-migration from a core city may reflect declining economic opportunities or people's preferences to live out of the city in the surroundings areas. Population change also has immediate economic effects (less demand for shops, consumer services, leisure facilities or public services). Migration processes can be regarded as the main cause of all significant changes in number of inhabitants and their spatial distribution, which significantly influenced the development in Glasgow as well as in Ostrava. Natural change has only marginal effects mainly in Glasgow.

It is problematic to describe the development of migration processes in Ostrava during the 1950s and also partly during the 1960s. Administrative changes and massive building of housing in Poruba, before it was annexed to Ostrava, created significant increases and declines of net migration (net migration was almost 35‰ in the first half of the 1950s and -22‰ in the second half). The migration influxes were never as significant as during the 1950s and 1960s. Since the 1970s, the migration development of Ostrava can be divided into three in-migration waves. First wave peaked in 1970 and since then the number of in-migrants started to decline. Net migration was even in negative numbers in 1975, so Ostrava lost its population due to bigger out-migration than in-migration. After this year, the second wave appeared and the maximum was

reached in 1979. After this second wave, another decline came and Ostrava started to lose its population for three years. The last in-migration wave appeared in the mid-1980s with its peak in 1985. This was the last in-migration wave in Ostrava's history and since 1989, the year of Velvet revolution, Ostrava started to lose people mainly due to deindustrialization processes and this development is the same even today. The size of the out-migration was influenced by two major factors – suburbanization to suburbs of Ostrava (mainly caused by bad environmental situation, bad quality of housing and on the other hand by the good and fast transport connection to Ostrava from the suburbs) and long distance out-migration to Prague and its suburbs to find better-paid jobs.

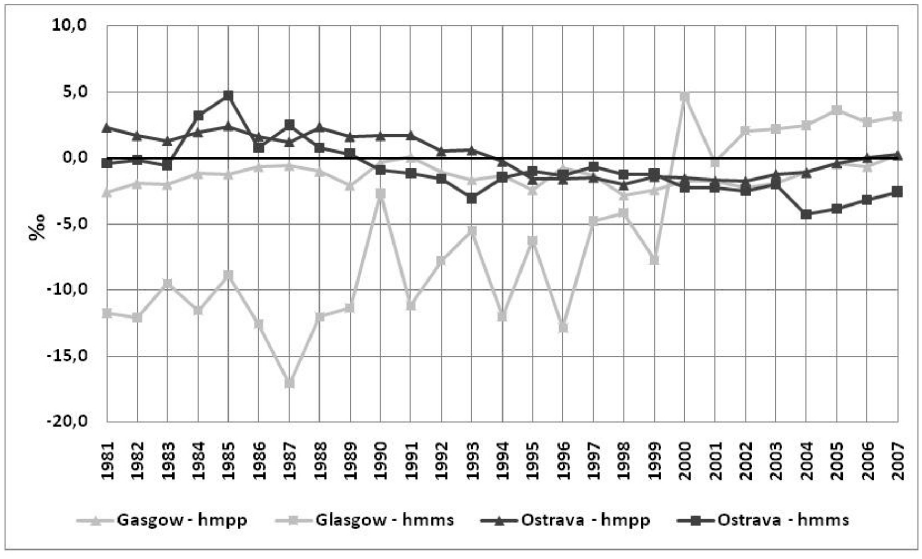

Fig. 7. The role of natural change and net migration in Glasgow and Ostrava (per 1 000 inhabitants)

Note: hmpp – natural change per 1 000 inhabitants, hmms – net migration per 1 000 inhabitants

The maps in Fig. 8 with three years average numbers of out-migrants from Ostrava to other Regions of the Czech Republic show this development of out-migration for the period from 1992 to 1994 and from 2006 to 2008. In the first analysed period, the favourite targets of out-migrants are located within the Moravian-Silesian Region and in surrounding NUTS3 Region. Most inhabitants of Ostrava moved within the Region and then to the Olomouc Region (343 people per year), Zlin Region (267 people per year) and then to the South Moravian Region (228 people per year). Nevertheless, even during this period, there is a relatively significant flow of out-migrants to Prague and the Central Bohemia Region. Out-migration from Ostrava has changed significantly between the analysed periods. In 2006-2008, the most important migration flow heads to Prague (569 people) with an increase of almost 250% and then to the Central Bohemian Region (252 people), where migration from Ostrava has grown about almost 200%. These two regions are the most popular in the Czech Republic, mainly

