1.1 MIGRATION AND NATURAL GROWTH IN PRAGUE

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A population balance comprises of two fundamental constituents: natural reproduction, determined by birth and death, and migration. The final figure of natural increase or decrease in population is the difference between the numbers of newly born and deceased persons. The second constituent of a population balance, migration (also called mechanical movement of persons), is created by the difference between the numbers of persons who moved into and out of the observed area. The development of the number of inhabitants can be considered the main indicator of population dynamics and also economic situation. During the 20th century, this subject was explored in detail by many authors (e.g. Boháč 1923, Pohl 1932, Král 1946, Hampl 1982), recently also by Ouředníček (2002) or Ouředníček and Novák (2012). The main objective of the specialized map is to comprehensively describe the spatial differentiation of natural population change and migration as two complementary processes on the level of cadastral territories (inter-war period) and urbanistic districts (the present). The map sheet consists of two maps, which reflect the population balance of Prague in the 1920s and the first decade of the 21st century. The maps are based on the data from the Population Census in the Republic of Czechoslovakia (years 1921 and 1930) and from the continuous record keeping of natural change and migration by the Czech Statistical Office between 2001 and 2011. These data sources provide unique territorial details on observed data in the area of Prague. To compare territories with different population sizes, crude rates have been used that recalculate the natural and migration increase (decrease) in population, per 1,000 population estimated at midyear.

The maps reflect the relationship among the components of the population balance of the observed territorial areas. This relationship is determined by the calculated crude rates of migration balance and natural increase, and is reflected in the position of the observed administrative units in a Cartesian coordinate system. Each octant of the Cartesian coordinate system provides information about which component has a dominating effect on the population development of a unit. Simultaneously, on the basis of the distribution of points (territorial units) in the chart, it is possible to evaluate the overall trend of the population development in the observed area. The method of classifying population balance data was inspired by John W. Webb's (1963) article, which used a similar method to evaluate the population balance components of rural and urban areas in England and Wales in the 1920s.

Votrubec (1965) calls the period after 1918 the most turbulent period of Prague development in terms of population (see Figure 1.1.1). During this period, due to the law that came into force in 1922, "Greater Prague" was formed by connecting 8 Prague districts with 38 additional municipalities or their parts; moreover, the historical city centre continued to be redeveloped and vacant areas were gradually built on. Due to the

administrative enlargement of the city boundaries, the total number of inhabitants grew by almost two thirds in comparison with the previous state.

Figure 1.1.1: *Prague population development between 1921 and 2013*
Source*: ČSÚ, 2013*
Note: *The years 1945 and 1946 without data on inhabitants of German nationality*

The population growth is not linked only to the enlargement of the territorial boundaries, but also reflects the demographic trends of the time. During the 1920s Prague grew as a whole mostly due to high migration gains. If we compare these migration gains and natural change, the positive migration balance exceeds Prague's natural population growth by more than ten times. Prague therefore gained more than 170 thousand inhabitants within a decade. However, the natural population growth fell during this period. As early as 1929, the number of deceased persons exceeded the number of newly born, and after ten years there were more people dying than being born in Prague. The negative natural population reproduction trend was characteristic for Prague even in the second half of the 1930s. However, migration helped Prague gain new inhabitants until the beginning of the 1940s (Ouředníček 2002). Prague achieved the highest migration gains in the second half of the 1920s. One of the consequences of the heavy migrant influx was for example the rapid creation of makeshift settlements in the vicinities of industrial enterprises and Prague suburbs (Votrubec 1965, Ouředníček 2002). The figures of the 1930 population census show that there were more than 848 thousand registered Prague inhabitants in this period. According to Votrubec (1965), people who moved to Prague were often of lower social status and came from South Bohemia or the Bohemian-Moravian Highlands. At the beginning of the 1930s, Prague had therefore more than 60% inhabitants born outside the capital.