due to better employment opportunities in Prague. Significant increases are evident in the case of migration to the Pilsen Region with an increase of about 81% and to the Ústí Region. Paradoxically, the situation in terms of employment is worse here than in the Moravian-Silesian Region, but the most favourite areas of in-migrants are probably in the southern areas of this Region (Louny and Litomeřice Districts) from where Prague is still relatively easily accessible and housing is not as expensive as in the capital. There are also significant migration flows to the South Moravian Region (238 people), mainly to its capital city (Brno), but the number of out-migrants remained without significant changes. The relatively highest declines in the number of out-migrants from Ostrava are in the case of the surrounding regions – Olomouc Region with decline from 343 to 200 people (-35%) and Zlín Region with a decline of about – 42%. The out-migration from Ostrava to other municipalities within the Moravian-Silesian Region rose about 15% during this period, mainly due to good transport accessibility from these localities to Ostrava and quality housing conditions in a better environment. Therefore, the out-migration to closer areas around Ostrava remained on the same level, but the out-migration to more distant areas near the mountains (within the Moravian-Silesian Region) rose significantly.

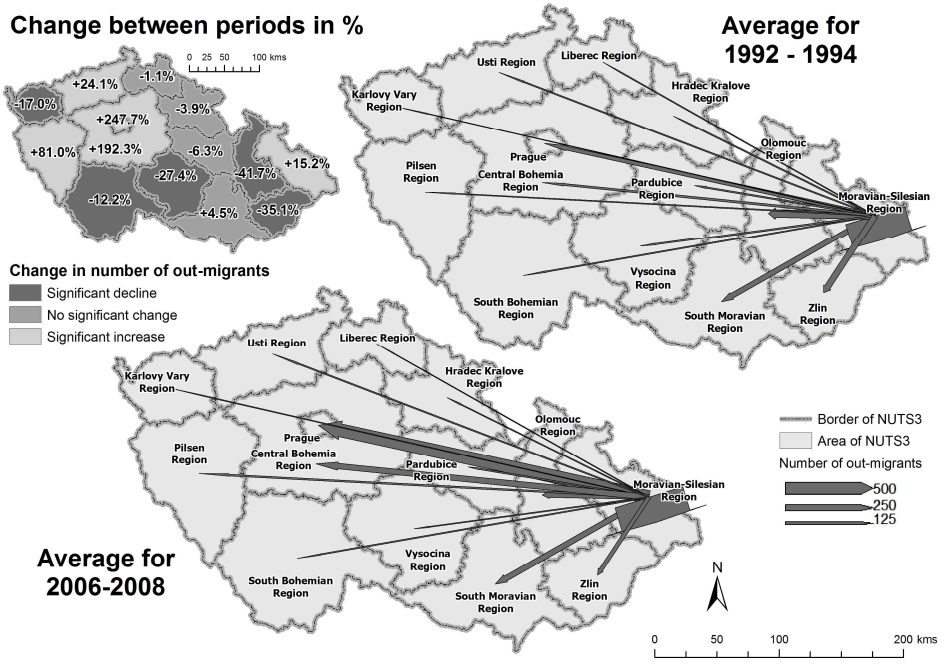

Fig. 8. Number of out-migrants from Ostrava city to other NUTS3 Regions in the Czech Republic and its absolute and relative change between 1992-1994 (average) and 2006-2008 (average)

The in-migration processes have a similar development (Fig. 9) as in the case of out-migration. This means the decline of in-migration to Ostrava from the surrounding NUTS3 regions and significant increase of in-migration from regions in Bohemia. Ostrava is more and more attractive for people from more remote areas in the Czech Republic. In-migrants of the Moravian-Silesian Region represent more than 45% of all in-migrants to Ostrava in 2008 and the biggest number of in-migrants came from Prague, but the level of out-migration still remains much higher than the level of in-migration.

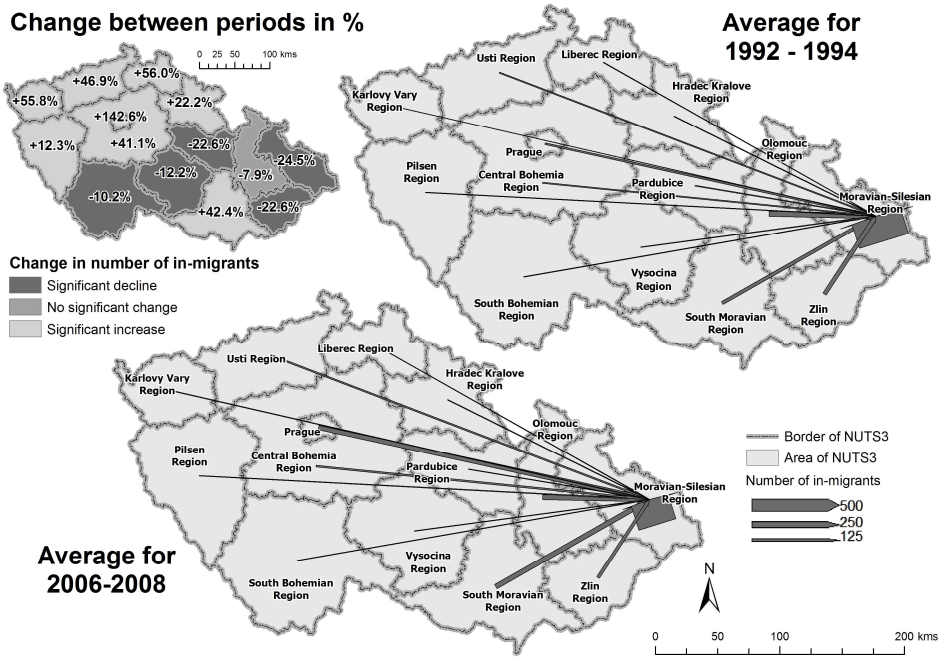

Fig. 9. Number of in-migrants to Ostrava city from other NUTS3 Regions in the Czech Republic and its absolute and relative change between 1992-1994 (average) and 2006-2008 (average)

The main loss of people in Glasgow was caused by out-migration in the period of the most severe job losses. Most people who left Glasgow moved to the South of England rather than to other parts of Scotland (Webster 2000 or Walsh et al. 2010) and some moved across the Atlantic Ocean to the United States. The graph (Fig. 10) describes this development. Net out-migration to the UK (out of Scotland) peaked during the 1980s and had the biggest influence on the depopulation of Glasgow. At the same time as the out-migration from Glasgow's conurbation, the process of suburbanization has continued within it. Decentralization of population from the city core to the outer area has been a feature since the 1930s but it was most significant during the 1960s and 1970s. The out-migration flows to the near Scotland areas are on the similar level of the annual loss between 2 000 and 4 000 since the 1980s with slow continual decline

since the start of the 21st century. The out-migration to far Scotland does not have any significant impacts on global out-migration and since the mid-1990s some migration influxes are evident. During the 1990s, the size of decline slowed significantly, it coincided with the reversal in Glasgow's economic fortunes and increasing obstacles to people moving to the South England, including rising house prices (Glasgow City Council 2009b). The improved employment situation is a key factor in the turnaround of the migration position of Glasgow. The recent improvement reflects a considerable net inflow from long-distance migration. The detailed current situation in migration flows is pictured in two maps (Figs. 11 and 12). Glasgow City Council started to build recently new houses in different housing areas to attract new inhabitants and mainly young families from other parts of Scotland or other parts of the world. This new strategy can be considered a possible example to follow for the development of Ostrava.

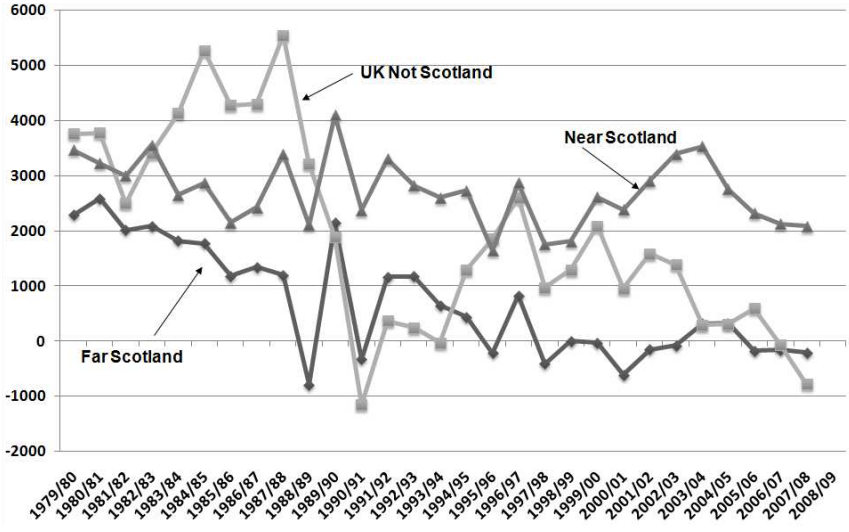

Fig. 10. Net outmigration from the greater Glasgow health board area 1979/80-2007/08
Source: Webster (2000)