Population growth was characteristic for most Prague cadastral territories in the 1920s. Many cadastral territories outside the historical centre of Prague experienced population growth due to migration gains, which exceeded the natural increase to a considerable extent. Only in the suburban cadastral territories of Střížkov and Malá

Chuchle the population gain was more influenced by natural increase than migration, and, on the other hand, the cadastral territory of Vinohrady, located on the border between the city centre and inner suburbs, lost its inhabitants due to natural change and gained due to migration. Considering the number of inhabitants, the territories with the highest migration gain were the territories of Záběhlice, Motol, Krč, Strašnice, Michle, Dejvice, and Střešovice. On the other hand, the cadastral territories with the highest gain from natural change were the areas of Hloubětín, Veleslavín, Hrdlořezy, and Vokovice (see Figure 1.1.2). Ouředníček (2002) explains the progressive population growth of Prague suburban areas by the immigration of young people and also the perception of such areas as family-friendly. The suburban areas' inhabitants were mostly young families with children, which was reflected in the high proportion of children in the population and low average population age. The opposite demographic trend was characteristic for the remaining 7 cadastral territories; a negative migration balance and a natural decrease in population caused these cadastral territories in the Prague city centre (along with the area of Karlín) to become a compact area characterised by population decline. These central cadastral territories of Prague formed the foundations of the "City", whose previously dominant residential function was gradually replaced by other functions. The main purpose of the emerging city centre was to fulfil representative, business, cultural and education functions.

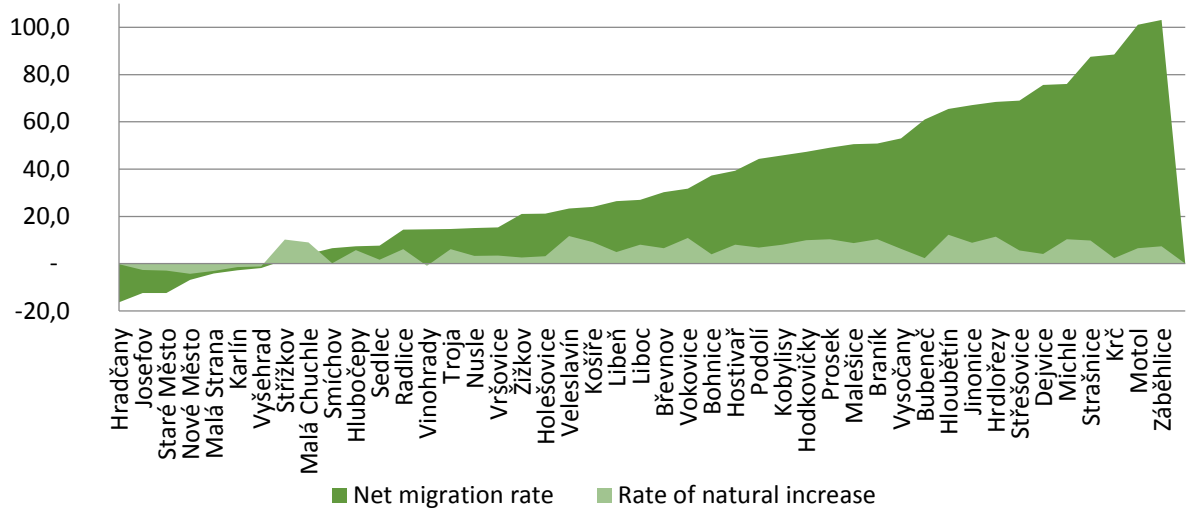

Figure 1.1.2: *Crude rates of Prague cadastral territories population balance between 1921 and 1930*
Source*: SÚS, 1930*

The current population balance of Prague is to a considerable extent influenced by migration development. Since 2002, the number of immigrants has exceeded the number of emigrants. However, after 2001 the migration development was influenced by a change in migration indicators evidence. In 2001, the migration statistics began to include also foreigners who were granted asylum and resided in the country for more

than 90 days in one calendar year. In 2004, the records started to include EU citizens with long-term or temporary stay in the Czechia (ČSÚ 2008). Prague is therefore growing mostly due to migration of foreigners (see also map sheet section B 3.2 Migration in Prague 2000–2013). In the observed decade, maximum migration gains are reached during the economic growth between 2007 and 2009 (see Figure 1.1.3). However, after this period, a considerate drop in migration balance ensues, also due to the negative impact of the economic crisis on job vacancies. Natural increase in population follows the opposite trend. At the beginning of the observed period, the number of deceased persons still exceeds the number of the newly born. But during the decade, exactly in the middle, the number of newly born persons regains its dominant role in natural reproduction of Prague population. The reason behind the higher number of newly born children is the baby boom generations of parents born in the 1970s. Simultaneously, a gradual decrease in the number of deceased persons occurs, caused not only by the proportion of all age groups in population, but also by an increasing life expectancy. But at the beginning of a new decade, Prague experiences migration loss again and the negative migration balance cannot be compensated for even by the positive natural increase in population.