CONCLUSIONS

Both cities were affected by the huge influx of population during their industrial golden ages. In the case of Glasgow, it was during the 19th and first half of 20th century (mostly before the First World War) and in Ostrava it was during the 1950s, 1960s and less during the 1970s. These cities were overpopuleted and living conditions were very bad. Main population changes began with the deindustrialization processes before and mainly after the Second World War in Glasgow and after the "Velvet Revolution" in 1989 in Ostrava and these facts were reflected in the development of certain demographic characteristics of Ostrava (Čermák et al. 2009) and Glasgow. Both cities were negatively influenced by significant out-migration and they lost a significant number of their population. The major causes were similar – mostly bad employment situation and

housing factors. Nevertheless, the deindustrialization started earlier in Glasgow than in Ostrava, so the development of Glasgow could provide a possible example for the future development of Ostrava.

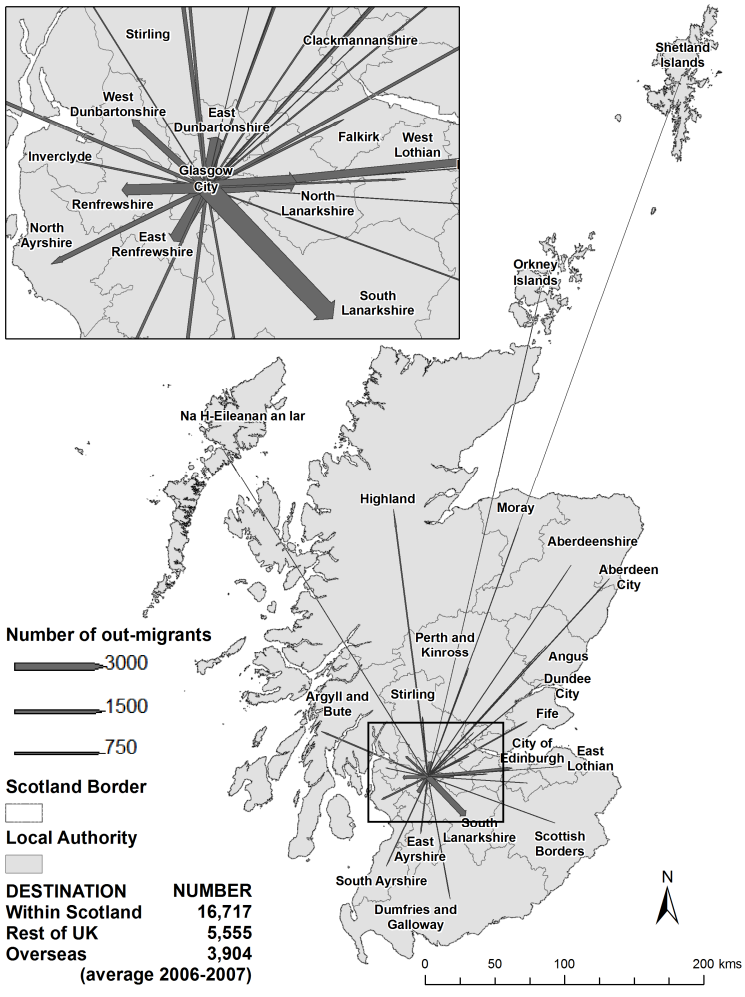

Fig. 11. Main migration flows from Glasgow to Local Authorities in Scotland

The Glasgow City Council expended significant amount of money to change the face of the city from a sick, dirty and dangerous city to a modern, clean city, ideal for shopping, living, sightseeing. Glasgow was the European City of Culture in 1990. The most significant changes started with building of new housing by Glasgow City Council to attract young families from the surrounding near regions or from the rest of the United Kingdom or even from overseas. All these changes have an important impact on the new influx of young people to Glas-

gow. The ratio of people between aged 20 and 39 is about 8% higher than in the rest of Scotland (Glasgow City Council, 2009a). Actually, the main influxes are from overseas and less from the UK (except Scotland). Glasgow is still losing population due to suburbanization, but globally, the net migration is positive and the city increases population due to migration. According to interviews with selected key persons in Glasgow, the Glasgow City Marketing Bureau plays an important role in this development. It is the official destination marketing agency for Glasgow with responsibility for positioning the city across its national and international markets. This institution attracts various national or international events (conferences, sport and cultural events, etc.) to take place in the city.

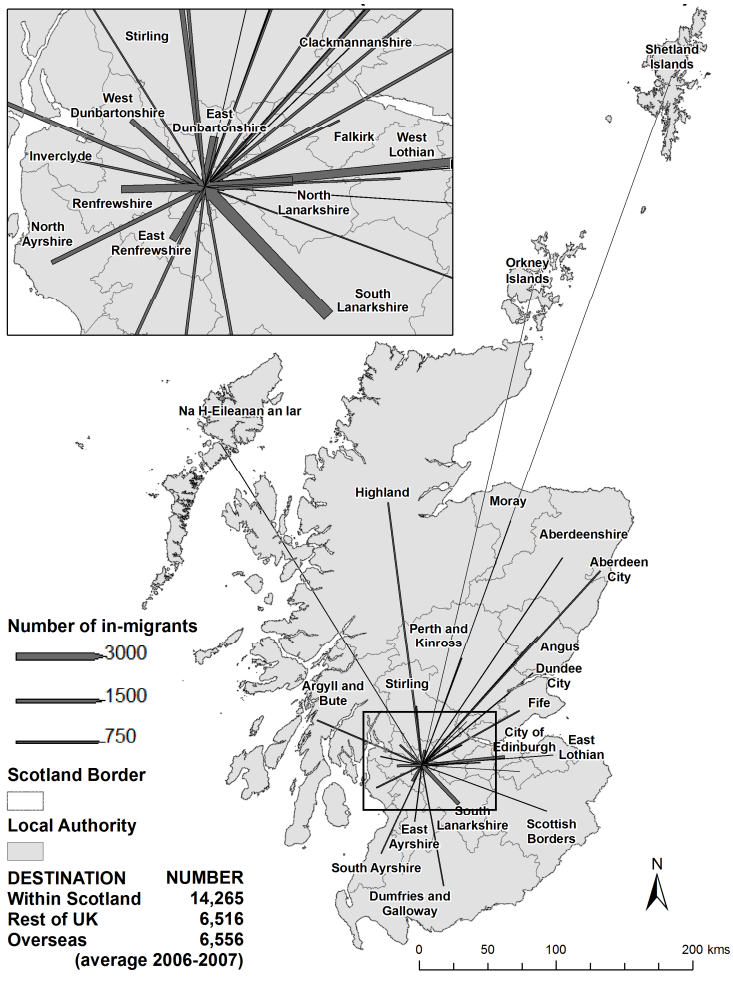

Fig. 12. Main migration flows to Glasgow from Local Authorities in Scotland

Ostrava remains in the misery of significant net migration losses, the situation in 2009 was even worse than any time before and the number of out-migrants was 1,723 people higher than the number of in-migrants. Ostrava cannot attract or make to stay young people because they often cannot find appropriate and well-paid jobs (mainly graduates) – a problem in hard as well as soft factors. This is the main difference between Ostrava and Glasgow, where both types of factors are on a good level. That is why the negative net migration remains the biggest problem of Ostrava. The structure of out-migrants creates even bigger problem, because the main part of these out-migrants are young and university educated people. However, the city government of Ostrava is trying to change this critical situation as they did in Glasgow but it seems to be a very complicated and long-term process. The other difference between Ostrava and Glasgow is the level of deindustrialization. Glasgow can be considered as almost deindustrialized, reindustrialization processes followed the deindustrialization processes in Ostrava and so the heavy industry still creates a significant number of work places in Ostrava. Nevertheless, Ostrava is the city with the largest area of greenery per population in the Czech Republic, it was a candidate for the European City of Culture in 2015 (finally Pilsen was chosen as the candidate city for the Czech Republic), various music festivals and sport and other events take place in the city. In spite of this, the prevailing opinion of inhabitants of the Czech Republic that Ostrava is a dirty, grey city remains and a lot of effort is necessary to change it – this is the biggest role of soft factors to attract employers, developers and people.

The project is supported by the Grant Agency of the Czech Republic ("The Industrial City in a Post-Industrial Society", GA 403/09/1720) and by a grant from the Technical University of Ostrava SP2011/131 Metody lokalizace kriminálních činů a jejich prostorové aspekty.

REFERENCES

BAYLEY, N., TUROK, I., DOCHETRY, I. (1999). *Edinburgh and Glasgow: contrasts in competitiveness and cohesion*. Glasgow (University of Glasgow, Department of Urban Studies).

BOULTON-JONES, M. (2009). *Glasgow works. An account of the economy of the city*. Bristol (Dolman Scott).