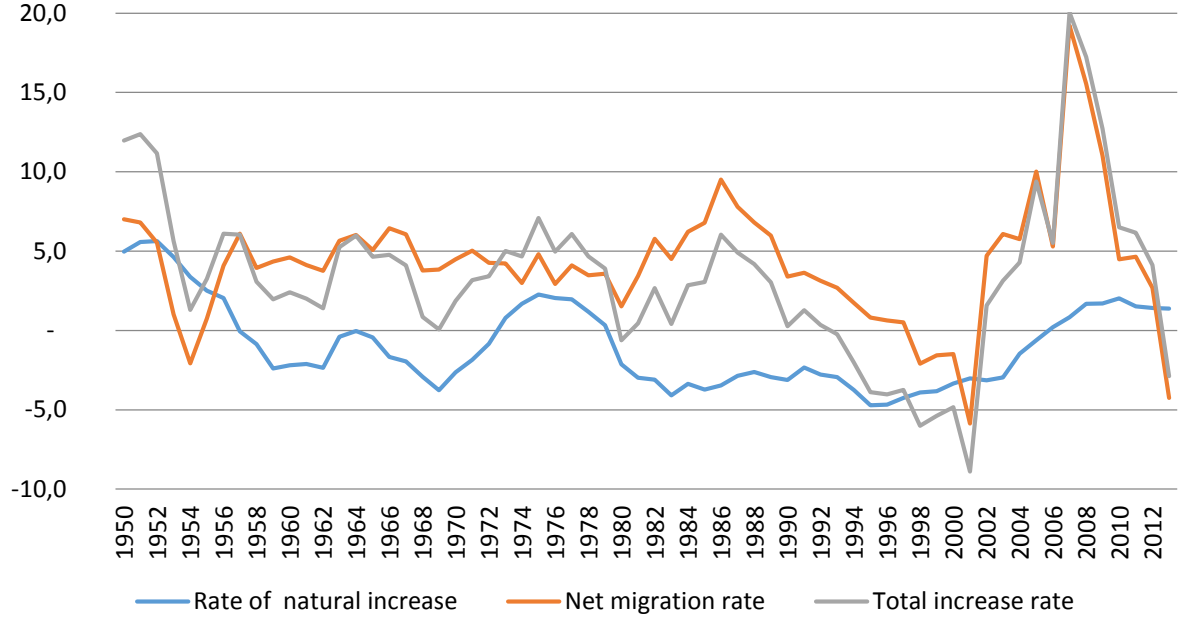

Figure 1.1.3: *Crude rates of Prague population balance between 1950 and 2013*
Source*: ČSÚ, 2013*

The cartogram in the second half of the map sheet reflects the population balance development and the significance of its two main components in individual urban areas between 2001 and 2011. Negative population balance is characteristic for urban areas in the Prague city centre and the inner city. This is mostly the case of the areas characterised by historical buildings or blocks of flats. On the other hand, from the city centre towards the suburbs, the areas with positive population balance predominate. This simple spatial pattern is at many places broken by various types of buildings of different quality and the age of the housing stock. The age of buildings, financial affordability, but also the attractiveness of living in a particular area: those are some of

the key aspects which influence both the age composition of population and its fluctuation. Few areas in the outer suburbs grow by natural increase. Most territorial territories in the inner city or in the suburban areas gain inhabitants due to migration. Positive population balance based on high rates of population influx can be observed in some residential areas, but also localities in the Prague suburban areas, characterised by family houses or original former village centres, around which new residential buildings are constructed. On the other hand, areas experiencing migration-caused population decrease are, apart from the city centre, some of the larger housing estates built between the 1970s and 1990s, such as Stodůlky, Jižní Město, Bohnice, Ďáblice, or parts of Modřany. Population decrease caused by natural change can be seen in some older inner city residential areas. This is the case of for example parts of Strašnice, Vinohrady, and Žižkov and some urbanistic districts of Nusle, Podolí, and Krč.

The comparison of both cartograms points to the growing differentiation of population balance between the two observed periods. In the 1920s, the cadastral territories fell into only four out of eight categories of Webb's diagram, and in most Prague areas, the type characterised by population growth with the dominant role of migration balance was predominant. In contrast to that, territorially smaller urban areas currently fall into all of the eight types of population balance. Both components of the overall population development are examined in more detail in specialised maps in the Section 2 and 3.

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