ČERMÁK, Z., HAMPL, M., MÜLLER, J. (2009). Současné tendence vývoje obyvatelstva metropolitních areálů v Česku: dochází k významnému obratu? *Geografie*, 114, 37-51.

FYFE, N. R., KENNY, J. T. (2005). *The urban geography reader*. Abingdon (Routledge).

GIBB, A. (1988). *The demographic consequences of rapid industrial growth: a case study of Glasgow 1801-1914*. Occasional Paper Series, 24. Glasgow (Department of Geography & Topographic Science, University of Glasgow).

GLASGOW CITY COUNCIL (2009a). *Population*. Dostupné na: http://www.glasgow.gov.uk/NR/rdonlyres/E3BE21DA-4D84-4CC4-9C02-2E526FDD9169/0/populationaug07.pdfEdinburgh (cit. 2009-09-20).

GLASGOW CITY COUNCIL (2009b). *Population and Household projections*. Dostupné na: http://www.glasgow.gov.uk/en/Business/Planning_Development/PlanningPolicy/Population_Housing (cit. 2009-09-19).

KNOX, P. L. (1995). *Urban social geography. An introduction*. Harlow, New York (Longman Scientific & Technical).

LEVITT, I. (1999). Scottish air services, 1935-75 and the Scottish New Towns, 1943-75: a guide to records at the National Archives of Scotland. *Scottish Archives*, 5, 74-82

MacINNES, J. (1995). The deindustrialization of Glasgow. *Scottish Affairs*, 11, 73-95.

MYKHNENKO, V., TUROK, I. (2008). East European cities – patterns of growth and decline, 1960-2005. *International Planning Studies*, 13, 311-342.

PROKOP, R. (1995). Některé urbanizační a populační proměny Ostravy v letech 1980-1991. *Příspěvky k dějinám a současnosti Ostravy a Ostravska*, 17, 117-141.

PROKOP, R., KOVÁŘ, J. (1985). Ostrava – novodobý vývoj a problematika obyvatelstva současného průmyslového velkoměsta. *Příspěvky k dějinám a současnosti Ostravy a Ostravska*, 13, 160-198.

SAVITCH, H. V. (1988). *Post-industrial cities: politics and planning in New York, Paris and London*. Princeton (Princeton University Press).

SHAW, D. V. (2001). The post-industrial city. In Paddison, R., ed. *Handbook of urban studies*. London (Sage), pp. 284-296.

SLACH, O., BEDNÁŘ, P., KOUTSKÝ, J., OLŠOVÁ, P. (2009). The role of soft factors in the attraction of creative class from the perspective of university students in the cities of Ostrava and Ústí nad Labem. *GeoScape*, 4, 174-184.

STEINFÜHRER, A., BIERZYNSKI, A., GROSSMANN, K., HAASE, A., KABISCH, S., KLUSÁCEK, P. (2010). Population decline in Polish and Czech cities during post-socialism? Looking behind the official statistics. *Urban Studies*, 47, 2325-2346.

TLAŠKOVÁ, E. (2009). *Migrace jako zásadní fenomén vývoje Ostravska*. Dostupné na: <http://www.migraceonline.cz/e-knihovna/?x=2033882> (cit: 2009-10-31).

TUROK, I., BAILEY, N. (2004). Glasgow's recent trajectory: Partial recovery and its consequences. In Newlands, D., Danson, M., McCcarthy, J., eds. *Divided Scotland?: The nature, causes and consequences of economic disparities within Scotland*. Aldershot (Ashgate Publishing), pp. 35-59.

TUROK, I., MYKHNENKO, V. (2007). The trajectories of European cities, 1960-2005. *Cities*, 24, 165-182.

WALSH, D., TAULBUT, M., HANLON, P. (2010). The aftershock of deindustrialization-trends in mortality in Scotland and other parts of post-industrial Europe. *The European Journal of Public Health*, 20, 58-64.

WEBSTER, D. (2000). The political economy of Scotland's population decline. *Fraser of Allander Institute, Quarterly Economic Commentary*, 25(2), 40-70.

Igor I v a n, Jiří H o r á k

POPULAČNÉ ZMENY SPÔSOBENÉ PROCESMI INDUSTRIALIZÁCIE A DEINDUSTRIALIZÁCIE – POROVNANIE OSTRAVY A GLASGOWA

Svetové mestá postupne strácajú svoj štatút výrobných centier a menia sa na strediská terciárneho a kvartérneho sektora ekonomiky. Knox (1995) popisuje ako štyri základné výsledky tohto vývoja – deindustrializáciu miest, decentralizáciu výroby a služieb v metropolitných regiónoch, transformáciu vybraných miest do svetových centier špecializujúcich sa na určitý druh výroby a recentralizáciu služieb vyššieho stupňa napojených na výrobu. Vývoj miest je ovplyvňovaný tvrdými a mäkkými faktormi. Slach et al. (2009) vymedzujú tvrdé faktory, ktorých kvalitu a úroveň je možné primárne vyčísliť (dáta o ľudských zdrojoch, využití územia, dopravných spojeniach atď.), zatiaľ čo mäkké faktory popisujú ako primárne nevyčísliteľné a určované subjektívne (kvalita bývania, voľnočasové aktivity, zlepšovanie životného prostredia, zmena vnímania mesta a pod.). Cieľom príspevku je porovnanie indu-

striálneho a postindustriálneho vývoja dvoch historicky významných priemyselných miest – Ostravy a Glasgowa, a to z hľadiska populačných zmien.

Zmeny vo vývoji počtu obyvateľov Ostravy sú charakteristické prudkým nárastom obyvateľstva v industriálnej fáze vývoja, hlavne v niektorých obdobiach, ako je prelom 19. A 20. storočia (každých desať rokov nárast o 50 %) a 50. a 60. rokov 20. storočia (každých desať rokov nárast o 17-18 %). Opačné výkyvy boli registrované hlavne počas vojnových rokov a súvisia s významnými presunmi obyvateľov (odsun Nemcov, návrat emigrantov do Sudet a Těšínska a pod.). Rýchly prírastok obyvateľov bol spôsobený hlavne migráciou prevažne mladých ľudí, čo následne zvyšovalo sobášnosť a pôrodnosť. Do roku 1980 mala Ostrava dvojnásobnú dynamiku rastu v porovnaní s Brnom a štvornásobne väčšiu ako Praha. Maximálny počet obyvateľov dosiahla v roku 1990 (331 000 obyvateľov, obr. 3). Naštartované politické a ekonomické zmeny sa na Ostravsku premietli hlavne do obmedzenia niektorých typov tradičnej priemyselnej produkcie (zastavenie ťažby uhlia v roku 1994 a likvidácia vysokých pecí vo Vítkoviciach v roku 1998). Tieto zmeny sprevádzal postupný pokles počtu obyvateľstva. V 90. rokoch išlo o mierny pokles asi o 1 000 obyvateľov ročne; po roku 2000 však pokles narastá. Do migrácie sa premieta aj suburbanizačný proces aj sťahovanie na veľké vzdialenosti. Vývoj v Ostrave je v jednotlivých etapách charakterizovaný kombináciou tvrdých a mäkkých faktorov (obr. 4).

Začiatkom 20. storočia bol Glasgow hlavným priemyselným centrom Škótska a Veľkej Británie. S počtom obyvateľov takmer jeden milión bol druhým najväčším mestom Britského impéria a okrem hlavných miest aj najväčším mestom Európy. Jeho postavenie určoval predovšetkým medzinárodný obchod a významná základňa baníctva, hutníctva, lodeníc a železničného strojárstva. Masívny príliv obyvateľstva v 19. storočí (obr. 5) sprevádzal vznik jedného z najhorších slumov v Európe tých čias – na konci storočia žilo približne 700 000 obyvateľov na ploche menšej ako tri štvorcové míle (cca 7,8 km^2). Veľký rozmach priemyslu a s tým spojený príliv obyvateľov bol zaznamenaný vždy počas vojnových rokov v súvislosti s orientáciou na ťažký zbrojársky priemysel. O to väčšia bola nezamestnanosť a prepad počtu obyvateľov po oboch svetových vojnách. Ani vtedy sa však nezlepšila kvalita bývania. Ešte v roku 1951 mala polovica domov v Glasgowe len jednu alebo dve izby (porovnateľných domov bolo v Londýne len 5,5 %). Banícka činnosť bola ukončená v roku 1984 a výroba ocele v roku 1993. Po druhej svetovej vojne tu stratilo zamestnanie takmer 40 000 baníkov, 30 000 zamestnancov lodeníc, 70 000 technikov a 30 000 hutníkov. Maximálny počet obyvateľov dosiahol Glasgow v 40. rokoch (vyše 1,1 milióna) a odvtedy počet obyvateľov klesal až do roku 2001 (cca 580 000, obr. 5). Najväčšia vysťahovalecká vlna bola v 70. a 80. rokoch, keď konurbácia Glasgowa (tzv. Greater Glasgow) každoročne strácala 15 000 obyvateľov. Treba povedať, že zníženie počtu obyvateľov bolo programovým cieľom vtedajšieho vedenia mesta, avšak prejavovali sa aj ďalšie významné vplyvy, ako je lepšia kvalita bývania v okolí, lepšie školy a životné prostredie, lepšia zamestnanosť. Vďaka cielenej výstavbe vzniklo niekoľko nových miest v strednom Škótsku, kam sa nasťahovalo 250 000 ľudí, prevažne z Glasgowa. Uvoľnené nevyhovujúce domy sa v Glasgowe búrali a nahrádzali novými výškovými budovami, avšak s minimom služieb a zariadení pre voľnočasové aktivity, čo sa nakoniec ukázalo ako zásadný problém. Táto skutočnosť spolu s nekvalitnou výstavbou viedla k opakovanej demolácii väčšiny spomínaných výškových budov. Zmeny v meste, preferencia výstavby malých domov a zabezpečenie súkromne vlastneného nájomného bývania (teda hlavne pozitívne ovplyvnenie mäkkých faktorov, obr. 6) viedli k obratu vo vývoji populácie. Od roku 2001 počet obyvateľov narastá a rovnako pozitívne sa mení i demografické zloženie (nárast zastúpenia vekovej kategórie 20-29 rokov).

Od roku 1970 môžeme v Ostrave zaznamenať tri významné prisťahovalecké vlny s vrcholmi v rokoch 1970, 1979 a 1985. Hlavné obdobie vysťahovávania začína po roku 1990 a zosilňuje sa po roku 2000. Migrácia smeruje buď do blízkych cieľov okolo Ostravy (prejavy suburbanizácie, pravidelne zostáva dochádzanie do Ostravy) alebo do vzdialených cieľov (obr. 9). V období 1992-1994 dominovala migrácia do bližšieho či vzdialenejšieho okolia Ostravy. V období rokov 2006-2008 však už prevláda sťahovanie do Prahy (nárast takmer o 250 %) a Stredočeského kraja (nárast takmer o 200 %). Prisťahovanie z Moravskosliezskeho kraja tvorí 45 % (2008), nasledujú moravské kraje a Praha, ktorá výrazne rastie v rooch 2006-2008 (nárast oproti rokom 1992-1994 je takmer 150 %). V súčasnosti Ostrava citeľne stráca svoju populáciu hlavne pre záporné migračné saldo (úbytok 1 723 obyvateľov v roku 2009).

V prípade Glasgowa smerovali toky vysťahovávania, spôsobené hlavne stratou pracovných príležitostí, čiastočne do Škótska, čiastočne do iných častí Veľkej Británie a sčasti do USA (obr. 8). V rokoch 1980-1990 dominujúci odchod do iných častí Veľkej Británie (hlavne na juh Anglicka) vystriedala v ďalších rokoch migrácia do bližších oblastí Škótska. To potvrdzuje pre roky 2005-2007 aj obr. 11. Pokiaľ ide o prisťahovanie (obr. 12), najviac prichádzajú obyvatelia z okolitých častí Škótska, avšak je ich značne menej ako vysťahovaných. Výrazne pozitívne migračné saldo v rokoch 2005-2007 zaznamenávajú ostatné časti Veľkej Británie hlavne z kontinentálnej Európy. Na celkovo pozitívnom migračnom salde sa prejavuje hlavne zlepšená situácia v zamestnanosti, vo výstavbe domov a takisto v zlepšení imidžu Glasgowa.

Napriek podobnému vývoju sa v súčasnosti Glasgow a Ostrava nachádzajú na inej trajektórii. V Glasgowe bol proces deindustrializácie kompletne dokončený, kým v Ostrave je na ťažký priemysel stále viazaný významný počet pracovných miest. Aj napriek pozitívnym zmenám v podmienkach pre kultúru a šport a niektorým iným faktorom, napriek snahe o lepší obraz mesta v médiách pretrváva u verejnosti zatiaľ tradičná predstava o Ostrave. Komplex tvrdých a mäkkých faktorov sa premieta do súčasného vývoja. Na rozdiel do Glasgowa, v Ostrave narastá záporné migračné saldo a naviac sa prejavuje hrozivá demografická skladba odchádzajúcich obyvateľov, pretože Ostravu opúšťajú hlavne mladí a vysokoškolsky vzdelaní ľudia.